# UNITED STATES Coast Pilot®

# 8

# Alaska: Dixon Entrance to Cape Spencer

## 2026 (48th) Edition

This edition cancels the 47th edition and includes all previously published corrections.

Weekly updates to this edition are available at
*nauticalcharts.noaa.gov/publications/coast-pilot/index.html*

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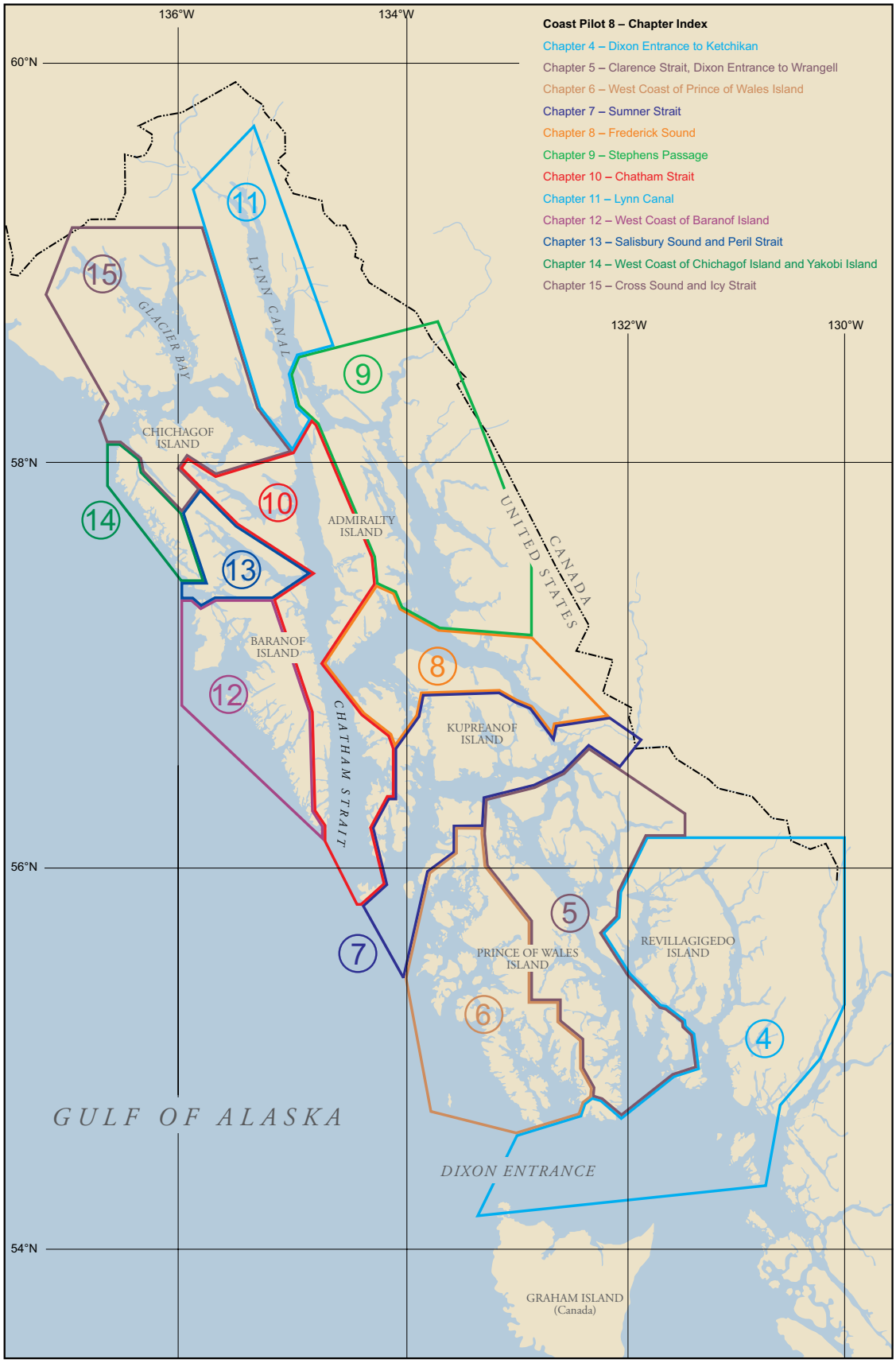
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136°W
134°W
132°W
130°W
60°N
58°N
56°N
54°N
GLACIER BAY
LYNN CANAL
CHICHAGOF ISLAND
ADMIRALTY ISLAND
BARANOF ISLAND
CHATHAM STRAIT
KUPREANOF ISLAND
PRINCE OF WALES ISLAND
REVILLAGIGEDO ISLAND
UNITED STATES
CANADA
GULF OF ALASKA
DIXON ENTRANCE
GRAHAM ISLAND
(Canada)

# Preface

The United States Coast Pilot is published by the National Ocean Service (NOS), National Oceanic and Atmospheric Administration (NOAA), pursuant to the Act of 6 August 1947 (33 U.S.C. 883a and b), and the Act of 22 October 1968 (44 U.S.C. 1310).

The Coast Pilot supplements the navigational information shown on NOAA nautical charts. The publication is continually updated and maintained from inspections conducted by NOAA survey vessels and field parties, corrections published in Notices to Mariners, information from other Federal agencies, State and local governments, maritime and pilots' associations, port authorities, and concerned mariners.

NOAA's Office of Coast Survey encourages public feedback regarding its suite of nautical charting products and services through **ASSIST**, Coast Survey's stakeholder engagement and feedback tool. This allows customers to submit questions or comments or to report an error with NOAA's nautical charts and products.
Customers can access **ASSIST** at *www.nauticalcharts.noaa.gov/customer-service/assist/*
Those who prefer to communicate by telephone can contact Coast Survey at 1–888–990–6622.

Coast Pilot corrections are no longer published in the NGA Notice to Mariners effective 01 January 2021. Additional information regarding the NGA policy change can be referenced at *msi.nga.mil/NTM* in the Notice to Mariners 52/20 Hydrogram and Marine Information sections.

**Coast Pilot Updates**

Check for weekly critical updates for this edition at *nauticalcharts.noaa.gov/publications/coast-pilot/index.html*
(See **33 CFR 164.33 Charts and Publications**, chapter 2, for regulations.)

Customers may print the specifically affected paragraphs to revise this book, or download an updated file (PDF) of the entire volume.

A *Weekly Record of Updates* is provided directly preceding the index.

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# General Information

(1)

## UNITED STATES COAST PILOT®

(2) The United States Coast Pilot, published by the National Oceanic and Atmospheric Administration (NOAA), is a series of ten nautical books (volumes) that encompasses a wide variety of information important to navigators of U.S. coastal/intracoastal waters and the waters of the Great Lakes. The Coast Pilot is intended to be used as a supplement to NOAA nautical charts. Much of the content cannot be shown graphically on the charts and is not readily available elsewhere. Topics which are covered include environmental factors of weather, climate, ice conditions, tides, water levels, currents, prominent coastal features and landmarks. Specific information on vertical clearances, wharf descriptions, small-craft facilities, hazards, dredged channels and depths are also provided. Navigation services and regulations are also identified including pilotage, towing, anchorages, routes and traffic separation schemes, environmental protection, and other Federal laws.

(3) New editions of each volume are issued annually. Fully updated files are posted weekly on the Internet, and are also available through NOAA Certified Chart Agents at *www.nauticalcharts.noaa.gov*.

(4) **Amendments** to this publication are available at *nauticalcharts.noaa.gov/publications/coast-pilot/index.html.*

(5)

### Using the Coast Pilot

(6) **Chapter 1** contains definitions of general and standard terms used throughout the volume, discussions of NOAA charting products and services, descriptions of maritime services by various U.S. Government agencies, Notices to Mariners and other information pertinent to safe navigation.

(7) **Chapter 2** contains selected extracts from the Code of Federal Regulations (CFR) that affect mariners.

(8) **Chapter 3** contains general information that is peculiar to the region covered by a particular Coast Pilot volume. For example, practical information regarding offshore currents and dangers, coastal aids to navigation, prominent landmarks and the general character of the coast and depths helpful in approaching the region.

(9) In **Chapter 4 and the remaining numbered chapters**, the detailed description of the region begins. A map precedes each chapter and outlines the nautical charts used in the area to be discussed. In these chapters, as much as possible, the coastal description is in geographic sequence, north to south on the east coast, east to west on the gulf coast, clockwise around each of the Great Lakes and south to north on the west coast and Alaskan coast. Features are described as they appear on the largest scale chart, with that chart number prominently shown in blue.

(10) **Appendix A** contains contact information regarding the various products, services and agencies detailed throughout the volume.

(11) **Navigation Rules**— preceding Appendix A, contains the International (72 COLREGS) and Inland Navigation Rules, technical Annexes, and associated Federal rules and regulations.

(12) The **Weekly Record of Updates** is intended as a log for critical updates applied to this volume.

(13) The **Index** contains geographic names mentioned throughout a Coast Pilot volume. These names are boldfaced and indexed along with the number of the largest scale chart on which the entire feature appears. Asterisks preceding a chart number in the index of Coast Pilot 5 indicate charts published by the National Geospatial-Intelligence Agency, and in the index of Coast Pilot 6, charts published by the Canadian Hydrographic Service.

(14)

### Bearings

(15) Bearings and courses are in degrees true and are measured clockwise from **000°** (north) to **359°**. The bearings of an aid to navigation (e.g., directional light, light sector, range) are given as viewed from the bridge of a vessel toward the light.

(16)

### Bridges and Cables

(17) Vertical clearances of bridges and overhead cables are in feet above mean high water unless otherwise stated; clearances in Coast Pilot 6 are in feet above Low Water Datum unless otherwise stated. When the water level is above Low Water Datum, the bridge and overhead cable clearances given in the Coast Pilot and shown on the charts should be reduced accordingly. Clearances of drawbridges are for the closed position, although the open clearances are also given for vertical-lift bridges. Whenever a bridge span over a channel does not open fully to an unlimited clearance position, a minimum clearance for the sections over the channel is given; the same applies to swing and pontoon bridges with openings less than 50 feet horizontally. Clearances given in the Coast Pilot are those approved for nautical charting; most are supplied by the U.S. Coast Guard (bridges) and U.S. Army Corps of Engineers (cables). See charts for the horizontal clearance

of bridges, as these are generally given in the Coast Pilot only when they are less than 50 feet (15 meters). Tables listing structures across waterways, found in some Coast Pilots, show both horizontal and vertical clearances. Submarine cables are rarely mentioned.

(18)

### Cable ferries

(19) Cable ferries are guided by cables fastened to shore and sometimes propelled by a cable rig attached to the shore. Generally, the cables are suspended during crossings and dropped to the bottom when the ferries dock. Where specific operating procedures are known they are mentioned in the text. Since operating procedures vary, mariners are advised to exercise extreme caution and seek local knowledge. **DO NOT ATTEMPT TO PASS A MOVING CABLE FERRY.**

(20)

### Courses

(21) These are true and are given in degrees clockwise from **000°** (north) to **359°**. The courses given are the courses to be made good.

(22)

### Currents

(23) Stated current velocities are the averages at strength. Velocities are in knots, which are nautical miles per hour. Directions are the true directions to which the currents set (see chapter 3, this book).

(24)

### Depths

(25) **Depth** is the vertical distance from the chart datum to the bottom. (See Chart Datum, this chapter, for further detail.) The depth of any improved channel may be provided as a controlling depth or as a project depth. Improved channels are subject to shoaling, particularly along the edges; depths may vary considerably between maintenance dredging.

(25.001) The **controlling depth** is the least known depth of a channel as determined by hydrographic surveys and restricts the safe use of the channel to drafts less than that depth. The **centerline controlling depth** applies only to the channel centerline or close proximity; lesser depths may exist in the remainder of the channel. The **midchannel controlling depth** is the controlling depth of only the middle half of the channel.

(25.002) **Project depth** (sometimes referred to as **authorized depth** or **maximum permitted draft**) is the planned dredging depth of a channel and may not reflect surveyed conditions. For this reason, project depth must not be confused with controlling depth.

(25.003) Most federally improved channels are maintained by the U.S. Army Corps of Engineers (USACE). The USACE dredges channels and conducts hydrographic surveys at variable frequencies. Some channels are dredged and surveyed to monitor navigation conditions as often as weekly or even daily. The latest USACE hydrographic surveys are available at: https://navigation.usace.army.mil/Survey/Hydro/ . These surveys are not intended to detect every underwater hazard. Undetected hazards to surface navigation are not expected but may exist.

(26) Depths alongside wharves usually have been reported by owners and/or operators of the waterfront facilities and have not been verified by government surveys. Since these depths may be subject to change, local authorities should be consulted for the latest controlling depths.

(27)

### Under-keel clearances

(28) It is becoming increasingly evident that economic pressures are causing mariners to navigate through waters of barely adequate depth, with under-keel clearances being finely assessed from the charted depths, predicted tide levels and depths recorded by echo sounders.

(29) It cannot be too strongly emphasized that even charts based on modern surveys may not show all sea-bed obstructions or the shoalest depths, and actual tide levels may be appreciably lower than those predicted.

(30) In many ships an appreciable correction must be applied to shoal soundings recorded by echo sounders due to the horizontal distance between the transducers. This separation correction, which is the amount by which recorded depths therefore exceed true depths, increases with decreasing depths to a maximum equal to half the distance apart of the transducers; at this maximum the transducers are aground. Ships whose transducers are more than 6 feet (1.8 meters) apart should construct a table of true and recorded depths using the Traverse Tables. (Refer to the topic on echo soundings elsewhere in chapter 1.)

(31) Other appreciable corrections, which must be applied to many ships, are for settlement and squat. These corrections depend on the depth of water below the keel, the hull form and the speed of the ship.

(32) Settlement causes the water level around the ship to be lower than would otherwise be the case. It will always cause echo soundings to be less than they would otherwise be. Settlement is appreciable when the depth is less than seven times the draft of the ship and increases as the depth decreases and the speed increases.

(33) Squat denotes a change in trim of a ship underway, relative to her trim when stopped. It usually causes the stern of a vessel to sit deeper in the water. However, it is reported that in the case of mammoth ships, squat causes the bow to sit deeper. Depending on the location of the echo sounding transducers, this may cause the recorded depth to be greater or less than it ought to be. **Caution and common sense are continuing requirements for safe navigation.**

(34)

### Distances

(35) These are in nautical miles unless otherwise stated. A nautical mile is one minute of latitude, or approximately 2,000 yards, and is about 1.15 statute miles.

(36) Coast Pilot 6 is in statute miles unless otherwise stated. A statute mile is 5,280 feet or about 0.87 nautical mile.

(37)

### Geographic Coordinates

(38) Geographic coordinates listed in the Coast Pilot are referred to North American Datum of 1983 (NAD 83) unless otherwise noted for certain CFR extracts in chapter 2.

(39)

### Heights

(40) These are in feet (meters) above the tidal datum used for that purpose on the charts, usually mean high water. However, the heights of the decks of piers and wharves are given in feet (meters) above the chart datum for depths.

(41) Coast Pilot 6 is in feet (meters) above the chart datum used for that purpose on the charts, usually Low Water Datum.

(42)

### Light and Sound Signal Characteristics

(43) These are not described in the Coast Pilot. Also, light sectors and visible ranges are generally not fully described. This information can be found in U.S. Coast Guard Light Lists.

(44)

### Obstructions

(45) Wrecks and other obstructions are mentioned only if they are relatively permanent and in or near normal traffic routes.

(46)

### Radio Navigational Aids

(47) For detailed information on Radio Navigation Aids, including limitations on the use of radio signals as aids to marine navigation, see the **United States Coast Guard Light Lists** and the National Geospatial-Intelligence Agency's **Radio Navigational Aids, Publication 117**. Radio direction-finder bearings to commercial broadcasting stations are subject to error and should be used with caution.

(48)

### Ranges

(49) These are not fully described. "**A 339°** Range" means that the rear structure bears **339°** from the front structure. (See United States Coast Guard Light Lists.)

(50)

### Reported information

(51) Information received by NOAA from various sources concerning depths, dangers, currents, facilities, and other topics, which has not been verified by Government surveys or inspections, is often included in the Coast Pilot; such **unverified information** is qualified as "reported" and should be regarded with caution.

(52)

### Tides

(53) Tidal information, including real-time water levels, tide predictions and tidal current predictions are available at *tidesandcurrents.noaa.gov*.

(54)

### Time

(55) Unless otherwise stated, all times are given in local standard time in the 24-hour system. (Noon is 1200, 2:00 p.m. is 1400 and midnight is 0000.)

(56)

### Winds

(57) Directions are the true directions from which the winds blow; however, sometimes (rarely) compass points are used. Unless otherwise indicated, speeds are given in knots, which are nautical miles per hour.

(58)

## NAUTICAL CHARTS

(59) NOAA produces and maintains a suite of over 1,000 nautical charts that cover the U.S. coastal waters, the Great Lakes and U.S. territories. These charts provide a graphic representation of water depths, the shoreline, prominent topographic and man-made features, aids to navigation and other navigational information useful to the mariner. NOAA's charts are available in a variety of digital formats designed to meet the specific requirements of all mariners. Paper copies may also be obtained through one of NOAA's Print-on-Demand partners.

(60)

### Paper Print on Demand Nautical Charts

(61) The content of Print-On-Demand (POD) charts is updated weekly by NOAA with the most current U.S. Coast Guard Local Notice to Mariners and other critical safety information. POD charts are printed under the authority of NOAA and shipped through partnerships between NOAA and commercial providers. POD information and a list of participating POD chart agents can be found at *nauticalcharts.noaa.gov/publications/print-agents.html#paper-charts-mobile*.

(62)

### Portable Document Format (PDF) Nautical Charts

(63) Almost all of NOAA's nautical charts may be downloaded for free as Portable Document Format (PDF) files at *nauticalcharts.noaa.gov/charts/noaa-raster-charts.html#full-size-nautical-charts*. The PDF nautical charts are exact replicas of the images used to produce POD and Raster Navigational Charts (RNC). As such, they also have all the latest updates based on U.S. Coast Guard Local Notices to Mariners, National Geospatial-Intelligence Agency Notices to Mariners and other critical safety information.

(64) Most PDF charts can be printed at the proper scale from any plotter accommodating a 36-inch paper width. When printed properly, PDF charts and POD charts are very similar, but PDF charts have not yet been approved to meet Federal regulations for paper chart carriage requirements as POD charts have.

(65)

### BookletCharts

(66) The NOAA BookletChart™ is a product that can be printed by the users for free. They are made to help recreational boaters locate themselves on the water. BookletCharts are reduced in scale and divided into pages for convenience but otherwise contain all the information of the full-scale nautical charts and are updated weekly. For more information visit *nauticalcharts.noaa.gov/charts/noaa-raster-charts.html#booklet-charts*.

(67)

### Raster Navigational Charts (NOAA RNC®)

(68) NOAA Raster Navigational Charts (NOAA RNC®) are geo-referenced digital images of NOAA's entire suite of paper charts. NOAA RNCs are official data that can be used in many types of electronic charting systems (ECS), including Raster Chart Display Systems (RCDS) and some Electronic Chart Display and Information Systems (ECDIS). Current regulations support the use of RNCs as a primary means of navigation when ENCs are not available, but they require an accompanying minimal set of up-to-date paper charts. They can integrate position information from the Global Positioning System (GPS) and other navigational sensors, such as radar and automatic identification systems (AIS) to show a vessel's track, waypoints, and planned routes. NOAA RNCs and their weekly updates are available free of charge at *nauticalcharts.noaa.gov/charts/noaa-raster-charts.html*.

(69)

### Electronic Navigational Charts (NOAA ENC®)

(70) NOAA Electronic Navigational Charts (NOAA ENC®) are databases of charted objects and their attributes with standardized content, structure and format. They comply with International Hydrographic Organization (IHO) specifications stated in IHO Publication S-57. They may be used as an alternative to paper charts required on SOLAS class vessels.

(71) ENCs are intended for use in electronic charting systems (ECS) as well as Electronic Chart Display and Information Systems (ECDIS). ECDIS are programmable to show as much or as little data as the user requires. They can integrate position information from the Global Positioning System (GPS) and other navigational sensors, such as radar and automatic identification systems (AIS) to show a vessel's track, waypoints and planned routes. Using this information ECDIS can use ENCs to give warning of impending danger in relation to the vessel's position and movement. NOAA ENCs and their updates are available free of charge at *nauticalcharts.noaa.gov/charts/noaa-enc.html*.

(72)

### Nautical Chart—New Editions and Corrections

(73) New editions of paper Print-on-Demand (POD) charts are available on the Monday after NOAA clears a new edition for release. Once the authorized POD chart is available, it meets federal chart carriage requirements, and should be put into service immediately. It should be updated from the *last correction and cleared through* dates shown in the lower left corner of the chart.

(74) The chart date is of vital importance to the navigator. When charted information becomes obsolete, further use of the chart for navigation is dangerous. Natural and artificial changes, many of them critical, are occurring constantly; therefore it is important that navigators use up-to-date charts. Nautical charts and publications are available for purchase from authorized POD agents and their sales outlets.

(75) NOAA's "Nautical Chart Update" website allows mariners to update their nautical charts from one database that includes information from NOAA, NGA U.S. Notice to Mariners, U.S. Coast Guard Local Notices to Mariners and the Canadian Coast Guard Notices to Mariners at: *nauticalcharts.noaa.gov/charts/chart-updates.html*.

(76)

### Nautical Chart Numbering System

(77) This chart numbering system, adopted by NOAA and National Geospatial-Intelligence Agency (NGA), provides for a uniform method of identifying charts published by both agencies. Nautical charts published by NGA and by the Canadian Hydrographic Service are identified in the Coast Pilot by an asterisk preceding the chart number.

(78)

### Chart Scale

(79) The scale of a chart is the ratio of a given distance on the chart to the actual distance that it represents on the earth. For example, one unit of measurement on a 1:10,000 scale chart is equal to 10,000 of the same unit on the earth's surface. Large scale charts show greater detail of a relatively small area. Small scale charts show less detail but cover a larger area. Certain hydrographic information may be omitted on smaller scale charts. **Mariners should always obtain the largest scale coverage for near shore navigation**.

(80) The scales of nautical charts range from 1:2,500 to about 1:5,000,000. Graphic scales are generally shown on charts with scales of 1:80,000 or larger, and numerical scales are given on smaller scale charts. NOAA charts are classified according to scale as follows:

(81) **Sailing charts**, scales 1:600,000 and smaller, are for use in fixing the mariner's position approaching the coast from the open ocean or for sailing between distant coastwise ports. On such charts the shoreline and topography are generalized and only offshore soundings, principal lights, outer buoys and landmarks visible at considerable distances are shown.

(82) **General charts**, scales 1:150,000 to 1:600,000, are for coastwise navigation outside of outlying reefs and shoals.

(83) **Coast charts**, scales 1:50,000 to 1:150,000, are for inshore navigation leading to bays and harbors of considerable width and for navigating large inland waterways.

(84) **Harbor charts**, scales larger than 1:50,000, are for harbors, anchorage areas and the smaller waterways.

(85) **Special charts**, at various scales, cover the Intracoastal waterway and miscellaneous small-craft areas.

(86)

### Chart Projections

(87) The **Mercator projection** used on most nautical charts has straight-line meridians and parallels that intersect at right angles. On any particular chart the distances between meridians are equal throughout, but distances between parallels increase progressively from the equator toward the poles so that a straight line between any two points is a rhumb line. This unique property of the Mercator projection is one of the main reasons why it is preferred by the mariner.

(88) The **Polyconic projection** is used on most U.S. nautical charts of the Great Lakes. On this projection, parallels of latitude appear as non-concentric circles, and meridians appear as curved lines converging toward the pole and concave to the central meridian. The scale is correct along any parallel and along the central meridian of the projection. Along other meridians the scale increases with increased difference of longitude from the central meridian.

(89)

### Chart Datum, Tidal Waters

(90) Chart Datum is the particular tidal level to which soundings and depth curves on a nautical chart or bathymetric map are referred. The tidal datum of **Mean Lower Low Water** is used on all NOAA charts, except for charts in the Great Lakes and non-tidal inland waterways. For information on **Chart Datum, Great Lakes System**, see Coast Pilot 6, chapter 3.

(91)

### Horizontal Datum

(92) Nautical charts are constructed based on one of a number of horizontal datums which are adopted to best represent individual regions around the world. Note that the terms horizontal datum, horizontal geodetic datum, and horizontal control datum are synonymous.

(93) The exact placement of lines of latitude and longitude on a nautical chart is dependent on the referenced horizontal datum. Charts of the United States are currently referenced primarily to the North American Datum of 1983 (NAD 83), and the World Geodetic System 1984 (WGS 84). WGS 84 is equivalent to the NAD 83 for charting purposes.

(94) NAD 83 and WGS 84 have replaced the North American Datum of 1927 and other regional datums as the primary horizontal datum to which NOAA charts are referenced. Since some geographic positions may still be referenced to the older datums, NOAA has included notes on charts which show the amount to shift those positions in latitude and longitude to fit the chart's NAD 83 or WGS 84 projection.

(95) It should be noted that the physical shift between positions on older datums and NAD 83/WGS 84 was significant. Mariners should always be certain the positions they are plotting on a nautical chart are on the same datum as the chart.

(96)

### Chart Accuracy

(97) The value of a nautical chart depends upon the accuracy of the surveys on which it is based. The chart reflects what was found by field surveys and what has been reported to NOAA. It also represents general conditions at the time of surveys or reports and does not necessarily portray present conditions. Significant changes may have taken place since the date of the last survey or report.

(98) Each sounding represents an actual measure of depth and location at the time the survey was made, and each bottom characteristic represents a sampling of the surface layer of the sea bottom at the time of the sampling. Areas where sand and mud prevail, especially the entrances and approaches to bays and rivers exposed to strong tidal current and heavy seas, are subject to continual change.

(99) In coral regions and where rocks and boulders abound, it is always possible that surveys may have failed to find every obstruction. Thus, when navigating such waters, customary routes and channels should be followed, and areas where irregular and sudden changes in depth indicate conditions associated with pinnacle rocks, coral heads, or boulders should be avoided.

(100) Information charted as "reported" should be treated with caution when navigating the area, because the actual conditions have not been verified by government surveys.

(101)

### Source Diagrams and Zone of Confidence Diagrams

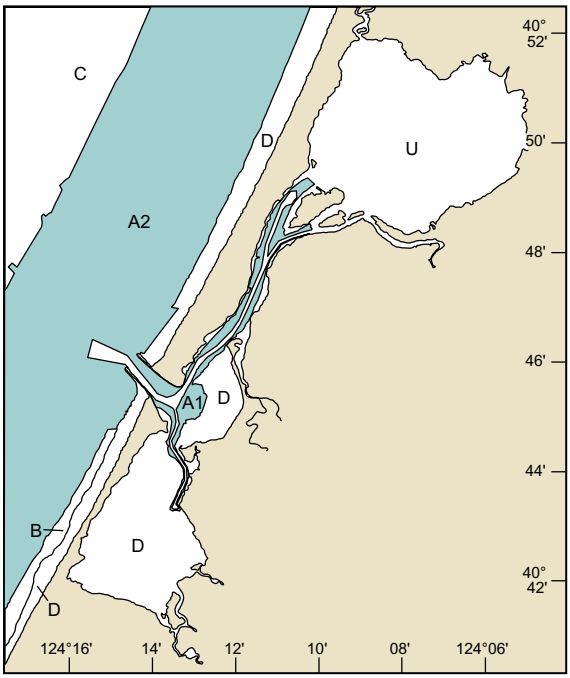
(102) The age and accuracy of hydrographic survey data that support nautical charts can vary. Depth information on nautical charts, paper or digital, is based on data from the latest available hydrographic survey, which in many cases may be quite old. Diagrams are provided on nautical charts to assist mariners in assessing hydrographic survey data and the associated level of risk to navigate in a particular area. There are currently two types of diagrams shown on NOAA paper and raster navigational charts (RNCs) of 1:500,000 scale and larger—**Zone of Confidence (ZOC) Diagrams** and **Source Diagrams**. ZOC information (designated CATZOC) is also found on electronic navigational charts (ENCs). This provides consistency in the display of source data between ENCs and newer paper charts.

(103) Both types of diagrams consist of a graphic representation of the extents of hydrographic surveys within the chart and accompanying table of related survey quality categories. CATZOC information on an ENC, unlike the diagrams on a paper chart or RNC, is displayed over the ENC data using symbols rather than letters. These symbols are displayed on a separate layer, which can be viewed when planning a route, then switched off until needed again at another time.

(106)

## Zone of Confidence Diagrams

| ZOC CATEGORIES | | | | |
|---|---|---|---|---|
| ZOC | DATE | POSITION ACCURACY | DEPTH ACCURACY | SEAFLOOR COVERAGE |
| A1 | 2008–2016 | ± 16.4 ft | = 1.6 feet + 1% depth | All significant seafloor features detected |
| A2 | — | ± 65.6 ft | = 3.3 feet + 2% depth | All significant seafloor features detected |
| B | 2005 | ± 164.0 ft | = 3.3 feet + 2% depth | Uncharted features hazardous to surface navigation are not expected but may exist |
| C | — | ± 1640.4 ft | = 6.6 feet + 2% depth | Depth anomalies may be expected |
| D | — | Worse than ZOC C | Worse than ZOC C | Large depth anomolies may be expected |
| U | Unassessed – The quality of the bathymetric data has yet to be assessed. | | | |




(104) On **ZOC Diagrams**, the quality of the hydrographic data is assessed according to six categories; five quality categories for assessed data (A1, A2, B, C and D) and a sixth category (U) for data that has not yet been assessed. On the ENC, the categories are shown using a rating system of stars—the higher the quality, the greater the number of stars. Assessment of hydrographic data quality and classification into zones of confidence is based on a combination of: survey date, position accuracy, depth accuracy and sea floor coverage (the survey's ability to detect objects on the seafloor.)

(105) **Source Diagrams** provide the mariner with additional information about the density and adequacy of the sounding data depicted on the chart. The adequacy with which sounding data reflects the configuration of the bottom depends on the following factors: survey technology employed (sounding and navigation equipment), survey specifications in effect (prescribed survey line spacing and sounding interval) and type of bottom (e.g., rocky with existence of submerged pinnacles, flat sandy, coastal deposits subject to frequent episodes of deposition and erosion). Source diagrams will be replaced with ZOC diagrams as new editions are created.

(108)

### Chart Symbols, Abbreviations and Terms

(109) The standard symbols and abbreviations approved for use on nautical charts produced by the U.S. Government are described in **U.S. Chart No. 1: Symbols, Abbreviations and Terms used on Paper and Electronic Navigational Charts.** This reference, jointly maintained by the National Geospatial-Intelligence Agency (NGA) and NOAA, is available at *nauticalcharts.noaa.gov/publications/us-chart-1.html.*

(110) The publication **Chart 1: Symbols, Abbreviations and Terms** published by the Canadian Hydrographic Service, is available online at *charts.gc.ca/publications/chart1-carte1/index-eng.asp.*

(111) Some symbols and abbreviations used on foreign charts, including reproductions of foreign charts made by NGA, are different than those used on U.S. charts. It is recommended that mariners who use foreign charts also obtain the symbol sheet or Chart No. 1 produced by the appropriate foreign agency.

(112) Mariners are warned that the buoyage systems, shapes and colors used by other countries often have a different significance than the U.S. system.

(113)

### Areas with Blue Tint

(114) A blue tint is shown in water areas on many charts to accentuate shoals and other areas considered dangerous for navigation when using that particular chart. Since the danger curve varies with the intended purpose of a chart a careful inspection should be made to determine the contour depth of the blue tint areas.

(115)

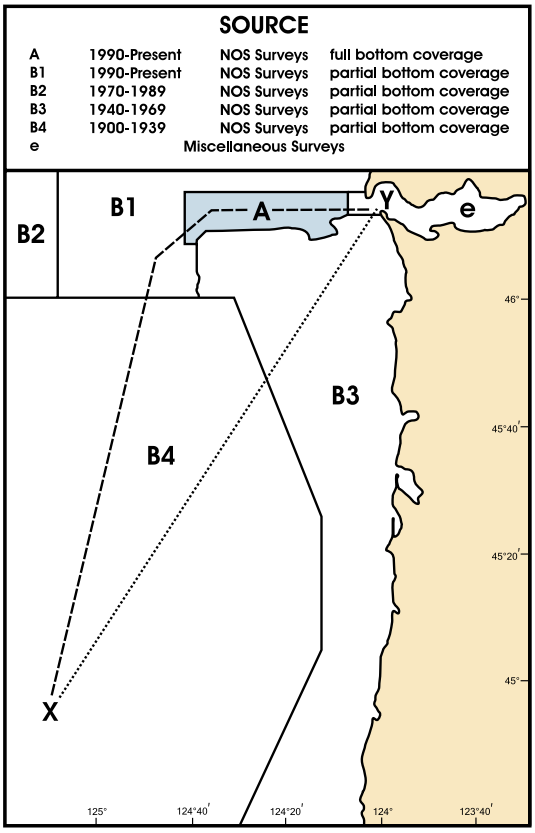
### Bridge and Cable Clearances

(116) For bascule bridges whose spans do not open to a full vertical position, unlimited overhead clearance is not

(107)

## Source Diagrams

Referring to the accompanying sample Source Diagram to the right and the previous discussion of survey methods over time, transiting from Point X to Point Y, along the track indicated by the dotted line, would have the following information available about the relative quality of the depth information shown on the chart.




Point X lies in an area surveyed by NOAA between 1900-1939. The sounding data in this area would have been collected by leadline. Depths between sounding points can only be inferred, and undetected features might exist between the sounding points in areas of irregular relief — caution should be exercised.

The transit then crosses an area surveyed by NOAA between 1940-1969. The sounding data in this area would have been collected by continuous recording single beam echo sounder. It is possible that features could have been missed between sounding lines, although echo sounders record all depths along a sounding line with varying beam widths.

The transit ends in an area charted from miscellaneous surveys. These surveys may be too numerous to depict or may vary in age, reliability, origin or technology used. No inferences about the fitness of the data can be made in this area from the diagram.

Referring again to the accompanying sample Source Diagram, and the previous discussion of survey methods over time, a mariner could choose to transit from Point X to Point Y, along the track shown with a dashed line.

The transit starts again in an area surveyed by NOAA between 1900-1939. The sounding data in this area would have been collected by leadline. Depths between sounding points can only be inferred, and undetected features might still exist between the sounding points in areas of irregular relief — caution should be exercised.

The transit then crosses an area surveyed by NOAA between 1990–present, with partial bottom coverage. The data is collected in metric units and acquired by continuous recording single beam echo sounder. It is possible that features could have been missed between the sounding lines, although echo sounders record all depths along a sounding line with varying beam widths.

The transit then crosses into an area surveyed by NOAA etween 1990–present, having full bottom coverage. This area of the charted diagram is shaded with a blue screen to draw attention to the fact that full bottom coverage has been achieved. The data in this area would have been collected in metric units and acquired by side scan sonar or multibeam sonar technology. Undetected features in this area, at the time of the survey, would be unlikely.

The transit ends in an area charted from miscellaneous surveys. These surveys may be too numerous to depict or may vary in age, reliability, origin or technology used. No inferences about the fitness of the data can be made in this area from the diagram. By choosing to transit along the track shown by the dashed line, the mariner would elect to take advantage of survey information that is more recent and collected with modern technology.

available for the entire charted horizontal clearance when the bridge is open, due to the inclination of the drawspans over the channel. In some cases, a bridge on an ENC may include a pictorial representation (PICREP). The PICREP diagram provides a simplified view that provides supplemental information, such as additional heights. Because it is not drawn to scale, feature sizes and relative positions are generalized to enhance legibility, and should not be used for navigation or spatial referencing.

(117) Clearances of overhead cables are for the lowest wires at vertical datum (usually mean high water) as authorized and permitted by the U.S. Army Corps of Engineers (USACE). Reported clearances received from sources other than the USACE are indicated as such. Conditions such as weather, ice, or the passage of time may have reduced the height from the charted value. **Because high-voltage transmission lines do not require physical contact to represent a hazard, the U.S. Coast Guard and Occupational Safety and Health Administration (OSHA) advise a safety buffer below electrical cables. Vessels with masts, stacks, booms, cranes, or antennas should allow sufficient clearance under power cables to avoid electrical arcing.** When provided, safe vertical clearances indicate the height of the highest point of a vessel that can pass under an overhead power cable without risk of electrical discharge from the cable to the vessel.

(118)

## Submarine Cables and Submerged Pipelines

(119) **Submarine cables** and **submerged pipelines** cross many waterways used by both large and small vessels, but all of them may not be charted. For inshore areas, they usually are buried beneath the seabed, but for offshore areas they may lie on the ocean floor. Warning signs are often posted to warn mariners of their existence. Covered wells may be marked by lighted or unlighted buoys.

(120) The installation of submarine cables or pipelines in U.S. waters or the Continental Shelf of the United States is under the jurisdiction of one or more Federal agencies, depending on the nature of the installation. They are shown on the charts when the necessary information is reported to NOAA and they have been recommended for charting by the responsible agency. The chart symbols for submarine cable and pipeline areas are usually shown for inshore areas, whereas chart symbols for submarine cable and pipeline routes may be shown for offshore areas. Submarine cables and pipelines are not described in the Coast Pilots.

(121) In view of the serious consequences resulting from damage to submarine cables and pipelines, vessel operators should take special care when anchoring, fishing or engaging in underwater operations near areas where these cables or pipelines may exist or have been reported to exist. Mariners are also warned that the areas where cables and pipelines were originally buried may have changed and they may be exposed; extreme caution should be used when operating vessels in depths of water comparable to the vessel's draft.

(122) Certain cables carry high voltage, while many pipelines carry natural gas under high pressure or petroleum products. Electrocution, fire or explosion with injury, loss of life or a serious pollution incident could occur if they are broached.

(123) Vessels fouling a submarine cable or pipeline should attempt to clear without undue strain. Anchors or gear that cannot be cleared should be slipped, but no attempt should be made to cut a cable or a pipeline.

(124)

## Artificial Obstructions to Navigation

(125) **Disposal areas** are designated by the U.S. Army Corps of Engineers for depositing dredged material where there is sufficient depth not to cause shoaling or create a danger to surface navigation. The areas are charted without blue tint, and soundings and depth curves are retained.

(126) **Disposal sites** are areas established by Federal regulation (**40 CFR 220** through **228**) in which dumping of dredged and fill material and other nonbuoyant objects is allowed with the issuance of a permit. Dumping of dredged and fill material is supervised by the U.S. Army Corps of Engineers and all other dumping by the Environmental Protection Agency (EPA). (See U.S. Army Corps of Engineers and Environmental Protection Agency, this chapter, and Appendix A for office addresses.)

(127) **Dumping grounds** are also areas that were established by Federal regulation (**33 CFR 205**). However, these regulations have been revoked and the use of the areas discontinued. These areas will continue to be shown on nautical charts until such time as they are no longer considered to be a danger to navigation.

(128) Disposal Sites and Dumping Grounds are rarely mentioned in the Coast Pilot, but are shown on nautical charts. **Mariners are advised to exercise caution in the vicinity of all dumping areas.**

(129) **Spoil areas** are for the purpose of depositing dredged material, usually near and parallel to dredged channels. Spoil areas are usually charted from survey drawings from U.S. Army Corps of Engineers after-dredging surveys, though they may originate from private or other Government agency surveys. On nautical charts, spoil areas are tinted blue, labeled and have all soundings and depth curves omitted from within their boundaries. Spoil areas present a hazard to navigation and even the smallest craft should avoid crossing them.

(130) **Fish havens** are artificial shelters constructed of various materials including rocks, rubble, derelict barges/oil rigs and specially designed precast structures. This material is placed on the sea floor to simulate natural reefs and attract fish. Fish havens are often located near fishing ports or major coastal inlets and are usually considered hazards to shipping. Before such a reef may be built, the U.S Army Corps of Engineers must issue a permit specifying the location and depth over

the reef. Constructed of rigid material and projecting above the bottom, they can impede surface navigation and therefore represent an important feature for charting. Fish havens may be periodically altered by the addition of new material, thereby possibly increasing the hazard. They are outlined and labeled on charts and show the minimum authorized depth when known. Fish havens are tinted blue if they have a minimum authorized depth of 11 fathoms or less. If the minimum authorized depth is unknown and they are in depths greater than 11 fathoms, they are considered a danger to navigation. Navigators should be cautious about passing over fish havens or anchoring in their vicinity.

(131) **Fishtrap areas** are areas established by the U.S. Army Corps of Engineers, or State or local authority, in which traps may be built and maintained according to established regulations. The fish stakes that may exist in these areas are obstructions to navigation and may be dangerous. The limits of fishtrap areas and a cautionary note are usually charted. Navigators should avoid these areas.

(132)

### Local Magnetic Disturbances

(133) If measured values of magnetic variation differ from the expected (charted) values by several degrees, a magnetic disturbance note will be printed on the chart. The note will indicate the location and magnitude of the disturbance, but the indicated magnitude should not be considered as the largest possible value that may be encountered. Large disturbances are more frequently detected in the shallow waters near land masses than on the deep sea. Generally, the effect of a local magnetic disturbance diminishes rapidly with distance, but in some locations there are multiple sources of disturbances and the effects may be distributed for many miles.

(134)

### Compass Roses

(135) Each compass rose shows the date, magnetic variation and the annual change in variation. Prior to the new edition of a nautical chart, the compass roses are reviewed. Corrections for annual change and other revisions may be made as a result of newer and more accurate information. On some general and sailing charts, the magnetic variation is shown by isogonic lines in addition to the compass roses.

(136)

### Echo Soundings

(137) The echo sounder on a ship may indicate small variations from charted soundings; this may be due to the fact that various corrections (instrument corrections, settlement and squat, draft and velocity corrections) are made to echo soundings in surveying which are not normally made in ordinary navigation, or to observational errors in reading the echo sounder. Instrument errors vary between different equipment and must be determined by calibration aboard ship. Most types of echo sounders are factory calibrated for a velocity of sound in water of 800 fathoms per second, but the actual velocity may differ from the calibrated velocity by as much as 5 percent, depending upon the temperature and salinity of the waters in which the vessel is operating; the highest velocities are found in warm, highly saline water and the lowest in icy freshwater. Velocity corrections for these variations are determined and applied to echo soundings during hydrographic surveys. All echo soundings must be corrected for the vessel's draft, unless the draft observation has been set on the echo sounder.

(138) Observational errors include misinterpreting false echoes from schools of fish, seaweed, etc., but the most serious error that commonly occurs is where the depth is greater than the scale range of the instrument; a 400–fathom scale indicates 15 fathoms when the depth is 415 fathoms. Caution in navigation should be exercised when wide variations from charted depths are observed.

(139)

## NOTICES TO MARINERS

(140) **Notices to Mariners** are published to advise operators of marine information affecting the safety of navigation. The notices include changes in aids to navigation, depths in channels, bridge and overhead cable clearances, reported dangers and other useful marine information. They should be used routinely for updating the latest editions of nautical charts and related publications.

(141) **Local Notices to Mariners** are issued by each Coast Guard District Commander for the waters under their jurisdiction. (See Appendix A for Coast Guard district(s) covered by this volume.) These notices are usually published weekly and are available at *navcen.uscg.gov*.

(142) **U.S. Notice to Mariners**, published weekly by the National Geospatial-Intelligence Agency, are prepared jointly with NOAA and the Coast Guard. These notices contain selected items from the Local Notices to Mariners and other reported marine information required by oceangoing vessels operating in both foreign and domestic waters. Special items covering a variety of subjects and generally not discussed in the Coast Pilot or shown on nautical charts are published annually in Notice to Mariners No. 1. These items are important to the mariner and should be read for future reference. These notices are available at *msi.nga.mil/NGAPortal/MSI.portal*.

(143) **Broadcast Notices to Mariners** are made by the Coast Guard to report deficiencies and important changes in aids to navigation. (See Navigational Warnings, Information and Weather, this chapter.)

(144) The **Special Notice to Mariners** is an annual publication containing important information for mariners on a variety of subjects which supplements information not usually found on charts and in navigational publications. It includes excerpts from various Federal laws and regulations regarding marine pollution reporting, aids to navigation and Vessel Traffic Service (VTS) procedures.

There are tips for trip planning, updates to the Rules of the Road and information on local hazards. Also included are points of contact, phone numbers and email addresses for various subject matter experts to assist the mariner in locating further information.

(145) Vessels operating within the limits of the Coast Guard districts can obtain information affecting NOAA charts and related publications from the Local Notices to Mariners. Small craft using the Intracoastal Waterway and other waterways and small harbors within the United States that are not normally used by oceangoing vessels will require the Local Notices to Mariners to keep charts and related publications up to date.

(146)

## AIDS TO NAVIGATION

(147)

### U.S. Aids to Navigation System

(148) The navigable waters of the United States are marked to assist navigation using the U.S. Aids to Navigation System, a system consistent with the International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA) Maritime Buoyage System. The **IALA Maritime Buoyage System** is followed by most of the world's maritime nations and will improve maritime safety by encouraging conformity in buoyage systems worldwide. IALA buoyage is divided into two regions made up of Region A and Region B. All navigable waters of the United States follow IALA Region B, except U.S. possessions west of the International Date Line and south of 10° north latitude, which follow IALA Region A. Lateral aids to navigation in Region A vary from those located within Region B. Nonlateral aids to navigation are the same as those used in Region B. Appropriate nautical charts and publications should be consulted to determine whether the Region A or Region B marking schemes are in effect for a given area.

(149) As standard protocol, the U.S. Coast Guard reported assigned positions of aids to navigation uses the North American Datum of 1983 (NAD 83). Due to the development of new navigational systems and the retirement of old systems, the World Geodetic System 1984 (WGS 84) has become the preferred standard. In 2020, the U.S. Coast Guard Chief of the Office of Navigation Systems (CG-NAV) announced that all geographic coordinates for aids to navigation assigned positions will be reported using WGS 84.

(150)

### Reporting Defects in Aids to Navigation

(151) Promptly notify the nearest Coast Guard District Commander if an aid to navigation is observed to be missing, sunk, capsized, out of position, damaged, extinguished or showing improper characteristics.

(152) **Aids to navigation** in United States waters of the Great Lakes and their connecting waters, except for the St. Lawrence River, are maintained by the U.S. Coast Guard. Local jurisdiction for the region is assigned to the Commander, Ninth Coast Guard District. The Lake Champlain region and the Hudson River are under the jurisdiction of the Commander, First Coast Guard District. (See Appendix A for the addresses.)

(153) It is unlawful to establish or maintain any aid similar to those maintained by the U.S. Coast Guard without first obtaining permission from the Coast Guard District Commander. The licensed officer in command of a vessel which collides with any aid must report the fact promptly to the nearest U.S. Coast Guard Sector.

(154)

### Lights

(155) **Nominal range** is the term for the range of visibility of lights as defined in the U.S. Coast Guard Light List and shown on nautical charts. It is the maximum distance a light can be seen in clear weather (meteorological visibility of 10 nautical miles). Nominal range is listed for all lighted aids to navigation except range lights, directional lights, and private aids to navigation.

(156) **Luminous range** is the greatest distance a light may be seen given its nominal range and the prevailing meteorological visibility. The Luminous Range Diagram, found in the U.S. Coast Guard Light List, enables the mariner to determine the approximate luminous range of a light when the nominal range and the prevailing meteorological visibility are known. The nominal range and the luminous range do not take into account elevation, observer's height of eye, or the curvature of the earth.

(157) **Geographic range** is the greatest distance the curvature of the earth permits an object, of a given height, to be seen from a particular height of eye without regard to luminous intensity or visibility conditions. To determine the actual geographic range for height of eye, the geographic range must be corrected by a distance corresponding to the height difference. The Geographic Range Table, found in the U.S. Coast Guard Light List, gives the approximate geographic range of visibility for an object which may be seen by an observer at sea level.

(158) The maximum distances at which lights can be seen may at times be increased by abnormal atmospheric refraction and may be greatly decreased by unfavorable weather conditions such as fog, rain, haze or smoke. All except the most powerful lights are easily obscured by such conditions. In some conditions of the atmosphere white lights may have a reddish hue. During weather conditions which tend to reduce visibility, colored lights are more quickly lost to sight than white lights. Navigational lights should be used with caution because of the following conditions that may exist.

(159) A light may be extinguished and the fact not reported to the Coast Guard for correction, or a light may be located in an isolated area where it will take time to correct.

(160) In regions where ice conditions prevail the lantern panes of unattended lights may become covered with ice or snow, which will greatly reduce the visibility and may also cause colored lights to appear white.

(161) Brilliant shore lights used for advertising and other purposes, particularly those in densely populated areas, make it difficult to identify a navigational light.

(162) At short distances flashing lights may show a faint continuous light between flashes.

(163) The distance of an observer from a light cannot be estimated by its apparent intensity. The characteristics of lights in an area should always be checked in order that powerful lights visible in the distance not be mistaken for nearby lights showing similar characteristics at low intensity such as those on lighted buoys.

(164) The apparent characteristic of a complex light may change with the distance of the observer, due to color and intensity variations among the different lights of the group. The characteristic as charted and shown in the Light List may not be recognized until nearer the light.

(165) Motion of a vessel in a heavy sea may cause a light to alternately appear and disappear, and thus give a false characteristic.

(166) Where lights have different colored sectors, be guided by the correct bearing of the light; do not rely on being able to accurately observe the point at which the color changes. On either side of the line of demarcation of colored sectors there is always a small arc of uncertain color.

(167) On some bearings from the light, the range of visibility of the light may be reduced by obstructions. In such cases, the obstructed arc might differ with height of eye and distance. When a light is cut off by adjoining land and the arc of visibility is given, the bearing on which the light disappears may vary with the distance of the vessel from which observed and with the height of eye. When the light is cut off by a sloping hill or point of land, the light may be seen over a wider arc by a ship far off than by one closer.

(168) Arcs of circles drawn on charts around a light are not intended to give information as to the distance at which it can be seen, but solely to indicate, in the case of lights which do not show equally in all directions, the bearings between which the variation of visibility or obscuration of the light occurs.

(169) Lights of equal candlepower but of different colors may be seen at different distances. This fact should be considered not only in predicting the distance at which a light can be seen, but also in identifying it.

(170) Lights should not be passed close aboard, because in many cases riprap mounds are maintained to protect the structure against ice damage and scouring action.

(171) Many prominent towers, tanks, smokestacks, buildings and other similar structures, charted as landmarks, display flashing and/or fixed red aircraft obstruction lights. Lights shown from landmarks are charted only when they have distinctive characteristics to enable the mariner to positively identify the location of the charted structure.

(172)

### Articulated Lights

(173) An articulated light is a vertical pipe structure supported by a submerged buoyancy chamber and attached by a universal coupling to a weighted sinker on the seafloor. The light, allowed to move about by the universal coupling, is not as precise as a fixed aid. However, it has a much smaller watch circle than a conventional buoy, because the buoyancy chamber tends to force the pipe back to a vertical position when it heels over under the effects of wind, wave or current.

(174) Articulated lights are primarily designed to mark narrow channels with greater precision than conventional buoys.

(175)

### Daybeacons

(176) Daybeacons are unlighted aids affixed to stationary structures. They are marked with dayboards for daytime identification. The dayboards aid navigation by presenting one of several standard shapes and colors which have navigational significance. Dayboards are sometimes referred to as daymarks.

(177) Daybeacons are found on-shore and in shallow water. They are frequently used to mark channel edges.

(178)

### Articulated Daybeacons

(179) Articulated daybeacons are similar to articulated lights, described above, except they are unlighted.

(180)

### Buoys

(181) The aids to navigation depicted on charts comprise a system consisting of fixed and floating aids with varying degrees of reliability. Therefore, prudent mariners will not rely solely on any single aid to navigation, particularly a floating aid.

(182) The approximate position of a buoy is represented by the dot or circle associated with the buoy symbol. The approximate position is used because of practical limitations in positioning and maintaining buoys and their sinkers in precise geographical locations. These limitations include, but are not limited to, inherent imprecisions in position fixing methods, prevailing atmospheric and sea conditions, the slope of and the material making up the seabed, the fact that buoys are moored to sinkers by varying lengths of chain and the fact that buoy body and/or sinker positions are not under continuous surveillance, but are normally checked only during periodic maintenance visits which often occur more than a year apart. The position of the buoy body can be expected to shift inside and outside of the charting symbol due to the forces of nature. The mariner is also cautioned that buoys are liable to be carried away, shifted, capsized, sunk, etc. Lighted buoys may be extinguished or sound signals may not function as a result of ice, running ice or other natural causes, collisions or other accidents.

(183) For the foregoing reasons, a prudent mariner must not rely completely upon the charted position or operation of floating aids to navigation but will also utilize bearings from fixed objects and aids to navigation on shore. Further, a vessel attempting to pass close aboard always risks collision with a yawing buoy or with the obstruction the buoy marks.

(184) Buoys may not always properly mark shoals or other obstructions due to shifting of the shoals or of the buoys. Buoys marking wrecks or other obstructions are usually placed on the seaward or channelward side and not directly over a wreck. Since buoys may be located some distance from a wreck they are intended to mark, and since sunken wrecks are not always static, extreme caution should be exercised when operating in the vicinity of such buoys.

(185)

### Automatic Identification System (AIS) Aids to Navigation

(186) AIS is an automatic communication and identification system intended to improve the safety of navigation by assisting the efficient operation of a Vessel Traffic Services (VTS), ship reporting, ship-to-ship and ship-to-shore operations. AIS is increasingly being used as an aid to navigation. An AIS-equipped aid to navigation may provide a positive identification of the aid. It may also have the capability to transmit an accurate position and provide additional information such as actual tide height and/or weather information.

(187) The AIS message may represent an aid to navigation that physically exists (physical AIS Aid to Navigation) or the message, transmitted from a remote location, may represent an aid to navigation that does not physically exist (virtual AIS Aid to Navigation). A virtual aid to navigation is a digital information object promulgated by an authorized service provider that can be presented on navigational systems.

(188) Physical AIS aids to navigation are charted with the symbol for the physical aid (such as a buoy or light) with a magenta circle surrounding the symbol and labeled AIS. Virtual aids to navigation are charted with a small central dot with a topmark symbol indicating the purpose of the aid, surrounded by a magenta circle and labeled V-AIS. Temporary AIS aids to navigation and stations remotely transmitting an AIS signal are not charted. See U.S. Chart No. 1, Section S, for additional information and examples.

(189)

**Examples of Charted AIS Aids to Navigation**




Physical AIS Aid to Navigation — Virtual AIS Aid to Navigation

(190)

### Bridge Lights and Clearance Gages

(191) The Coast Guard regulates marine obstruction lights and clearance gages on bridges across navigable waters. Where installed, clearance gages are generally vertical numerical scales, reading from top to bottom, and show the actual vertical clearance between the existing water level and the lowest point of the bridge over the channel; the gages are normally on the right-hand pier or abutment of the bridge, on both the upstream and downstream sides.

(192) Bridge lights are fixed red or green and are privately maintained; they are generally not charted or described in the text of the Coast Pilot. All bridge piers (and their protective fenders) and abutments that are in or adjacent to a navigation channel are marked on all channel sides by red lights. On each channel span of a fixed bridge, there is a range of two green lights marking the center of the channel and a red light marking both edges of the channel, except that when the margins of the channel are confined by bridge piers, the red lights on the span are omitted, since the pier lights then mark the channel edges. For multiplespan fixed bridges, the main-channel span may also be marked by three white lights in a vertical line above the green range lights.

(193) On all types of drawbridges, one or more red lights are shown from the drawspan (higher than the pier lights) when the span is closed; when the span is open, the higher red lights are obscured and one or two green lights are shown from the drawspan, higher than the pier lights. The number and location of the red and green lights depend upon the type of drawbridge.

(194) Bridges and their lighting, construction and maintenance are set forth in **33 CFR 114**, **115**, **116**, and **118** (not carried in this Coast Pilot). Aircraft obstruction lights prescribed by the Federal Aviation Administration may operate at certain bridges.

(195)

### Sound Signals

(196) Caution should be exercised in the use of sound signals for navigation purposes. They should be considered solely as warning devices.

(197) Sound travels through the air in a variable manner, even without the effects of wind, and, therefore the hearing of sound signals cannot be implicitly relied upon.

(198) Experience indicates that distances must not be judged only by the intensity of the sound; that occasionally there may be areas close to a sound signal in which it is not heard; and that fog may exist not far from a station, yet not be seen from it, so the signal may not be operating. It is not always possible to start a sound signal immediately when fog is observed.

(199)

### Channel Markers

(200) Lights, daybeacons, and buoys along dredged channels do not always mark the bottom edges. Due to local conditions, aids may be located inside or outside

the channel limits shown by dashed lines on a chart. The Light List tabulates the offset distances for these aids in many instances.

(201) Aids may be moved, discontinued or replaced by other types to facilitate dredging operations. Mariners should exercise caution when navigating areas where dredges with auxiliary equipment are working.

(202) Temporary changes in aids are not included on the charts.

(203)

### Light Lists

(204) The Coast Guard Light Lists are a means for communicating aids to navigation information to the maritime public. They are updated weekly and available for download on the United States Coast Guard Navigation Center's website at *www.navcen.uscg.gov*. Mariners should refer to these lists for detailed information regarding the characteristics and visibility of lights, and the description of light structures, buoys, sound signals and electronic aids.

(205)

## ELECTRONIC POSITIONING SYSTEMS

(206) **Global Positioning System (GPS)**permits land, sea, and airborne users to determine their three-dimensional position, velocity and time 24 hours a day, in all weather, anywhere in the world. The basic system is defined as a constellation of satellites, the navigation payloads which produce the GPS signals, ground stations, data links and associated command and control facilities, that are operated and maintained by the Department of Defense. Please report GPS problems or anomalies at *navcen.uscg.gov* or contact the USCG Navigation Information Service at 703–313–5900.

(207)

### LORAN-C

(208) LORAN, an acronym for LOng RAnge Navigation, was an electronic aid to navigation consisting of shore-based radio transmitters. In accordance with the Department of Homeland Security Appropriations Act, the U.S. Coast Guard terminated the transmission of all LORAN-C signals as of August 2010, rendering them unusable and permanently discontinued. For more details, visit *navcen.uscg.gov*. The Coast Guard strongly urges mariners accustomed to using LORAN-C for navigation to shift to a GPS navigation system and become familiar with its operation. NOAA is removing LORAN-C lines of position from all of its charts as new editions are published.

(209)

## SEARCH AND RESCUE

(210)

### Coast Guard Search and Rescue

(211) The Coast Guard conducts and/or coordinates search and rescue operations for surface vessels or aircraft that are in distress or overdue. Search and rescue vessels and aircraft have special markings, including a wide slash of red-orange and a small slash of blue on the forward portion of the hull or fuselage. Other parts of aircraft, normally painted white, may have other areas painted red to facilitate observation. The cooperation of vessel operators with Coast Guard helicopters, fixed-wing aircraft, and vessels may mean the difference between life and death for some seaman or aviator; such cooperation is greatly facilitated by the prior knowledge on the part of vessel operators of the operational requirements of Coast Guard equipment and personnel, of the international distress signals and procedures and of good seamanship.

(212)

### Search and Rescue Great Lakes

(213) The United States Coast Guard has established a toll-free search and rescue telephone number for the Great Lakes. The number is intended for use when the telephone number of the nearest Coast Guard station is unknown or when that station cannot be contacted. The toll-free number should not be used without first attempting to contact the nearest Coast Guard station. In all Great Lakes States the telephone number is 800-321-4400. This number is to be used for public reports of distress incidents, suspicious sightings, pollution or other maritime concerns.

(214)

### Radiotelephone Distress Message

(215) Distress calls indicate a vessel or aircraft is threatened by grave and imminent danger and requests immediate assistance. They have absolute priority over all other transmissions. All stations which hear a distress call must immediately cease any transmission capable of interfering with the distress traffic and continue to listen on the frequency used for the emission of the distress call. This call should not be addressed to a particular station, and acknowledgment of receipt should not be given before the distress message which follows it is sent.

(216) Distress calls are made on VHF-FM channel 16 (MAYDAY). For less serious situations than warrant the distress procedure, the radiotelephone urgency signal consisting of three repetitions of the word PAN-PAN (pronounced PAWN-PAWN), or the safety signal SECURITE (pronounced SECURITAY) spoken three times, are used as appropriate. For complete information on emergency radio procedures, see **47 CFR 80** or **Radio Navigational Aids, Pub. 117**.

(217)

### Global Maritime Distress and Safety System (GMDSS)

(218) This international system, developed by the International Maritime Organization (IMO), is based on a combination of satellite and terrestrial radio services and has changed international distress communications from being primarily ship-to-ship based to primarily ship-to-shore (Rescue Coordination Center) based. Prior to the GMDSS, the number and types of radio safety equipment

required to be carried by vessels depended upon the tonnage. Under GMDSS, the number and type of radio safety equipment vessels are required to carry depend on the areas in which they travel; GMDSS sea areas are defined by governments. All GMDSS-regulated ships must carry a satellite Emergency Position Indicating Radio Beacon (EPIRB), a NAVTEX receiver (if they travel in any areas served by NAVTEX), an Inmarsat-C SafetyNET receiver (if they travel in any areas not served by NAVTEX), a DSC-equipped VHF radiotelephone, two or more VHF handhelds and a search and rescue radar transponder (SART).

(219)

### Automated Mutual Assistance Vessel Rescue System (AMVER)

(220) AMVER is a worldwide voluntary ship reporting system operated by the United States Coast Guard to promote safety of life and property at sea. AMVER's mission is to quickly provide search and rescue (SAR) authorities, on demand, accurate information on the positions and characteristics of vessels near a reported distress. Any merchant vessel anywhere on the globe, on a voyage of greater than 24 hours duration, is welcome in the AMVER system and family. International participation is voluntary regardless of the vessel's flag of registry, the nationality of the owner or company or ports of call.

(221) According to U.S. Maritime Administration (MARAD) regulations, U.S. flag merchant vessels of 1,000 gross tons or more operating in foreign commerce and foreign flag vessels of 1,000 gross tons or more for which an Interim War Risk Insurance Binder has been issued under the provisions of Title XII, Merchant Marine Act, 1936, must report and regularly update their voyages and positions to AMVER in accordance with instructions set forth in the AMVER Ship Reporting System Manual. For more information contact AMVER Maritime Relations U.S. Coast Guard, 1 South Street Battery Park Building, New York, NY 10004; Phone: 212–668–7764, Fax: 212-668-7684, Telex: 127594-AMVER NYK, or go to *amver.com*.

(222)

### COSPAS-SARSAT

(223) COSPAS: Space System for Search of Distress Vessels - SARSAT: Search and Rescue Satellite-Aided Tracking. COSPAS-SARSAT is an international satellite system designed to provide distress alert and location data to assist search and rescue operations using satellites and ground facilities to detect and locate the signals of distress beacons operating on 406 MHz. For more information on the Cospas-Sarsat System go to *cospas-sarsat.int*.

(224)

### Digital Selective Calling (DSC)

(225) The U.S. Coast Guard offers VHF and MF/HF radiotelephone service to mariners as part of the Global Maritime Distress and Safety System. This service, called digital selective calling (DSC), allows mariners to instantly send an automatically formatted distress alert to the Coast Guard or other rescue authority anywhere in the world. Digital selective calling also allows mariners to initiate or receive distress, urgency, safety and routine radiotelephone calls to or from any similarly equipped vessel or shore station, without requiring either party to be near a radio loudspeaker. Each ship or shore station equipped with a DSC terminal has a unique Maritime Mobile Station Identity (MMSI). This is a nine-digit number that specifically identifies a ship, coast station, or group of stations. The DSC system alerts an operator when a distress call is received. It will provide the operator with a pre-formatted message that can include the distressed vessel's nine-digit MMSI, location, nature of distress, desired mode of communication and preferred working frequency.

(226)

### Emergency Position Indicating Radiobeacons (EPIRB)

(227) EPIRBs emit a radio signal that can be used to locate mariners in distress. SARSAT satellites can locate the position of a 406 MHz EPIRB which greatly increases a mariner's chances of survival. While orbiting the earth, the satellites continuously monitor EPIRB frequencies. When SARSAT receives an EPIRB signal, it determines the beacon's position that is ultimately relayed to the nearest Coast Guard Rescue Coordination Center where rescue units are dispatched to the scene.

(228) Mariners should ensure that their EPIRB is in working condition and stowed properly at all times to avoid non-distress emissions. Mariners are required to register their 406 MHz EPIRBs for improved search and rescue response and keep the registration current at all times. Registration can be accomplished online at *beaconregistration.noaa.gov*.

(229)

**EPIRB Types**

| Type | Frequency | Description |
|---|---|---|
| Cat I | 406 MHz | Float-free, automatically activated EPIRB. Detectable by satellite anywhere in the world. Recognized by the Global Maritime and Distress Safety System (GMDSS). |
| Cat II | 406 MHz | Similar to Category I, except is manually activated. Some models are also water activated. |

(230)

### Medical Advice

(231) Ships at sea with no medical personnel embarked and experiencing a medical emergency onboard can receive medical advice via radiotelex, radiotelephony or Inmarsat. Messages are generally addressed RADIOMEDICAL followed by the name of the coast station to which the message is sent. The priority of the message should depend on the severity of the ailment. In extreme emergency, the urgency signal (PAN-PAN) should precede the address. Messages are sent using distress and safety frequencies.

(241)

## U.S. VHF Channel Information

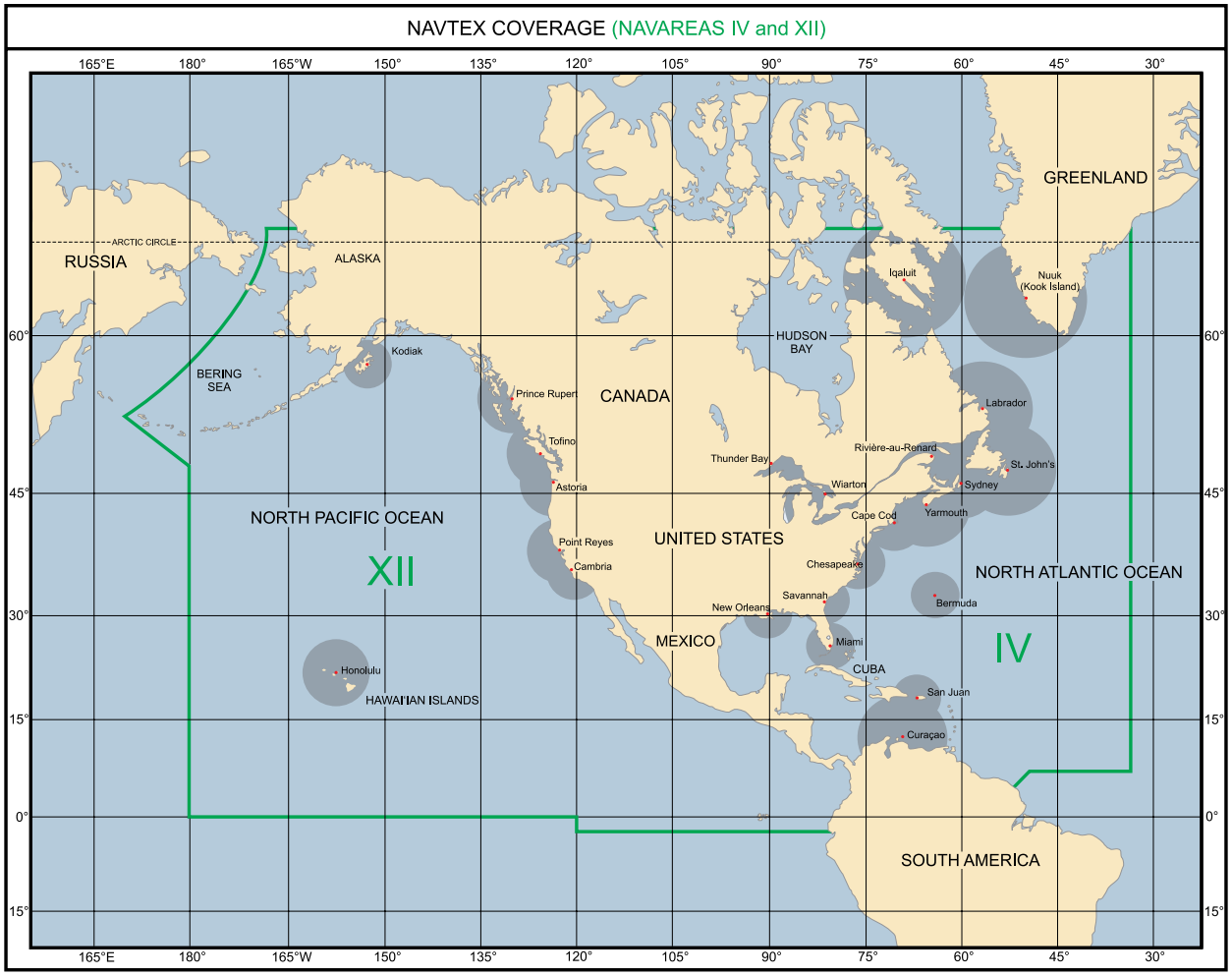
| New Channel | Old Channel | Ship Frequency (MHz) | | Channel Usage |
|---|---|---|---|---|
| | | Transmit | Receive | |
| 1001 | 01A | 156.050 | 156.050 | Port Operations and Commercial, VTS. Available only in New Orleans / Lower Mississippi area. |
| 1005 | 05A | 156.250 | 156.250 | Port Operations or VTS in the Houston, New Orleans and Seattle areas |
| 06 | 06 | 156.300 | 156.300 | Intership Safety |
| 1007 | 07A | 156.350 | 156.350 | Commercial. VDSMS |
| 08 | 08 | 156.400 | 156.400 | Commercial (Intership only) VDSMS |
| 09 | 09 | 156.450 | 156.450 | Boater Calling; Commercial and Non-commercial. VDSMS |
| 10 | 10 | 156.500 | 156.500 | Commercial. VDSMS |
| 11 | 11 | 156.550 | 156.550 | Commercial; VTS in selected areas. VDSMS |
| 12 | 12 | 156.600 | 156.600 | Port Operations; VTS in selected areas |
| 13 | 13 | 156.650 | 156.650 | Intership Navigation Safety (Bridge-to-Bridge). Ships greater than 20m maintain a listening watch on this channel in U.S. waters. |
| 14 | 14 | 156.700 | 156.700 | Port Operations; VTS in selected areas |
| 15 | 15 | - - | 156.750 | Environmental (Receive only) Used by Class C EPIRBs |
| 16 | 16 | 156.800 | 156.800 | International Distress, Safety and Calling. Ships required to carry radio, USCG, and most coast stations maintain a listening watch on this channel. *(Refer to: Radio Watchkeeping Regulations).* |
| 17 | 17 | 156.850 | 156.850 | State and local government maritime control |
| 1018 | 18A | 156.900 | 156.900 | Commercial. VDSMS |
| 1019 | 19A | 156.950 | 156.950 | Commercial. VDSMS |
| 20 | 20 | 157.000 | 161.600 | Port Operations (duplex) |
| 1020 | 20A | 157.000 | 157.000 | Port Operations |
| 1021 | 21A | 157.050 | 157.050 | U.S. Coast Guard only |
| 1022 | 22A | 157.100 | 157.100 | Coast Guard Liaison and Maritime Safety Information Broadcasts. *( Broadcasts announced on Channel 16 )* |
| 1023 | 23A | 157.150 | 157.150 | U.S. Coast Guard only |
| 24 | 24 | 157.200 | 161.800 | Public Correspondence (Marine Operator). VDSMS |
| 25 | 25 | 157.250 | 161.850 | Public Correspondence (Marine Operator). VDSMS |
| 26 | 26 | 157.300 | 161.900 | Public Correspondence (Marine Operator). VDSMS |
| 27 | 27 | 157.350 | 161.950 | Public Correspondence (Marine Operator). VDSMS |
| 28 | 28 | 157.400 | 162.000 | Public Correspondence (Marine Operator). VDSMS |
| 1063 | 63A | 156.175 | 156.175 | Port Operations and Commercial, VTS. Available only in New Orleans / Lower Mississippi area. |
| 1065 | 65A | 156.275 | 156.275 | Port Operations |
| 1066 | 66A | 156.325 | 156.325 | Port Operations |
| 67 | 67 | 156.375 | 156.375 | Commercial. Used for Bridge-to-Bridge communications in lower Mississippi River. (Intership only.) |
| 68 | 68 | 156.425 | 156.425 | Non-Commercial. VDSMS |
| 69 | 69 | 156.475 | 156.475 | Non-Commercial. VDSMS |
| 70 | 70 | 156.525 | 156.525 | Digital Selective Calling (voice communications not allowed) |
| 71 | 71 | 156.575 | 156.575 | Non-Commercial. VDSMS |
| 72 | 72 | 156.625 | 156.625 | Non-Commercial (Intership only). VDSMS |
| 73 | 73 | 156.675 | 156.675 | Port Operations |
| 74 | 74 | 156.725 | 156.725 | Port Operations |
| 77 | 77 | 156.875 | 156.875 | Port Operations (Intership only) |
| 1078 | 78A | 156.925 | 156.925 | Non-Commercial. VDSMS |
| 1079 | 79A | 156.975 | 156.975 | Commercial. Non-commercial in Great Lakes only. VDSMS |
| 1080 | 80A | 157.025 | 157.025 | Commercial. Non-commercial in Great Lakes only. VDSMS |
| 1081 | 81A | 157.075 | 157.075 | U.S. Government only - Environmental protection operations. |
| 1082 | 82A | 157.125 | 157.125 | U.S. Government only |
| 1083 | 83A | 157.175 | 157.175 | U.S. Coast Guard only |
| 84 | 84 | 157.225 | 161.825 | Public Correspondence (Marine Operator). VDSMS |
| 85 | 85 | 157.275 | 161.875 | Public Correspondence (Marine Operator). VDSMS |
| 86 | 86 | 157.325 | 161.925 | Public Correspondence (Marine Operator). VDSMS |
| 87 | 87 | 157.375 | 157.375 | Public Correspondence (Marine Operator). VDSMS |
| 88 | 88A | 157.425 | 157.425 | Commercial (Intership only). VDSMS |
| AIS 1 | AIS 1 | 161.975 | 161.975 | Automatic Identification System (AIS) |
| AIS 2 | AIS 2 | 162.025 | 162.025 | Automatic Identification System (AIS) |

Boaters should normally use channels listed as Non-Commercial. Channel 16 is used for calling other stations or for distress alerting. Channel 13 should be used to contact a ship when there is danger of collision. All ships of length 20m or greater are required to guard VHF channel 13, in addition to VHF channel 16, when operating within U.S. territorial waters. Users may be fined by the FCC for improper use of these channels. Frequencies are in megahertz (MHz). Modulation is 16KF3E or 16KG3E. VDSMS (VHF Digital Small Message Services). Transmissions of short digital messages in accordance with RTCM Standard 12301.1 is allowed. Four-digit VHF maritime channel numbers: US channel 05A is now designated and recognized internationally by the channel 1005, and the U.S. Coast Guard channel 22A is now designated and recognized internationally by the channel “1022”. These new channel number designations are being displayed on new models of VHF marine radios.

***Further information can be obtained by visiting the following:***

**U.S. VHF Channel Information -** *https://www.navcen.uscg.gov/us-vhf-channel-information*
**Radio Watchkeeping Regulations -** *https://www.navcen.uscg.gov/radio-watchkeeping-regulations*
**International Telecommunications Union (ITU) Radio Regulations Appendix 18 -** *https://navcen.uscg.gov/international-vhf-marine-radio-channels-freq*

(247)




(232)

### Vessel Identification

(233) Coast Guard search and rescue aircraft and surface craft use radar to assist in locating disabled vessels. Wooden and fiberglass vessels are often poor radar targets. Operators of disabled craft that are the object of a search are requested to hoist, as high above the waterline as possible, a radar-reflecting device. If no special radar-reflecting device is aboard, an improvised device can be used. This should consist of metallic objects of irregular shape. The more irregular the shape, the better will be the radar-reflective quality. For quick identification at night, shine spotlights straight up. If aircraft are involved, once you are identified, turn lights away so as not to blind aircraft crew.

(234)

### Float Plan

(235) Small craft operators should prepare a float plan before starting a trip and leave it ashore with a yacht club, marina, friend or relative. It is advisable to regularly use a checking-in procedure by radio or telephone for each point specified in the float plan. A float plan is vital for determining if a boat is overdue and will assist in locating a missing vessel in the event search and rescue operations become necessary.

(236)

## NAVIGATIONAL WARNINGS, INFORMATION AND WEATHER

(237) Marine radio warnings and weather are disseminated by many sources and through several types of transmissions. For complete information on radio warnings and weather, see **Radio Navigational Aids, Pub. 117** and the National Weather Service (NWS) publication **Worldwide Marine Radiofacsimile Broadcast Schedules**.

(238) Radio navigational warning broadcasts are designed to provide the mariner with up-to-date marine information vital to safe navigation. There are three types of broadcasts: coastal and local, long range and worldwide.

(239) Coastal and local warnings are generally restricted to ports, harbors and coastal waters and involve items of local interest. Usually, local or short-range warnings are broadcast from a single coastal station, frequently by voice and also radiotelegraph, to assist small craft operators in the area. The information is often quite detailed. Foreign area broadcasts are frequently in English as well as the native language. In the United States, short-range radio navigational warnings are broadcast by the U.S. Coast

Guard Districts via NAVTEX and subordinate coastal radio stations.

(240) Long range warnings are intended primarily to assist mariners on the high seas by promulgating navigational safety information concerning port and harbor approaches, coastlines and major ocean areas. Long-range radio navigational warnings are usually broadcast by means of radiotelegraphy and in many instances by radio-teletypewriter. A NAVAREA system of navigational warning areas has been developed providing worldwide coverage using standard format and procedures. The U.S. participates as Area Coordinator for both NAVAREA IV (Western North Atlantic) and NAVAREA XII (Eastern North Pacific).

(242) The United States also maintains worldwide coverage using the HYDROLANT/HYDROPAC Navigational Warning System outside of NAVAREAs IV and XII.

(243)

### NAVTEX

(244) NAVTEX is a standard international method of broadcasting notices to mariners and marine weather forecasts using small, low cost receivers designed to be installed in the pilothouse of a vessel. NAVTEX receivers screen incoming messages, inhibiting those which had been previously received or are of a category not of interest to the user, and print the rest on adding machine-size paper. NAVTEX not only provides marine information previously available only to those knowledgeable in Morse code but also allows any mariner who cannot man a radio full time to receive safety information at any hour. All NAVTEX transmissions are made on 518 kHz. Mariners who do not have NAVTEX receivers but have Simplex Teletype Over Radio (SITOR) radio equipment can also receive these broadcasts by operating it in the Forward Error Correction (FEC) mode and tuning to 518 kHz.

(245) Information broadcast over NAVTEX includes offshore weather forecasts, offshore marine advisory warnings, search and rescue information and navigational information that applies to waters from the line of demarcation (separating Inland Rules from COLREG Rule waters) to 200 miles offshore. Navigational information that affects the safety of navigation of deep draft (15 feet or more) vessels within the U.S. Inland Rules waters will also be included. Gulf Stream location is also included from Miami and Portsmouth. Coastal and high seas weather forecasts are not being broadcast over NAVTEX. The Safety of Life at Sea Convention, as amended in 1988, requires vessels regulated by that convention to carry NAVTEX receivers.

(246) See Appendix A, U.S. NAVTEX Transmitting Stations, for a list of NAVTEX broadcast stations and message content covered by this Coast Pilot.

(248)

### Broadcast Notice to Mariners

(249) The U.S. Coast Guard transmits **Urgent Marine Information Broadcast** (UMIB) safety warnings and communicates with mariners on VHF channel 1022 (previously channel 22A). These safety broadcasts contain information such as notices to mariners, storm warnings, distress warnings and other pertinent information that is vital for safe navigation. Following a preliminary call on VHF-FM channel 16 (156.800 MHz), mariners are instructed to shift to VHF-FM channel 1022 (157.100 MHz). A shipboard radio tuned to channel 1022 (U.S. mode) both transmits and listens on 157.100 MHz, and can receive UMIBs transmitted by the U.S Coast Guard. A shipboard radio tuned to channel 22 (international mode) transmits on 157.100 MHz and listens on 161.700 MHz, and cannot receive these safety warnings. In accordance with **33 CFR 26.03(d)**, "The radiotelephone required by (this Bridge-to-bridge radiotelephone regulation) must be capable of transmitting and receiving on VHF FM channel 22A (157.100 MHz)." This regulation applies to foreign ships in U.S. waters as well as to U.S. ships.

(250)

### NOAA Weather Radio Broadcasts

(251) NOAA Weather Radio provides continuous broadcasts of the latest weather information directly from (NWS) offices. In addition to general weather information, marine weather is provided by stations along the sea coasts and the Great Lakes. During severe weather, NWS forecasters can interrupt the regular broadcasts and substitute special warning messages. The stations operate 24 hours daily, and messages are repeated every 4 to 6 minutes and are routinely revised every 1 to 3 hours or more frequently if necessary. The broadcasts are made on seven VHF-FM frequencies, 162.40 to 162.55 MHz. The 162.475 MHz frequency is only used in special cases where needed to avoid channel interference. They can usually be heard as far as 40 miles from the antenna site, sometimes more. The effective range depends on many factors, including the height of the broadcast antenna, terrain, quality of the receiver and the type of receiving antenna. As a general rule, listeners close to or perhaps beyond the 40 mile range should have a good quality receiver system to get reliable reception. (See Appendix A for a list of these stations in the area covered by this Coast Pilot.)

(252)

### Commercial Maritime Coast Stations and Weather Nets

(253) Commercial maritime coast stations, which provide communications services, broadcast weather information to ships at sea as a public service, or make forecast information available on demand, either free or for a nominal fee. These transmissions are most commonly performed using HF SITOR and Pactor/E-Mail; however, several of these stations also offer services via Inmarsat satellite and other means.

(258)

## Standard Abbreviations Used in Broadcasts

### Aids to Navigation

AERO RBN — Aeronautical Radiobeacon
ART DBN — Articulated Daybeacon
ART LT — Articulated Light
DESTR — Destroyed
DISCONTD — Discontinued
ESTAB — Established
ELB — Exposed Location Buoy
FOG SIG — Fog Signal Station
LNB — Large Navigation Buoy
LT — Light
LLNR — Light List Number
LBB — Lighted Bell Buoy
LB — Lighted Buoy
LGB — Lighted Gong Buoy
LHB — Lighted Horn Buoy
LWB — Lighted Whistle Buoy
ODAS — Ocean Data Acquisition System
PRIV MAINTD — Privately Maintained
RACON — Radar Beacon
RA REF — Radar Reflector
TRUB — Temporarily Replaced by Unlighted Buoy
TRLB — Temporarily Replaced by Lighted Buoy
WHIS — Whistle

### Light Characteristics

AL — Alternating
CHAR — Characteristic
FL(2+1) — Composite Group-Flashing
OC(2+1) — Composite Group-Occulting
Q — Continuous Quick-Flashing
FFL — Fixed and Flashing
F — Fixed
FL(3) — Group-Flashing
OC(2) — Group-Occulting
IQ — Interrupted Quick-Flashing
ISO — Isophase
MO(A) — Morse Code
OC — Occulting
FL — Single-Flashing

### Colors (Color refers to light characteristics of Aids to Navigation only)

B — Black
BU — Blue
G — Green
OR — Orange
R — Red
W — White
Y — Yellow

### Organizations

CCGD(#) — Commander, Coast Guard District (#)
CG — Coast Guard
COE — Corps of Engineers
NGA — National Geospatial-Intelligence Agency
NOS — National Ocean Service
NWS — National Weather Service

### Vessels

A/C — Aircraft
F/V — Fishing Vessel
LNG — Liquified Natural Gas Carrier
M/V — Motor Vessel*
P/C — Pleasure Craft
R/V — Research Vessel
S/V — Sailing Vessel

* M/V includes: Steam Ship, Container Vessel, Cargo Vessel, etc.

### Compass Directions

N — North
S — South
E — East
W — West
NE — Northeast
NW — Northwest
SE — Southeast
SW — Southwest

### Various

ANCH — Anchorage
ANCH PROHIB — Anchorage Prohibited
APPROX — Approximate
ATLC — Atlantic
AUTH — Authorized
AVG — Average
BRG — Bearing
BKW — Breakwater
BNM — Broadcast Notice to Mariners
CHAN — Channel
CFR — Code of Federal Regulations
CONT — Continue
DEG — Degrees (temp, geo-position)
DIA — Diameter
ED — Edition
EFF — Effect/Effective
ENTR — Entrance
EXPLOS ANCH — Explosive Anchorage
FM(S) — Fathoms
FT — Foot/Feet
HBR — Harbor
HT — Height
HZ — Hertz
HOR CL — Horizontal Clearance
HR — Hour
COLREGS — International Regulations for Preventing Collisions at Sea
KHZ — Kilohertz
KM — Kilometer
KT(S) — Knot(s)
LAT — Latitude
LNM — Local Notice to Mariners
LONG — Longitude
MAINTD — Maintained
MAX — Maximum
MHZ — Megahertz
MB — Millibar
MM — Millimeter
MIN — Minute (time, geo position)
MOD — Moderate
MT —Mountain, Mount
NM — Nautical Mile(s)
NTM — Notice to Mariners
OBSTR — Obstruction
OCCASION — Occasion/Occasionally
OPAREA — Operating Area
PAC — Pacific
PT(S) — Point(s)
POS — Position
PA —Position Approximate
PRES — Pressure
PRIV — Private/Privately
PROHIB — Prohibited
PUB — Publication
RGE — Range
REP — Reported
RESTR — Restricted
RK — Rock
ST — Saint
SEC — Second (time, geo position)
SIG STA — Signal Station
STA — Station
SM — Statute Mile(s)
S SIG STA — Storm Signal Station
TEMP — Temporary
TSTORM — Thunderstorm
THRU — Through
T — True
UNCOV — Uncovers
UTC — Universal Coordinate Time
UMIB — Urgent Marine Information Broadcast
VEL — Velocity
VERT CL — Vertical Clearance
VIS — Visibility
YD — Yard(s)
WARN — Warning
WX — Weather
WK — Wreck

(254) There are also a number of maritime weather *nets* operating on commercial marine VHF, MF and HF, where weather information is exchanged. These *nets* are extremely popular in areas of the world that have a large yachting population and where weather is dynamic, such as in the Caribbean, and typically incorporate volunteers ashore.

(255) Information on commercial maritime coast stations, including schedules and frequencies, is available in the **Radio Navigational Aids, Pub. 117**.

(256)

### Standard Abbreviations for Broadcasts

(257) A listing of Standard Abbreviations for Textual Maritime Safety Broadcasts can be found in this chapter. These abbreviations were jointly approved by the U.S. Coast Guard, National Weather Service, National Geospatial-Intelligence Agency and the Radio Technical Commission for Maritime Services. In addition to appearing in radio broadcasts of the U.S. Coast Guard and National Weather Service, they appear in Notices to Mariners of the U.S. Coast Guard and National Geospatial-Intelligence Agency and in NAVTEX.

(259)

### Voluntary Observing Ship Program (VOS)

(260) The Voluntary Observing Ship program is organized for the purpose of obtaining weather and oceanographic observations from moving ships. An international program under World Meteorological Organization auspices, the VOS has over 5000 vessels participating from 23 countries. Any vessel willing to take and transmit observations in marine areas can join the program. Weather observations are essential to meteorologists preparing weather forecasts for coastal, offshore and high seas areas. For more information on the VOS, including a comprehensive observing handbook, visit *vos.noaa.gov*.

(261)

### National Institute of Standards and Technology (NIST)

(262) The National Institute of Standards and Technology maintains the standards for time and frequency for most users in the United States. NIST provides a variety of services designed to deliver time and frequency signals to the people who need them. The signals are broadcast via several mediums, including high and low frequency radio, the Internet and telephone lines. Broadcasts of time and frequency signals are made by stations operating in the part of the radio spectrum that is properly known as high frequency (HF) but is commonly called shortwave. Station WWV is located just north of Fort Collins, Colorado, and station WWVH is located on the island of Kaua‘i, Hawaii. Both stations broadcast continuous time and frequency signals on 2.5, 5, 10 and 15 MHz; WWV also broadcasts on 20 MHz.

(263) **NIST Time and Frequency Services, Special Publication 432** gives a detailed description of the signals and services offered by NIST, how they work and how you can use them. The publication is available for download at *nist.gov/pml/div688/generalpubs.cfm*.

(264)

## CAUTIONARY INFORMATION

(265)

### Hurricanes and Tropical Storms

(266) Hurricanes, tropical storms and other major storms may cause considerable damage to marine structures, aids to navigation and moored vessels, resulting in submerged debris in unknown locations. Fixed aids to navigation may have been damaged or destroyed. Buoys may have been moved from charted positions, damaged, sunk, extinguished or otherwise made inoperative. Mariners should not rely upon the position or operation of an aid to navigation. Charted soundings, channel depths and shoreline may not reflect actual conditions following these storms. Wrecks and submerged obstructions may have been displaced from charted locations. Pipelines may have become uncovered or moved. Mariners are urged to exercise extreme caution and are requested to report aids to navigation discrepancies and hazards to navigation to the U.S. Coast Guard.

(267)

### Destructive Waves

(268) Unusual sudden changes in water level can be caused by tsunamis or violent storms. These two types of destructive waves have become commonly known as **tidal waves,** a name which is technically incorrect as they are not the result of tide-producing forces.

(269) **Tsunamis** (seismic sea waves) are ocean waves generated by any rapid large-scale disturbance of the sea water. Most tsunamis are generated by earthquakes, but they may also be caused by volcanic eruptions, landslides, undersea slumps or meteor impacts.

(270) The waves radiate outward in all directions from the disturbance and can propagate across entire ocean basins. Tsunami waves are distinguished from ordinary ocean waves by their great length between peaks, often exceeding 100 miles in the deep ocean, and by the long interval of time between these peaks, ranging from five minutes to an hour. The speed at which tsunamis travel depends on the ocean depth. A tsunami can exceed 500 knots in the deep ocean but slows to 20 or 30 knots in the shallow water near land. In less than 24 hours, a tsunami can cross the entire Pacific Ocean.

(271) In the deep ocean, a tsunami is barely noticeable and will only cause a small and slow rising and falling of the sea surface as it passes. Only as it approaches land does a tsunami become a hazard. As the tsunami approaches land and shallow water, the waves slow down and become compressed, causing them to grow in height. In the best of cases, the tsunami comes onshore like a quickly rising tide and causes a gentle flooding of low-lying coastal areas. In the worst of cases, a bore will form.

(272) A bore is a wall of turbulent water that can exceed several yards in height and can rush onshore with great

destructive power. Behind the bore is a deep and fast-moving flood that can pick up and sweep away almost anything in its path. Minutes later, the water will drain away as the trough of the tsunami wave arrives, sometimes exposing great patches of the sea floor, then the water will rush in again as before, causing additional damage. This destructive cycle may repeat many times before the hazard finally passes. Sometimes the first noticeable part of the wave is the trough, which causes a recession of the water from shore, and people who have gone out to investigate this unusual exposure of the beach have been engulfed by the oncoming crest. Such an unexplained withdrawal of the sea should be considered as nature's warning of an approaching wave.

(273) Tsunamis do not have a season and do not occur regularly or frequently. Yet they pose a major threat to the coastal populations of the Pacific and other world oceans and seas. Nothing can be done to prevent them, but their adverse impact can be reduced with proper planning. The loss of life and property can be lessened if shipmasters and others acquaint themselves with the behavior of these waves so that intelligent action can be taken when they become imminent.

(274) NOAA oversees the U.S. Tsunami Program with its mission to provide a 24-hour detection and warning system and increase public awareness about the threat of tsunamis. The NOAA National Weather Service operates two tsunami warning centers The West Coast/Alaska Tsunami Warning Center in Palmer, Alaska, and the Richard H. Hagemeyer Pacific Tsunami Warning Center in 'Ewa Beach, Hawaii: *www.tsunami.gov*. These centers continuously monitor data from seismological and tidal stations, evaluate earthquakes that have the potential to generate tsunamis and disseminate tsunami information and warning bulletins to government authorities and the public.

(275) A tsunami warning is issued when a potential tsunami with significant inundation is imminent or expected. Warnings alert the public that widespread, dangerous coastal flooding accompanied by powerful currents is possible and may continue for several hours after arrival of the initial wave. Warnings also alert emergency management officials to take action for the entire tsunami hazard zone. When a tsunami warning has been issued, use a NOAA Weather Radio or stay tuned to a Coast Guard emergency frequency station or a local radio or television station for updated emergency information.

(276)

### Storm Surge

(277) A considerable rise or fall in the level of the sea along a particular coast may result from strong winds and sharp change in barometric pressure. In cases where the water level is raised, higher waves can form with greater depth, and the combination can be destructive to low regions, particularly at high stages of tide. Extreme low levels can result in depths which are considerably less than those shown on nautical charts. This type of wave occurs especially in coastal regions bordering on shallow waters which are subject to tropical storms.

(278) **Seiche** is a stationary vertical wave oscillation with a period varying from a few minutes to an hour or more but somewhat less than the tidal periods. It is usually attributed to external forces such as strong winds, changes in barometric pressure, swells or tsunamis disturbing the equilibrium of the water surface. Seiche is found both in enclosed bodies of water and superimposed upon the tides of the open ocean. When the external forces cause a short-period horizontal oscillation on the water, it is called **surge**.

(279) The combined effect of seiche and surge sometimes makes it difficult to maintain a ship in its position alongside a pier even though the water may appear to be completely undisturbed, and heavy mooring lines have been parted repeatedly under such conditions. Pilots advise taut lines to reduce the effect of the surge.

(280)

### Immersion Hypothermia

(281) Immersion hypothermia is the loss of heat when a body is immersed in water. With few exceptions, humans die if their core temperature of approximately 99.7° F drops below 78.6° F. Cardiac arrest is the most common direct cause of death. During prolonged immersion, the main threat to life is cold or cold and drowning combined.

(282)

SURVIVAL TIME VERSUS WATER TEMPERATURE

| Water Temperature (°F) | Exhaustion or Unconsciousness | Expected Time of Survival |
|---|---|---|
| 32 | 15 minutes | 15 to 45 minutes |
| 32 to 41 | 15-30 minutes | 30 to 90 minutes |
| 41 to 50 | 30-60 minutes | 1 to 3 hours |
| 50 to 59 | 1-2 hours | 1 to 6 hours |
| 59 to 68 | 2-7 hours | 2 to 40 hours |
| 68 to 77 | 3-12 hours | 3 hours to indefinite |
| 77 and above | indefinite | indefinite |

(283) The length of time that a human survives in water depends on the water temperature and to a lesser extent on the person's behavior and body type. The table shows approximate human survival time in the sea. Body type can cause deviations, as small people become hypothermic more rapidly than large people. The cooling rate can be slowed by the person's behavior and insulated gear. The Heat Escape Lessening Posture (HELP) was developed for those in the water alone and the huddle for small groups. Both require a PFD (personal flotation device), or life preserver. HELP involves holding the arms close to the body, keeping the thighs together, and raising the knees to protect the groin area. In the huddle, people face each other and keep their bodies as close together as possible. These positions improve survival time to approximately two times that of a swimmer and one and a half times that of a person in the passive position.

(284) Near-drowning victims in cold water (less than 70° F) are revivable for much longer periods than usual. Keys

to a successful revival are immediate cardiopulmonary resuscitation (CPR) and administration of pure oxygen. Total re-warming is not necessary at first. The whole revival process may take hours and require medical help.

(285)

### Wind Chill and Frostbite

(286) When the body is warmer than its surroundings, it begins to lose heat. The rate of loss depends on barriers such as clothing and insulation, the speed of air movement and air temperature. Heat loss increases dramatically in moving air that is colder than skin temperature (91.4° F). Even a light wind increases heat loss, and a strong wind can lower the body temperature if the rate of loss is greater than the body's heat replacement rate.

(287) When skin temperature drops below 50° F, there is a marked constriction of blood vessels, leading to vascular stagnation, oxygen want and cellular damage. The first indication that something is wrong is a painful tingling. Swelling of varying extent follows, provided freezing has not occurred. Excruciating pain may be felt if the skin temperature is lowered rapidly, but freezing of localized portions of the skin may be painless when the rate of change is slow. Possible effects of cold include cold allergy (welts), chilblains, which appear as reddened, warm, itching, swollen patches on the fingers and toes, and trench foot and immersion foot, which present essentially the same picture. Both result from exposure to cold and lack of circulation. Wetness can add to the problem as water and wind soften the tissues and accelerate heat loss.

(288) Frostbite usually begins when the skin temperature falls within the range of 14° to 4° F. Ice crystals form in the tissues and small blood vessels. The rate of heat loss determines the rate of freezing, which is accelerated by wind, wetness, extreme cold and poor blood circulation. Parts of the body susceptible to freezing are those with surfaces large in relation to their volume, such as toes, fingers, ears, nose, chin and cheeks.

(289) Injuries from the cold may, to a large extent, be prevented by maintaining natural warmth through the use of proper footgear and adequate, dry clothing, by avoiding cramped positions and constricting clothing and by active exercise of the hands, legs and feet.

(290)

## MARINE POLLUTION

(291)

### The Federal Water Pollution Control Act (Clean Water Act)

(292) The Federal Water Pollution Control Act (FWPCA) or Clean Water Act (CWA) was passed to restore and maintain the chemical, physical and biological integrity of the waters within the United States.

(293)

### No-Discharge Zones

(294) Section 312 of the FWPCA gives the Environmental Protection Agency (EPA) and States the authority to designate certain areas as No-Discharge Zones (NDZ) for vessel sewage. Freshwater lakes, freshwater reservoirs or other freshwater impoundments whose entrances and exits prohibit traffic by regulated vessels (vessels with installed toilets) are, by regulation, NDZs. Rivers that do not support interstate navigation vessel traffic are also NDZs by regulation. Water bodies that can be designated as NDZs by States and EPA include the Great Lakes and their connecting waterways, freshwater lakes and impoundments accessible through locks and other flowing waters that support interstate navigation by vessels subject to regulation.

(295) Inside NDZ waters, discharge of any sewage, whether treated or untreated, is completely prohibited.

(296) Discharge of sewage in waters not designated as NDZs is regulated by the Marine Sanitation Device Standard (see **40 CFR 140** in chapter 2.)

(297) Additional information concerning the regulations may be obtained from *water.epa.gov*.

(298)

### Oil Spill Reporting

(299) Reporting requirements for any oil discharge, noxious liquid substance or harmful substance occurring in waters under U.S. jurisdiction are found in **33 CFR 153**, subpart B (not in this Coast Pilot.) Any person in charge of a vessel or an onshore/offshore facility must, as soon as they have knowledge of any discharge of oil or a hazardous substance, immediately notify the National Response Center (NRC) at 800-424-8802 or NRC@uscg.mil.

(300)

### Ocean Dumping

(301) The Marine Protection Research and Sanctuaries Act of 1972, as amended (33 USC 1401 et seq.), regulates the dumping of all material, except fish waste, into ocean waters. Radiological, chemical and biological warfare agents and other high level radioactive wastes are expressly banned from ocean disposal. The USACE issues permits for the disposal of dredged spoils; the EPA is authorized to issue permits for all other dumping activities. Surveillance and enforcement to prevent unlawful transportation of material for dumping or unlawful dumping under the Act has been assigned to the U.S. Coast Guard. The Act provides civil penalties of up to $50,000 and criminal penalties of up to $50,000 and/or one year imprisonment.

(302)

## SELECT NAVIGATION RULES

(303)

### Improper use of searchlights

(304) No person shall flash or cause to be flashed the rays of a searchlight or other blinding light onto the bridge or into the pilothouse of any vessel underway. The International Code Signal "PG2" may be made by

a vessel inconvenienced by the glare of a searchlight in order to apprise the offending vessel of the fact.

(305)

### Use of Radar

(306) Navigation Rules, International-Inland, Rule 7, states, in part, that every vessel shall use all available means appropriate to the prevailing circumstances and conditions to determine if risk of collision exists. If there is any doubt such risk shall be deemed to exist. Proper use shall be made of radar equipment if fitted and operational, including long-range scanning to obtain early warning of risk of collision and radar plotting or equivalent systematic observation of detected objects.

(306) <Deleted Paragraph>

(307) This rule places an additional responsibility on vessels that are equipped and manned to use radar to do so while underway during periods of reduced visibility without in any way relieving commanding officers of the responsibility of carrying out normal precautionary measures.

(308) Navigation Rules, International-Inland, Rules 6, 7, 8, and 19 apply to the use of radar.

(309)

### Danger signal

(310) Navigation Rules, International-Inland, Rule 34(d), states that when vessels in sight of one another are approaching each other and from any cause either vessel fails to understand the intentions or actions of the other or is in doubt whether sufficient action is being taken by the other to avoid collision, the vessel in doubt shall immediately indicate such doubt by giving at least five short and rapid blasts on the whistle. Such signal may be supplemented by a light signal of at least five short and rapid flashes.

(311)

### Narrow channels

(312) Navigation Rules, International-Inland, Rule 9(b) states that a vessel of less than 20 meters in length or a sailing vessel shall not impede the passage of a vessel that can safely navigate only within a narrow channel or fairway.

(312.001)

### Small craft

(312.002) Small craft should stay clear of large commercial and government vessels even if small craft have the right-of-way. Large vessels may appear to move slowly due to their large size but actually transit at speeds in excess of 12 knots, requiring a great distance in which to maneuver or stop. A large vessel's superstructure may block the wind with the result that sailboats and sailboards may unexpectedly find themselves unable to maneuver. Bow and stern waves can be hazardous to small vessels. Large vessels may not be able to see small craft close to their bows.

(312.003) All craft should avoid areas where the divers' flag, a red square with a diagonal white stripe, is displayed.

(313)

## REGULATED WATERS

(314)

### Traffic Separation Schemes (Traffic Lanes)

(315) To increase the safety of navigation, particularly in converging areas of high traffic density, routes incorporating traffic separation have been adopted by the IMO in certain areas of the world. In the interest of safe navigation, it is recommended that through traffic use these schemes, as far as circumstances permit, by day and by night and in all weather conditions. When approved or established, traffic separation scheme details are announced in Notice to Mariners and later depicted on appropriate charts and included in the U.S. Coast Pilot. See **33 CFR 167**, chapter 2, for regulations.

(316) The IMO is recognized as the only international body responsible for establishing and recommending measures on an international level concerning ships' routing. In deciding whether or not to adopt or amend a traffic separation scheme, IMO will consider whether the scheme complies with the design criteria for traffic separation schemes and with the established methods of routing. IMO also considers whether the aids to navigation proposed will enable mariners to determine their position with sufficient accuracy to navigate the scheme in accordance with Rule 10 of the International Regulations for Preventing Collisions at Sea (72 COLREGS).

(317) The IMO approved routing measures which affect shipping in or near U.S. waters are:

(318)

| IMO-Approved Traffic Separation Routes |
|---|
| Portland, Maine (approaches to) |
| Boston, Massachusetts (approaches to) |
| Narragansett Bay, Rhode Island (approaches to) |
| Buzzards Bay, Massachusetts (approaches to) |
| New York, New York |
| Delaware Bay |
| Chesapeake Bay (approaches to) |
| Cape Fear River (approaches to) |
| Galveston Bay (approaches to) |
| Off San Francisco, California |
| Los Angeles/Long Beach, California (approaches to) |
| Strait of Juan de Fuca (approaches to and in) |
| Puget Sound (approaches to and in) |
| Haro Strait, Boundary Pass and the Strait of Georgia |
| Prince William Sound, Alaska |

(319)

## MARITIME ZONES AND BOUNDARIES

(320) The maritime zones recognized under international law include internal waters, the territorial sea, the contiguous zone, the exclusive economic zone (EEZ), the continental shelf, the high seas, and the Area (see Figure 1). The breadth of the territorial sea, contiguous

zone, and EEZ (and in some cases the continental shelf) is measured from the baseline determined in accordance with customary international law as reflected in the 1982 Law of the Sea Convention.

(321) The limits of these zones are officially depicted on NOAA nautical charts. The limits shown on the most recent chart edition takes precedence. The boundaries of maritime zones between coastal States are established through international agreements entered into by those nations. For the official description of the U.S. maritime boundaries with other nations, contact the U.S. Department of State. For more information on NOAA's U.S. Maritime Limits & Boundaries visit: *https://www.noaa.gov/maritime-zones-and-boundaries*

(322)

### Baseline

(323) Generally speaking, the normal baseline is the low-water line along the coast as marked on large-scale charts officially recognized by the coastal State. (LOSC art. 5). Special rules for determining the baseline apply in a variety of circumstances, such as with bays, ports, mouths of rivers, deeply indented coastlines, fringing reefs, and roadsteads. (LOSC arts. 6-15). Consistent with these rules, the U.S. baselines are the mean of the lower low tides as depicted on the largest-scale NOAA nautical charts. The U.S. normal baselines are ambulatory and subject to changes as the coastline accretes and erodes. NOAA's nautical charts depict the baselines from which the seaward limits of the U.S. territorial sea, contiguous zone, and exclusive economic zone are measured as well as the seaward boundary of the Three Nautical Mile Line and the Natural Resources Boundary, as described below.

(324)

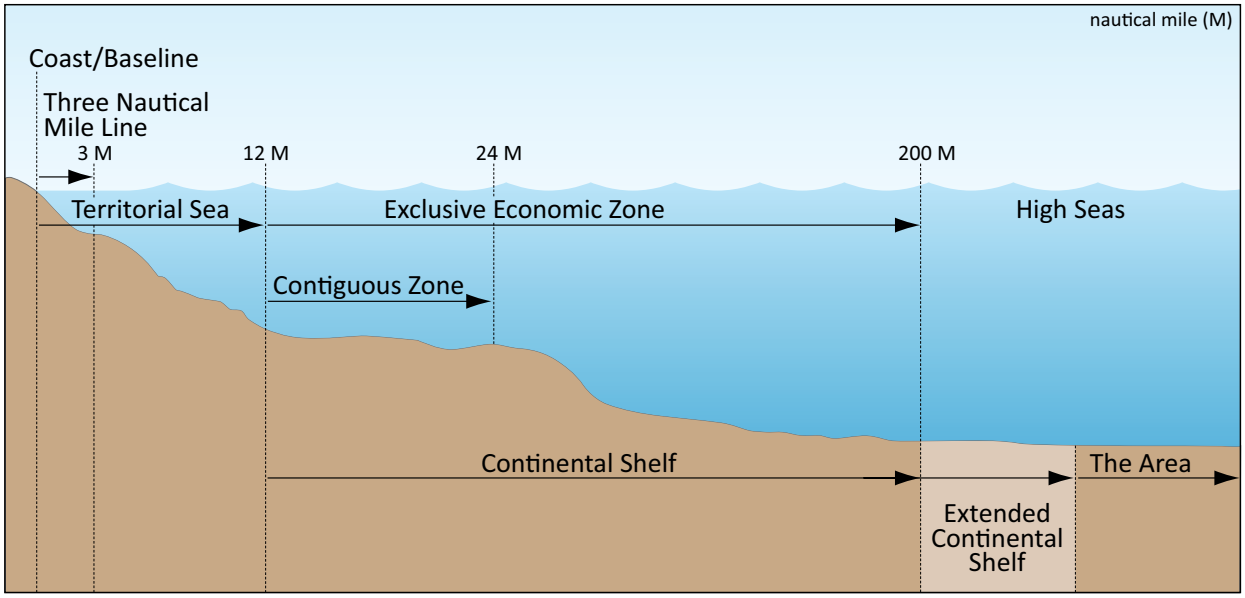



Figure 1: Offshore extent of maritime zones beyond internal waters
*https://www.noaa.gov/maritime-zones-and-boundaries*

(325)

### Internal Waters

(326) Internal waters are the waters on the landward side of the baselines from which the breadth of the territorial sea is measured. (LOSC art. 8). The United States has full sovereignty over its internal waters as if they were part of its land territory and may exclude foreign flag vessels from its internal waters subject to the right of entry of vessels in distress. The right of innocent passage does not apply in internal waters. Ships and aircraft may not enter or overfly internal waters without permission of the coastal State. Examples of internal waters include rivers, harbors, lagoons, some bays and canals, and lakes, including the Great Lakes.

(327)

### Territorial Sea

(328) Each coastal State may claim a territorial sea that extends seaward up to 12 nautical miles (nm) from its baselines. (LOSC arts. 3, 4). The coastal State exercises sovereignty over its territorial sea, the airspace above it, and the seabed and subsoil beneath it. (LOSC art. 2). Foreign flagged ships enjoy the right of innocent passage while transiting the territorial sea subject to laws and regulations adopted by the coastal State that are in conformity with the **Law of the Sea Convention** (LOSC arts. 17-26) and other rules of international law relating to such passage.

(329) In 1988, the United States claimed a 12 nm territorial sea. The extension of the territorial sea of the United States includes the belt of seas around the Commonwealth of Puerto Rico, Guam, American Samoa, the U.S. Virgin Islands, the Commonwealth of the Northern Mariana Islands and any other territory or possession over which the United States exercises sovereignty. (Presidential Proclamation No. 5928 of December 27, 1988, 54 Fed.

Reg. 777 (Dec. 27, 1988)). The territorial sea of the United States extends seaward to 12 nm from the baselines, which is determined in accordance with the Law of the Sea Convention except as otherwise established in a maritime boundary treaty of the United States. Vessels of all States navigating through the territorial sea enjoy the right of innocent passage. (LOSC art. 17). However, as a coastal State, the United States may adopt certain laws and regulations relating to innocent passage so long as they are in conformity with the provisions of LOSC and other rules of international law. (LOSC art. 21(1)).

(330)

### Contiguous Zone

(331) Each coastal State may claim a contiguous zone adjacent to and beyond its territorial sea that extends seaward up to 24 nm from its baselines. (LOSC art. 33(1) & (2)). In its contiguous zone, a coastal State may exercise the control necessary to prevent the infringement of its customs, fiscal, immigration, or sanitary laws and regulations within its territory or territorial sea, and punish infringement of those laws and regulations committed within its territory or territorial sea. (LOSC art. 33(1) (a) & (b)). In addition, in order to control traffic in archeological and historical objects, a coastal State may presume that the removal of archeological and historical objects (e.g., underwater cultural heritage) found at sea within its contiguous zone without its approval would result in an infringement of its laws and regulations. (LOSC art. 303).

(332) The contiguous zone of the United States includes the waters off of all U.S. coastal states, the Commonwealth of Puerto Rico, Guam, American Samoa, the U.S. Virgin Islands, the Commonwealth of the Northern Mariana Islands and any other territory or possession over which the United States exercises sovereignty. In 1999, the United States claimed a contiguous zone extending from 12 to 24 nm offshore. (Presidential Proclamation No. 7219 of August 2, 1999, Contiguous Zone of the United States, 64 Fed. Reg. 48,701 (Aug. 8, 1999)).

(333)

### Exclusive Economic Zone

(334) Each coastal State may claim an exclusive economic zone (EEZ) beyond and adjacent to its territorial sea that extends seaward up to 200 nm from its baselines (or out to a maritime boundary with another coastal State). (LOSC art. 55). Within its EEZ, a coastal State has: (a) sovereign rights for the purpose of exploring, exploiting, conserving, and managing natural resources, whether living or nonliving, of the seabed and subsoil and the superjacent waters and with regard to other activities for the economic exploitation and exploration of the zone, such as the production of energy from the water, currents, and winds; (b) jurisdiction as provided for in the relevant provisions of the LOSC with regard to the establishment and use of artificial islands, installations, and structures, marine scientific research, and the protection and preservation of the marine environment; and (c) other rights and duties provided for in the LOSC. (LOSC art. 56).

(335) The United States claimed a 200 nm EEZ in 1983. The U.S. EEZ extends no more than 200 nm from the territorial sea baselines and is adjacent to the 12 nm territorial sea of the United States, including the Commonwealth of Puerto Rico, Guam, American Samoa, the U.S. Virgin Islands, the Commonwealth of the Northern Mariana Islands and any other territory or possession over which the United States exercises sovereignty. (Presidential Proclamation No. 5030 of March 10, 1983; Exclusive Economic Zone and Maritime Boundaries; Notice of Limits; 60 Fed. Reg. 43,825 (Aug. 23, 1995)). As such, the exclusive economic zone overlaps the 12 nm-24 nm contiguous zone. In December 2023, the U.S. Department of State released the geographic coordinates defining the outer limits of the U.S. extended continental shelf. (U.S. Dep't of State, Announcement of U.S. Extended Continental Shelf Outer Limits (Dec. 19, 2023); see also Continental Shelf and Maritime Boundaries; Notice of Limits; 88 Fed. Reg. 88,470 (Dec. 21, 2023)). In addition, the U.S. Department of State also updated information pertaining to the geographic coordinates defining the outer limits of the U.S. EEZ. (Exclusive Economic Zone and Maritime Boundaries; Notice of Limits; 88 Fed. Reg. 88,477 (Dec. 21, 2023)).

(336) Note: Under certain U.S. fisheries laws, such as the Magnuson-Stevens Fishery Conservation and Management Act, the term EEZ is defined as having an inner boundary that is coterminous with the seaward (or outer) boundary of each of the individual coastal states of the U.S. See 16 U.S.C. § 1802(11). Under the Submerged Lands Act, the seaward boundary of each of the individual coastal states is generally three nautical (or geographic) miles from the coast line. The seaward boundaries of Florida (Gulf of America coast only), Texas, and Puerto Rico extend nine nautical miles from the coast line. In the Great Lakes, each U.S. state's seaward boundary may extend to the international maritime boundary with Canada. See 43 U.S.C. § 1312. Under the Submerged Lands Act, a coastal state's seaward boundary may be fixed by Supreme Court decree. (See below for further information on the Three Nautical Mile Line and the Natural Resources Boundary).

(337)

### Continental Shelf

(338) The continental shelf of a coastal State is comprised of the seabed and subsoil of the submarine areas that extend beyond its territorial sea throughout the natural prolongation of its land territory to the outer edge of the continental margin, or to a distance of 200 nm from its baselines where the outer edge of the continental margin does not extend up to that distance. (LOSC art. 76(1)). The extent of the continental shelf can also be limited by a maritime boundary with another coastal State. (LOSC art. 76(10)).

(339) Where the outer edge of a coastal State's continental margin extends beyond 200 nm from its baselines, the outer limits of its continental shelf are determined in accordance with Article 76 paragraphs 2-7 of the **Law of the Sea Convention.** (LOSC art. 76 (2-7)). The portion of a coastal State's continental shelf that lies beyond the 200 nm limit is often called the extended continental shelf (ECS).

(340) A coastal State exercises sovereign rights and exclusive jurisdiction over its continental shelf for the purpose of exploring it and exploiting its natural resources, as well as for other purposes specified in the Law of the Sea Convention. The natural resources of the continental shelf consist of the mineral and other non-living resources of the seabed and subsoil together with living organisms belonging to sedentary species, that is to say, organisms which, at the harvestable stage, either are immobile on or under the seabed or are unable to move except in constant physical contact with the seabed or subsoil. (LOSC art. 77).

(341) In 1945, the United States proclaimed jurisdiction and control over its continental shelf (Presidential Proclamation No. 2667 of Sept. 28, 1945; 10 Fed. Reg. 12,303 (Oct. 2, 1945)). Consistent with international law, the United States exercises its continental shelf rights out to a distance of at least 200 nautical miles from the baselines through several domestic laws. The U.S. Extended Continental Shelf Project, led by the U.S. Department of State, NOAA, and the U.S. Geological Survey, determines the outer limits of the U.S. continental shelf beyond 200 nautical miles (i.e., extended continental shelf). In December 2023, the U.S. Department of State released the geographic coordinates defining the outer limits of the U.S. extended continental shelf. (U.S. Dep't of State, Announcement of U.S.Extended Continental Shelf Outer Limits (Dec. 19, 2023); see also Continental Shelf and Maritime Boundaries; Notice of Limits; 88 Fed. Reg. 88,470 (Dec. 21, 2023)).

(342)

### High Seas

(343) The high seas comprise all parts of the sea that are not included in the exclusive economic zone, the territorial sea or the internal waters of a State, or in the archipelagic waters of an archipelagic State. (LOSC art. 86).

(344)

### Area

(345) The Area is comprised of the seabed and ocean floor and subsoil thereof beyond the limits of national jurisdiction. (LOSC art. 1(1)). It does not include superjacent waters (i.e., the water column) or the air space above those waters. (LOSC arts. 1(1), 135). No State may claim or exercise sovereignty or sovereign rights over any part of the Area or its resources. (LOSC art. 137(1)). The term "resources" means all solid, liquid or gaseous mineral resources in situ in the Area at or beneath the seabed, including polymetallic nodules. (LOSC art. 133(a)).

(346)

### Straits Used for International Navigation

(347) "Straits used for international navigation" are those that are used or are capable of use for international navigation between one area of the high seas or exclusive economic zone ("EEZ") and another area of the high seas or EEZ. (LOSC art. 37). Part III of the Law of the Sea Convention (LOSC arts. 34-45) describes the regime of transit passage through such straits and the rights, jurisdiction, and duties of the States bordering such straits. Transit passage means the exercise in accordance with Part III of the Law of the Sea Convention of the freedom of navigation and overflight solely for the purpose of continuous and expeditious transit of the strait. (LOSC arts. 37, 38). The right of transit passage applies throughout straits used or capable of use for international navigation, including to all normally used approaches to and from such straits. Ships and aircraft in transit passage must comply with the duties outlined in LOSC article 39, which include proceeding without delay and refraining from any activities other than those incident to their normal modes of continuous and expeditious transit. Ships in transit passage may not carry out any research or survey activities without the prior authorization of the States bordering the strait. (LOSC art. 40). States bordering straits used for international navigation may designate sea lanes and prescribe traffic separation schemes for navigation in accordance with Part III where necessary to promote safe passage of ships. (LOSC art. 41). They may also adopt laws and regulations relating to transit passage in respect of certain activities, such as fishing. (LOSC art. 42). States bordering straits used for international navigation may not hamper transit passage. (LOSC art. 44). The transit passage regime does not otherwise affect the legal status of the waters forming an international strait or the exercise of sovereignty or jurisdiction by the bordering States over the waters, air space, seabed, and subsoil of the strait. (LOSC art. 34).

(348)

### Three Nautical Mile Line

(349) The Three Nautical Mile Line, as measured from the territorial sea baselines and previously identified as the outer limit of the U.S. territorial sea, is retained on NOAA charts because it continues to be used in certain federal laws.

(350) Note: Since the "coast line," a term used in the Submerged Lands Act (43 USC Section 1301 et seq.), and the baselines are determined using the same criteria under international law, the Three Nautical Mile Line is generally the same as the seaward boundaries of individual U.S. coastal states under the Submerged Lands Act. There are exceptions; therefore, the Three Nautical Mile Line does not necessarily depict the seaward boundaries of all U.S. coastal states in all circumstances under the Submerged Lands Act.

(351)

### Natural Resources Boundary

(352) The nine (9) nm Natural Resources Boundary is the seaward boundary of the submerged lands of Puerto Rico, Texas and the Gulf coast of Florida. It coincides with the inner limit of the U.S. outer continental shelf under the Outer Continental Shelf Lands Act (43 U.S.C. Section 1331 et seq.).

(353)

## SUPPLEMENTAL INFORMATION

(354)

### Notification of Arrival and Vessel Response Plans

(355) A **Notification of Arrival (NOA)** must be submitted by all U.S. and foreign vessels bound for or departing from ports or places in the United States. (See **33 CFR 160 – Subpart C**, chapter 2). Additionally, tank vessels and non-tank vessels are required to submit an oil spill response plan. (See **33 CFR 155**– Subparts D and J, not contained in this Coast Pilot.)

(356)

### Marine Protected Area (MPA)

(357) Marine Protected Areas (MPAs) are particular places in ocean, coastal and estuarine ecosystems where vital natural and cultural resources are given greater protection than in surrounding waters. MPAs have been established in the U.S. for more than a century. Currently, there are over 1,700 MPAs in U.S. marine waters and the Great Lakes, with levels of protection ranging from a few "no-take" areas that prohibit all extractive uses to the more common multiple use areas that allow vessel access, anchoring, fishing and non-consumptive activities. MPAs are managed by dozens of Federal, state, tribal and local authorities. For detailed information on MPA locations, types, interactive map, purposes and legal restrictions, visit *marineprotectedareas.noaa.gov.*

(358)

### Archaeological Resource Preservation

(359) Under Federal and state laws it is illegal to destroy, deface, collect, transport, sell or trade archaeological, cultural, submerged and historic resources without authorization. Applicable laws include, but are not limited to, the Historic Sites Act, the Archaeological Resource Protection Act, the National Historic Preservation Act the Abandoned Shipwreck Act, and the Sunken Military Craft Act. These laws protect archaeological resources on lands administered by the National Park Service, U.S. Fish and Wildlife Service, Bureau of Land Management, and National Marine Sanctuaries as well as state, private and Native lands.

(360)

## DEPARTMENT OF AGRICULTURE

(361)

### Animal and Plant Health Inspection Service

(362) The Animal and Plant Health Inspection Service is responsible for protecting the Nation's animal population, food and fiber crops and forests from invasion by foreign pests. They administer agricultural quarantine and restrictive orders issued under authority provided in various acts of Congress. The regulations prohibit or restrict the importation or interstate movement of live animals, meats, animal products, plants, plant products, soil, injurious insects, and associated items that may introduce or spread plant pests and animal diseases which may be new to or not widely distributed within the United States or its territories. Inspectors examine imports at ports of entry as well as the vessel, its stores and crew or passenger baggage.

(363) The Service also provides an inspection and certification service for exporters to assist them in meeting the quarantine requirements of foreign countries. (See **Appendix A** for a list of ports where agricultural inspectors are located and inspections conducted.)

(364)

## DEPARTMENT OF COMMERCE

(365)

### National Oceanic and Atmospheric Administration (NOAA)

(366) The National Oceanic and Atmospheric Administration (NOAA) conducts research and gathers data about the global oceans, atmosphere, space and sun, and applies this knowledge to improve our understanding and stewardship of the environment.

(367) NOAA provides services to the nation and the public through five major organizations: the National Ocean Service; the National Weather Service; the National Marine Fisheries Service; the National Environmental Satellite, Data and Information Service (NESDIS); and NOAA Research; and numerous special program units. In addition, NOAA research and operational activities are supported by the Nation's seventh uniformed service, the NOAA Corps, a commissioned officer corps of men and women who operate NOAA ships and aircraft and serve in scientific and administrative positions.

(368)

### National Ocean Service (NOS)

(369) The National Ocean Service's primary concern is the health and safety of our Nation's coastal and oceanic environment. Within NOS, the **Office of Coast Survey** is responsible for producing and maintaining the suite of over 1000 nautical charts and the Coast Pilots that cover the coastal waters of the U.S. and its territories. Nautical charts are published primarily for the use of the mariner but serve the public interest in many other

ways. Cartographers in Coast Survey receive and compile information from a variety of government and non-governmental sources for portrayal on nautical charts and the Coast Pilots. In addition, Coast Survey hydrographers, as well as private contractors, conduct new surveys that are used to update these products. The principal facilities of Coast Survey are located at NOAA headquarters in Silver Spring, MD; Norfolk, VA (Marine Operations Center Atlantic); and Seattle, WA (Western Regional Center).

(370) The **Center for Operational Oceanographic Products and Services (CO-OPS)** collects and distributes observations and predictions of water levels and currents to ensure safe, efficient and environmentally sound maritime commerce. Users can find a variety of information, including observed water level and currents data, tide and current predictions, sea level trends and coastal inundation information. Tides and Currents information is available at *tidesandcurrents.noaa.gov.*

(371) **PORTS® (Physical Oceanographic Real-Time System)** is a decision support tool that improves the safety and efficiency of maritime commerce and coastal resource management. Data from PORTS® supports navigation safety, improves the efficiency of U.S. ports and harbors, and ensures the protection of coastal marine resources. PORTS® collects and disseminates observations of water levels, currents, salinity, bridge air gap and meteorological parameters (e.g., winds, atmospheric pressure, air and water temperatures) that mariners need to navigate safely and allows seaport and terminal facilities to make good decisions. PORTS® data and information is provided via the internet at *tidesandcurrents.noaa.gov/ports_info.html* and, in some areas, via telephone voice response.

(372)

### NOAA Tide Predictions and Tidal Current Predictions

(373) NOAA discontinued the annual printed Tide Tables and Tidal Current Tables in 2020, and has transitioned to providing this information digitally online. The online prediction service equals or exceeds the accuracy of the historically printed publications. Tide and tidal current predictions needed for navigation can be generated in real-time for any time period required by the mariner, for as short as one day, or as long as an entire year. All predictions for U.S. waters are available at *tidesandcurrents.noaa.gov*.

(374) U.S. Coast Guard regulations do not consider access to NOAA's online prediction service "while navigating" as meeting carriage requirements. In order to use predictions from these services, the predictions must be generated in advance and either be stored on the user's device as an electronic file (PDF, screen image, data table, etc.), or as a printed page.

(375) **NOAA Tide Predictions** - *tidesandcurrents.noaa.gov/tide_predictions.html* - allows the generation of predicted tides for more than 3000 locations along the U.S. coastline. Tide predictions may be generated as times and heights of high and low tides for all locations, or as interval predictions (hourly, 15-minute, 6-minute, etc.) for many locations. Tide predictions may be generated for past, present, or future dates; with lengths of 1 day to 1 month, or the full calendar year. The Users Guide - *tidesandcurrents.noaa.gov/PageHelp.html* - describes the displays, formats, additional capabilities, and uses of this online service.

(376) **Caution** –When using Tide Predictions, slack water should not be confused with high or low water. For ocean stations there is often little difference between the time of high or low water and the start of flood/ebb currents; but for places in narrow channels, landlocked harbors or on tidal rivers, the time of slack current may differ by several hours from the time of high or low water. The relationship of the times of high or low water to the flood and ebb of the current depends upon a number of factors unique to each location; no simple general rule can be given which applies to every location. For navigation or other activities which depend on slack water, tidal current predictions should be used to provide times of slack water.

(377) **NOAA Tidal Current Predictions** –*https://tidesandcurrents.noaa.gov/* - allows the generation of predicted currents for more than 2500 locations along the U.S. coastline. Tidal current predictions may be generated as times and speeds of flood/ebb currents and times of slack water for all locations; or as interval predictions of speed (hourly, 30-minute, 6-minute) for many locations. Tidal current predictions may be generated for past, present or future dates; with length of 1 day to 2 weeks, or the full calendar year. The Users Guide - *https://tidesandcurrents.noaa.gov/PageHelp.html* - describes the displays, formats, additional capabilities, and uses of this online service.

(378)

### National Weather Service (NWS)

(379)

### National Data Buoy Center Meteorological Buoys

(380) The National Data Buoy Center (NDBC) deploys moored meteorological buoys that provide weather data directly to the mariner as well as to marine forecasters.

(381) These buoys have a watch circle radius (WCR) of 2,000 to 4,000 yards from assigned position (AP). In addition, any mooring in waters deeper than 1,000 feet will have a floating "loop" or catenary that may be as little as 500 feet below the surface. This catenary could be anywhere within the buoy's WCR. Any underwater activity within this radius may contact the mooring, causing a failure.

(382) To avoid cutting or damaging a mooring, mariners are urged to exercise extreme caution when navigating in the vicinity of meteorological buoys and to remain well clear of the watch circle. If a mooring is accidentally contacted or cut, please notify NDBC at 228-688-2835 or 228-688-2436.

(383) For further information relating to these buoys visit *ndbc.noaa.gov*.

(384)

### Marine Weather Forecasts

(385) The NWS provides marine weather forecasts and warnings for the U.S. coastal waters, the Great Lakes, offshore waters and high seas areas. Scheduled marine forecasts are issued four times daily from **National Weather Service Offices** with local areas of responsibility around the United States, Guam, American Samoa and Puerto Rico. (See Appendix A for NWS Offices located in the area covered by this Coast Pilot.)

(386) Typically, marine forecasts contain information on wind speed and direction, wave heights, visibility, weather and a general synopsis of weather patterns affecting the region. The forecasts are supplemented with special marine warnings and statements, radar summaries, marine observations, small-craft advisories, gale warnings, storm warnings and various categories of tropical cyclone warnings, e.g., tropical depression, tropical storm and hurricane warnings. Specialized products such as coastal flood, seiche, and tsunami warnings, heavy surf advisories, low water statements, ice forecasts and outlooks and lake shore warnings and statements are issued as necessary. For further information, visit: *https://www.weather.gov/marine/* .

(387) The principal means of disseminating marine weather services and products in coastal areas is **NOAA Weather Radio**. This network of more than 900 transmitters, covering all 50 states, adjacent coastal waters, Puerto Rico, the U.S. Virgin Islands and the U.S. Pacific Territories, is operated by the NWS and provides continuous broadcasts of weather information for the general public. These broadcasts repeat recorded messages every 4 to 6 minutes. Messages are updated periodically, usually every 2-3 hours and amended as required to include the latest information. When severe weather threatens, routine transmissions are interrupted and the broadcast is devoted to emergency warnings. (See Appendix A for NOAA Weather Radio Stations covered by this Coast Pilot.)

(388) In coastal areas, the programming is tailored to the needs of the marine community. Each coastal marine forecast covers a specific area. For example, "Cape Henlopen to Virginia Beach, out 20 miles." The broadcast range is about 40 miles from the transmitting antenna site, depending on terrain and quality of the receiver used. When transmitting antennas are on high ground, the range is somewhat greater, reaching 60 miles or more. Some receivers are equipped with a warning alert device that can be turned on by means of a tone signal controlled by the NWS office concerned. This signal is transmitted for 13 seconds preceding an announcement of a severe weather warning.

(389) Marine weather warnings are displayed to small-craft operators and others within sight of the shore by the flags, pennants and lights of the **Coastal Warning Display** program. These displays are meant to warn the public of approaching storm conditions and visually communicate that citizens should take personal responsibility for individual safety in the face of an approaching storm. Anyone observing the signals displayed by the program is urged to tune to the NWS radio broadcasts for the latest information. (See **National Weather Service Coastal Warning Displays** illustration for additional information.)

(391) NWS marine weather products are also disseminated to marine users through the broadcast facilities of the Coast Guard, Navy and commercial marine radio stations. Details on these broadcasts including times, frequencies and broadcast content are listed on the NWS internet site, **Marine Product Dissemination Information**, *https://www.weather.gov/marine/nws_dissemination* .

(392) Ships of all nations share equally in the effort to report weather observations. These reports enable meteorologists to create a detailed picture of wind, wave and weather patterns over the open waters that no other data source can provide and upon which marine forecasts are based. The effectiveness and reliability of these forecasts and warnings plus other services to the marine community are strongly linked to the observations received from mariners. There is an especially urgent need for ship observations in the coastal waters, and the NWS asks that these be made and transmitted whenever possible. Many storms originate and intensify in coastal areas. There may be a great difference in both wind direction and speed between the open sea, the offshore waters and on the coast itself.

(393) Information on how ships, commercial fishermen, offshore industries and others in the coastal zone may participate in the marine observation program is available from **National Weather Service Port Meteorological Officers (PMOs)**. PMOs are located in major U.S. port cities where they visit ships in port to assist masters and mates with the weather observation program, provide instruction on the interpretation of weather charts, calibrate barometers and other meteorological instruments and discuss marine weather communications and marine weather requirements affecting the ships' operations. (For further information on the Voluntary Observing Ship Program and PMOs, go to *vos.noaa.gov*.)

(394)

### Space Weather Prediction Center (SWPC)

(395) The Space Weather Prediction Center provides real-time monitoring and forecasting of solar and geophysical events that impact satellites, power grids, communications, navigation and many other technological systems. (See Space Weather Prediction Center in Appendix A.)

(396)

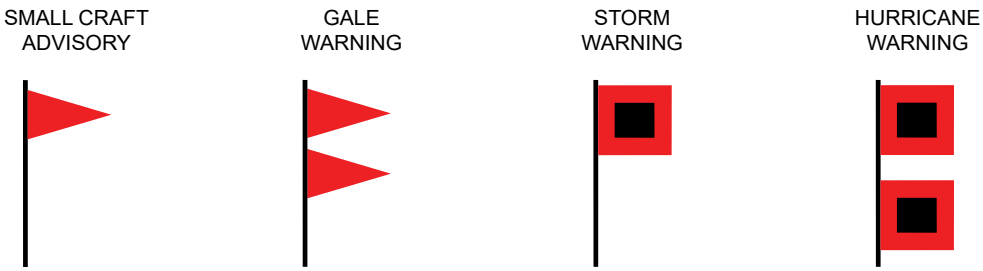
### National Environmental Satellite, Data, and Information Service (NESDIS)

(397) Among its functions, NESDIS archives, processes and disseminates the non-real-time meteorological and oceanographic data collected by government agencies

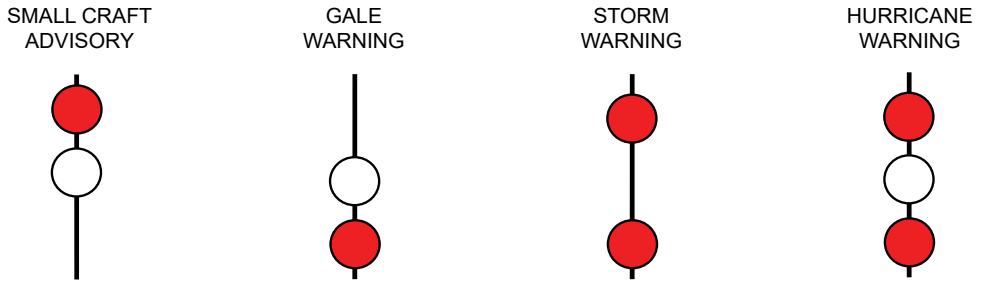
(390)

# NATIONAL WEATHER SERVICE COASTAL WARNING DISPLAYS

## DAYTIME SIGNALS




## NIGHT (LIGHT) SIGNALS




**SMALL CRAFT ADVISORY**: An advisory issued by coastal and Great Lakes Weather Forecast Offices (WFO) for areas included in the Coastal Waters Forecast or Nearshore Marine Forecast (NSH) products. Thresholds governing the issuance of small craft advisories are specific to geographic areas. A Small Craft Advisory may also be issued when sea or lake ice exists that could be hazardous to small boats. There is no precise definition of a small craft. Any vessel that may be adversely affected by Small Craft Advisory criteria should be considered a small craft. Other considerations include the experience of the vessel operator, and the type, overall size, and sea worthiness of the vessel. There is no legal definition of "small craft". The Small Craft Advisory is an advisory in Coastal Waters and Nearshore forecasts for sustained winds, frequent gusts, or sea/wave conditions, exceeding defined thresholds specific to geographic areas. A Small Craft Advisory may also be issued when sea or lake ice exists that could be hazardous to small boats.

Eastern (ME to SC, Lake Erie, Lake Ontario) – Sustained winds or frequent gusts ranging between 25 and 33 knots (except 20 to 25 knots, lower threshold area dependent, to 33 knots for harbors, bays, etc.) and/or seas or waves 5 to 7 feet and greater, area dependent.

Central (MN to OH) – Sustained winds or frequent gusts (on the Great Lakes) between 22 and 33 knots inclusive, and/or seas or waves greater than 4 feet.

Southern (GA to TX and Caribbean) – Sustained winds of 20 to 33 knots, and/or forecast seas 7 feet or greater that are expected for more than 2 hours.

Western (WA..CA) - Sustained winds of 21 to 33 knots, potentially in combination with wave heights exceeding 10 feet (or wave steepness values exceeding local thresholds).

Alaska (AK) – Sustained winds or frequent gusts of 23 to 33 knots. A small craft advisory for rough seas may be issued for sea/wave conditions deemed locally significant, based on user needs, and should be no lower than 8 feet.

Hawaii (HI), Samoa – Sustained winds 25 knots or greater and seas 10 feet or greater.

Guam and the Northern Mariana Islands – Sustained winds 22 to 33 knots and/or combined seas of 10 feet or more. "Frequent gusts"are typically long duration conditions (greater than 2 hours).

For a list of NWS Weather Offices by Region, refer to the following website: http://www.nws.noaa.gov/organization.php

**GALE WARNING**: To indicate winds within the range 34 to 47 knots are forecast for the area.

**STORM WARNING**: To indicate winds 48 knots and above, no matter how high the speed, are forecast for the area. However, if the winds are associated with a tropical cyclone (hurricane), the STORM WARNING indicates that winds within the range 48-63 knots are forecast.

**HURRICANE WARNING**: Issued only in connection with a tropical cyclone (hurricane) to indicate that winds 64 knots and above are forecast for the area.

NOTE: A "HURRICANE WATCH" is an announcement issued by the National Weather Service via press and television broadcasts whenever a tropical storm or hurricane becomes a threat to a coastal area. The "Hurricane Watch" announcement is not a warning, rather it indicates that the hurricane is near enough that everyone in the area covered by the "Watch" should listen to their radios for subsequent advisories and be ready to take precautionary action in case hurricane warnings are issued.

NOTE: A SPECIAL MARINE WARNING is issued whenever a severe local storm or strong wind of brief duration is imminent and is not covered by existing warnings or advisories. No visual displays will be used in connection with the Special Marine Warning Bulletin; boaters will be able to receive thesespecial warnings by keeping tuned to a NOAA Weather Radio station or to Coast Guard and commercial radio stations that transmit marine weather information.

and private institutions. Marine weather observations are collected from ships at sea on a voluntary basis. About one million observations are received annually at NESDIS's National Climatic Center. They come from vessels representing every maritime nation. These observations, along with land data, are returned to the mariners in the form of climatological summaries and atlases for coastal and ocean areas. They are available in such NOAA publications as the **U.S. Coast Pilot, Mariners Weather Log** and **Local Climatological Data, Annual Summary**. They also appear in the National Geospatial-Intelligence Agency's **Pilot Chart Atlases** and **Sailing Directions Planning Guides**.

(398)

## DEPARTMENT OF DEFENSE

(399)

### National Geospatial-Intelligence Agency (NGA)

(400) The National Geospatial-Intelligence Agency provides hydrographic, navigational, topographic, and geodetic data, charts, maps and related products and services to the Armed Forces, other Federal Agencies, the Merchant Marine and mariners in general. Publications include Sailing Directions, List of Lights, Distances Between Ports, Radio Navigational Aids, International Code of Signals, American Practical Navigator (Bowditch) and Notice to Mariners. (See NGA Procurement Information in Appendix A.)

(401)

### Army Corps of Engineers

(402) The U.S. Army Corps of Engineers has charge of the improvement of the rivers and harbors of the United States and of miscellaneous other civil works, which include the administration of certain Federal laws enacted for the protection and preservation of navigable waters of the United States; the establishment of regulations for the use, administration, and navigation of navigable waters; the establishment of harbor lines; the removal of sunken vessels obstructing or endangering navigation; and the granting of permits for structures or operations in navigable waters and for discharges and deposits of dredged and fill materials in these waters.

(403) **Restricted areas** in most places are defined and regulations governing them are established by the USACE. The regulations are enforced by the authority designated in the regulations, and the areas are shown on the large-scale charts of the National Ocean Service. Copies of the regulations may be obtained at the District offices of the USACE. The regulations also are included in the appropriate Coast Pilot.

(404) Information concerning the various ports, improvements, channel depths, navigable waters and the condition of the Intracoastal Waterways in the areas under their jurisdiction may be obtained direct from the District Engineer Offices. (See Appendix A for addresses.)

(405) The USACE has general supervision of location, construction and manner of maintenance of all **fishtraps,** weirs, pounds or other fishing structures in the navigable waters of the United States. Where state and/or local controls are sufficient to regulate these structures, including that they do not interfere with navigation, the USACE leaves such regulation to the state or local authority. (See **33 CFR 330** (not carried in this Pilot) for applicable Federal regulations.) Construction permits issued by the Engineers specify the lights and signals required for the safety of navigation.

(406) **Fish havens**, artificial reefs constructed to attract fish, can be established in U.S. coastal waters only as authorized by a USACE permit; the permit specifies the location, extent and depth over these mounds of rubble.

(407)

### Naval Observatory

(408) The United States Naval Observatory (USNO) provides a wide range of astronomical data and products and serves as the official source of time for the U.S. Department of Defense and a standard of time for the entire United States. The USNO provides earth orientation products such as the latest 24-hour and 48-hour sets of GPS satellite orbits, the latest determinations and predictions for polar motion and information for GPS users. The USNO also maintains a reference for precise time (USNO Master Clock) and monitors the GPS constellation. For extensive information on the USNO products available, visit: *https://www.cnmoc.usff.navy.mil/usno/* or contact by telephone at 202-762-1467.

(409)

## DEPARTMENT OF HEALTH AND HUMAN SERVICES

(410)

### Food and Drug Administration (FDA)

(411) Under the provisions of the Control of Communicable Diseases Regulations (**21 CFR 1240**) and Interstate Conveyance Sanitation Regulations (**21 CFR 1250**), vessel companies operating in interstate traffic must obtain potable water for drinking and culinary purposes only at watering points found acceptable to the FDA. Water supplies used in watering point operations must also be inspected to determine compliance with applicable Interstate Quarantine Regulations (**42 CFR 72**). These regulations are based on authority contained in the Public Health Service Act (PL 78–410). Penalties for violation of any regulation prescribed under authority of the Act are provided for under Section 368 (42 USC 271) of the Act.

(412)

### Public Health Service

(413) The Public Health Service administers foreign quarantine procedures at U.S. ports of entry.

(414) All vessels arriving in the United States are subject to public health inspection. Vessels subject to routine boarding for quarantine inspection are only those which have had on board during the 15 days preceding the date

of expected arrival or during the period since departure (whichever period of time is shorter) the occurrence of any death or ill person among passengers or crew (including those who have disembarked or have been removed). The master of a vessel must report such occurrences immediately by radio to the quarantine station at or nearest the port at which the vessel will arrive.

(415) In addition, the master of a vessel carrying 13 or more passengers must report by radio 24 hours before arrival the number of cases (including zero) of diarrhea in passengers and crew recorded in the ship's medical log during the current cruise. All cases that occur after the 24 hour report must also be reported not less than 4 hours before arrival.

(416) *Ill person* means a person who:

(417) 1. Has a temperature of 100°F (or 38°C) or greater, accompanied by a rash, glandular swelling or jaundice, or which has persisted for more than 48 hours; or

(418) 2. Has diarrhea, defined as the occurrence in a 24 hour period of three or more loose stools or of a greater than normal (for the person) amount of loose stools.

(419) Vessels arriving at ports under control of the United States are subject to sanitary inspection to determine whether measures should be applied to prevent the introduction, transmission or spread of communicable disease.

(420) Specific public health laws, regulations, policies and procedures may be obtained by contacting U.S. Quarantine Stations, U.S. Consulates or the Chief Program Operations, Division of Quarantine, Centers for Disease Control, Atlanta, GA 30333. (See Appendix A for addresses of U.S. Public Health Service Quarantine Stations.)

(421)

## DEPARTMENT OF HOMELAND SECURITY

(422)

### Citizenship and Immigration Services

(423) The **U.S. Citizenship and Immigration Service** (USCIS) is the federal agency that oversees lawful immigration to the United States. the Service enhances security and improves the efficiency of national immigration services by exclusively focusing on the administration of benefit applications. No person may enter the United States until they have been inspected by an immigration officer. A list of the offices covered by this Coast Pilot is given in Appendix A.

(424)

### U.S. Coast Guard

(425) The U.S. Coast Guard has among its duties the enforcement of the laws of the United States on the high seas and in coastal and inland waters of the U.S. and its possessions; enforcement of navigation and neutrality laws and regulations; establishment and enforcement of navigational regulations upon the Inland Waters of the United States, including the establishment of a demarcation line separating the high seas from waters upon which U.S. navigational rules apply; administration of the Oil Pollution Act of 1990, as amended; establishment and administration of vessel anchorages; approval of bridge locations and clearances over navigable waters; administration of the alteration of obstructive bridges; regulation of drawbridge operations; inspection of vessels of the Merchant Marine; admeasurement of vessels; documentation of vessels; preparation and publication of merchant vessel registers; registration of stack insignia; port security; issuance of Merchant Marine licenses and documents; search and rescue operations; investigation of marine casualties and accidents and suspension and revocation proceedings; destruction of derelicts; operation of aids to navigation; maintenance and issuance of Light Lists and Local Notices to Mariners; and operation of ice-breaking facilities.

(426) Issuance of certificates of registry (more commonly referred to as Certificates of Documentation) with endorsements indicating eligibility of vessels that measure at least 5 net tons to engage in various trades for commercial vessels and certain recreational vessels that are numbered either by the Coast Guard or by a state having an approved numbering system (the latter is the most common) and the administration of the various laws pertaining thereto are functions of the Coast Guard and specifically the National Vessel Documentation Center. Owners of vessels may obtain the necessary information from the National Vessel Documentation Center either by mail to the National Vessel Documentation Center, 792 T.J. Jackson Drive, Falling Waters, WV 25419-9502; via toll free number: 800-799-8362; or via online at: *dco.uscg.mil/Our-Organization/Deputy-for-Operations-Policy-and-Capabilities-DCO-D/National-Vessel-Documentation-Center/.*

(427)

### U.S. Customs and Border Protection

(428) The U.S. Customs and Border Protection administers certain laws relating to:

(429) – entry and clearance of vessels and permits for certain vessel movements between points in the United States

(430) – prohibitions against coastwise transportation of passengers and merchandise

(431) – salvage

(432) – dredging and towing by foreign vessels

(433) – certain activities of vessels in the fishing trade

(434) – regular and special tonnage taxes on vessels

(435) – landing and delivery of foreign merchandise (including unlading, appraisement, lighterage, drayage, warehousing and shipment in bond)

(436) – collection of customs duties, including duty on imported pleasure boats and yachts and 50% duty on foreign repairs to American vessels engaged in trade

(437) – customs treatment of sea and ship's stores while in port and the baggage of crewmen and passengers

(438) – illegally imported merchandise

(439) – remission of penalties or forfeiture if customs or navigation laws have been violated.

(440) Customs and Border Protection also cooperates with many other Federal agencies in the enforcement of statutes for which they are responsible for. Customs districts and ports of entry are listed in Appendix A.

(441) The Customs and Border Protection office may issue, without charge, a **cruising license**, normally valid for one year, to a yacht of a foreign country that has a reciprocal agreement with the United States. A foreign yacht holding a cruising license is exempt from having to undergo formal entry and clearance procedures such as filing manifests and obtaining permits to proceed as well as from payment of tonnage tax and entry and clearance fees at all but the first port of entry. These vessels must not engage in trade, violate the laws of the United States or visit a vessel not yet inspected by a Customs Agent and does, within 24 hours of arrival at each port or place in the United States, report the fact of arrival to the nearest customhouse. Countries that have reciprocal agreements granting these privileges to U.S. yachts are:

(442)

| Countries with U.S. Cruising License Reciprocity | |
|---|---|
| Argentina | Honduras |
| Australia | Ireland |
| Austria | Italy |
| Bahama Islands | Jamaica |
| Belguim | Liberia |
| Bermuda | Marshall Islands |
| Canada | Netherlands |
| Denmark | New Zealand |
| Finland | Norway |
| France | Sweden |
| Germany | Switzerland |
| Great Britain | Turkey |
| Greece | |

(443) Further information concerning cruising licenses may be obtained from the headquarters port for the customs district in which the license is desired or at *cbp.gov*. U.S. yacht owners planning cruises to foreign ports may contact the nearest customs district headquarters as to customs requirements.

(444)

## ENVIRONMENTAL PROTECTION AGENCY (EPA)

(445) The U.S. EPA provides coordinated governmental action to ensure the protection of the environment by abating and controlling pollution on a systematic basis. The ocean dumping permit program of the EPA provides that except when authorized by permit, the dumping of any material into the ocean is prohibited by the "Marine Protection, Research, and Sanctuaries Act of 1972, Public Law 92–532," as amended (33 USC 1401 et seq.).

(446) Permits for the **dumping of dredged material** into waters of the United States, including the territorial sea, and into ocean waters are issued by the U.S. Army Corps of Engineers. Permits for the dumping of fill material into waters of the United States, including the territorial sea, are also issued by the U.S. Army Corps of Engineers. Permits for the dumping of other material in the territorial sea and ocean waters are issued by the EPA.

(447) U.S. Army Corps of Engineers regulations relating to the above are contained in **33 CFR 323** and **324**; EPA regulations are in **40 CFR 220** though **228**. (See Disposal Sites, this chapter.)

(448) Persons or organizations who want to file for an application for an ocean dumping permit should write the EPA Regional Office for the region in which the port of departure is located. (See Appendix A for addresses of regional offices and States in the EPA coastal regions.)

(449) The letter should contain the name and address of the applicant, name and address of person or firm, the name and usual location of the conveyance to be used in the transportation and dumping of the material involved, a physical description where appropriate, and the quantity to be dumped and proposed dumping site.

(450) Everyone who writes EPA will be sent information about a final application for a permit as soon as possible. This final application is expected to include questions about the description of the process or activity giving rise to the production of the dumping material, information on past activities of applicant or others with respect to the disposal of the type of material involved, and a description about available alternative means of disposal of the material with explanations about why an alternative is thought by the applicant to be inappropriate.

(451)

## FEDERAL AVIATION ADMINISTRATION (FAA)

(452)

### Obstruction Evaluation/Airport Airspace Analysis (OE/AAA)

(453) The **Federal Aviation Administration (FAA)** has established comprehensive policies and procedures to evaluate potential hazards to air navigation posed by construction or alteration projects. These assessments are critical to maintaining the safety and efficiency of the National Airspace System (NAS). To support this effort, the FAA's Air Traffic Organization (ATO) developed the Obstruction Evaluation and Airport Airspace Analysis (OE/AAA) System, a web-based platform that enables public submission and FAA processing of proposed construction or alteration notices. The collection and processing of this information are authorized under **49 U.S.C. § 44718** and **14 CFR Part 77**, which pertains to the notice and study of proposed construction or alteration near navigable airspace.

(454) Maritime vessels are required to comply with the provisions of **14 CFR Part 77 Subpart B**. In consideration of procedures and for potential conflict between aircraft and maritime vessels, waterways of the United States with vessel height greater than 200 feet (Air

Draft) above the waterline, must be assessed by the FAA. Due to airport, airspace, and waterway proximity, lesser heights may also require assessment. Owners, operators, agents, voyage planners, and masters may consult the **Obstruction Evaluation/Airport Airspace Analysis (OE/AAA) Pre-Screening Tool** at *https://oeaaa.faa.gov/oeaaa/oe3a/main/#/home* to assess applicability for lesser (Air Draft) heights.

(455)

## FEDERAL COMMUNICATIONS COMMISSION (FCC)

(456) The Federal Communications Commission controls non-government radio communications in the United States, Guam, Puerto Rico and the Virgin Islands. Commission inspectors have authority to board ships to determine whether their radio stations comply with international treaties, Federal laws and Commission regulations. The commission has field offices in the principal U.S. ports. (See Appendix A for addresses.) Information concerning ship radio regulations and service documents may be obtained from the Federal Communications Commission, Washington, DC 20554, or from any of the field offices.

(457)

## Measurements and Equivalencies

nautical mile — 1,852 meters / 6,076.12 feet
statute mile — 5,280 feet / 1,609.3 meters / 1.6093 kilometers
cable — 0.1 nautical mile (CN) / 720 feet (US)
fathom — 6 feet / 1.8288 meters
foot — 0.3048 meter
inch — 2.54 centimeters
pound (avoirdupois) — 453.59 gram
kilometer — 1,000 meters
knot — 1.6877 feet per second / 0.5144 meters per second
miles/hour (statute) — 1.466 feet per second / 0.44704 meters per second
acre — 43,560 square feet / 4,046.82 square meters
gram — 0.0022046 pound (avoirdupois) / 0.035274 ounce
meter — 39.37 inches / 3.281 feet / 1.0936 yards
short ton — 2,000 pounds
long ton — 2,240 pounds
metric ton — 2,204.6 pounds
kilogram — 2.2 pounds
liter — 1.0567 quarts
barrel (petroleum) — 42 gallons (US)

## Conversion Factors

### Linear

inches — muiltiply by 25.40 — millimeters
inches — multiply by 2.540 — centimeters
centimeters — multiply by 0.032808 — feet
feet — multiply by 30.48 — centimeters
feet — multiply by 0.3048 — meters
feet — multiply by 0.00016458 — nautical miles
yard — multiply by 0.9144 — meters
meters — multiply by 3.2808 — feet
meters — multiply by 1.094 — yards
meters — multiply by 0.0005399 — nautical miles
statute miles — multiply by 0.86897 — nautical miles
statute miles — multiply by 1.6093 — kilometers
statute miles — multiply by 1,609.3 — meters
nautical miles — multiply by 1.151 — statute miles

### Area

acres — multiply by 4,046.9 — square meters
acres — multiply by 43,560 — square feet
acres — multiply by 0.404685 — hectare
hectare — multiply by 2.471054 — acres
hectare — multiply by 10,000 — square meters
hectare — multiply by $1.07639 \times 10^5$ — square feet
square feet — multiply by 0.0929 — square meters
square feet — multiply by 0.00002296 — acres
square meters — multiply by 10.764 — square feet
square meters — multiply by 0.0002471 — acres

### Depths

fathoms — multiply by 1.8288 — meters
feet — multiply by 0.3048 — meters
meters — multiply by 0.54681 — fathoms
meters — multiply by 3.2808 — feet

### Rate

feet/second — multiply by 0.5925 — knots
feet/second — multiply by 0.6818 — miles/hour
feet/second — multiply by 30.48 — centimeters/second
statute miles/hour — multiply by 0.8689 — knots
statute miles/hour — multiply by 1.467 — feet/second
statute miles/hour — multiply by 0.447 — meters/second
knots — multiply by 1.151 — miles/hour
knots — multiply by 0.5144 — meters/second
knots — multiply by 1.6878 — feet/second
centimeters/second — multiply by 0.01944 — miles/hour
centimeters/second — multiply by 0.02237 — miles/hour
centimeters/second — multiply by 0.032808 — feet/second

### Mass

grams — multiply by 0.035275 — ounces
grams — multiply by 0.002205 — pounds
ounces — multiply by 28.349 — grams
pounds — multiply by 0.45359 — kilograms
short tons — multiply by 2,000 — pounds
short tons — multiply by 0.89286 — long tons
short tons — multiply by 0.9072 — metric tons
long tons — multiply by 2,240 — pounds
long tons — multiply by 1.12 — short tons
long tons — multiply by 1.016 — metric tons
metric tons — multiply by 1,000 — kilograms
metric tons — multiply by 0.9842 — long tons
metric tons — multiply by 1.1023 — short tons
metric tons — multiply by 2,204.6 — pounds

### Volume

barrels (petroleum) — multiply by 42 — gallons (US)
barrels (petroleum) — multiply by 158.99 — liters
barrels (liquid, US) — multiply by 31.5 — gallons (US)
barrels (liquid, US) — multiply by 26.229 — gallons (British)
barrels (liquid, US) — multiply by 119.24 — liters
gallons (US) — multiply by 0.02381 — barrels (petroleum)
gallons (US) — multiply by 3.7854 — liters
liters — multiply by 0.26417 — gallons (US)

(458)

# *Tips for* BOATING CLEAN AND GREEN

**Practice preventative engine maintenance**
Keep your engine well tuned and practice preventative engine maintenance by regularly checking hoses and lines for chaffing or deterioration.

**Use oil absorbants**
Place and secure an oil absorbent under the engine and in the bilge. Avoid using bilge cleaners as they may get discharged overboard. It is illegal to use soap to disperse fuel and oil spills. Report oil and chemical spills by calling the EPA National Response Center at 800–424–8802.

**Spill-proof your fueling practices**
Use a spill proof system like a portable oil change pump to change your oil. Use oil absorbents when fueling and changing the oil. Do not top-off your fuel tank; leave it 10 percent empty to allow fuel to expand as it warms.

**Reduce greywater discharges**
Use shore-side facilities for laundry, showers, and dish washing whenever possible. Use only phosphate-free and biodegradable soaps. The legality of discharging greywater into a marina or within three miles off the coast varies from place to place. In some areas, there are local ordinances and codes that allow harbor patrol to issue citations for any discharge that is not "clean and clear." To avoid any potential fines and to protect the aquatic environment, do not discharge greywater overboard.




**Dispose of hazardous waste properly**
Recycle and properly dispose of absorbents, used oil, oil filters, paint, and batteries at your local household hazardous waste collection site.

**Minimize boat cleaning and maintenance conducted on the water**
- Use more elbow grease.
- Use products that are water-based, biodegradable, phosphate-free, and labeled as less toxic.
- Check out less toxic cleaning alternatives for all types of uses. Visit http://dbw.parks.ca.gov/?page_id=29184.
- Buy only the amount that you need and use products for spot cleaning only.
- Properly handle and store materials. Dispose of hazardous waste legally and safely.

**Reduce discharges from bottom paints**
- Consider alternative, non-biocide hull coatings.
- Clean the bottom with a soft, non-abrasive sponge.
- Use hull cleaning companies who use green management practices such as monitoring their divers and using non-abrasive scrubbing agents that do not release paint into the water. For more information visit https://www3.epa.gov/npdes/pubs/vgp_hull_husbandry.pdf.

**Stow it, don't throw it**
Keep your trash on-board. Recycle plastic, glass, metal, and paper. Avoid excess packaging.




**Dump at the pump!**
It is illegal to discharge untreated sewage anywhere within the three-mile territorial limit including lakes, rivers, reservoirs or coastal waters. Never discharge treated sewage into "restricted waters" such as a marina, swimming/wading areas, a sanctuary, poorly flushed areas, lakes, reservoirs, or freshwater impoundments and federal No Discharge Zones. Use sewage pumpouts, dump stations, or mobile-pumpout services.

**Prevent the spread of aquatic invasive species**
Before leaving any body of water, examine your boat and equipment and remove any visible mud, plants, or animals before transporting equipment. Never release plants or animals into a body of water or storm drains unless they came out of that body of water. Use cleaning procedures for anything that contacts the water. Visit https://invasivemusselcollaborative.net/wp-content/uploads/2018/11/NOAA-Decon-Watercraft.pdf.

For hazardous waste recycling or collection centers call 800–CLEAN–UP or visit http://www.earth911.com

# Navigation Regulations

(1) This chapter contains extracts from **Code of Federal Regulations (CFR)** that are of importance to mariners in the area covered by this Coast Pilot. Sections of little value to the mariner are sometimes omitted. Omitted sections are signified by the following [...]

(2) Extracts from the following titles are contained in this chapter.

(3)

**Title 33: Navigation and Navigable Waters**
- Part 26—Vessel Bridge-to-Bridge Radiotelephone Regulations
- Part 67—Aids to Navigation on Artificial Islands and Fixed Structures (in part)
- Part 80—COLREGS Demarcation Lines
- Part 81—72 COLREGS: Implementing Rules
- Part 82—72 COLREGS: Interpretive Rules
- Part 88—Annex V: Pilot Rules
- Part 89—Inland Navigation Rules: Implementing Rules
- Part 90—Inland Rules: Interpretative Rules
- Part 110—Anchorage Regulations
- Part 157—Rules for the Protection of the Marine Environment Relating to Tank Vessels Carrying Oil in Bulk
- Part 160—Ports and Waterways Safety-General
- Part 162—Inland Waterways Navigation Regulations
- Part 164—Navigation Safety Regulations (in part)
- Part 165—Regulated Navigation Areas and Limited Access Areas
- Part 169—Ship Reporting Systems
- Part 207—Navigation Regulations
- Part 334—Danger Zones and Restricted Area Regulations

**Title 36: Parks, Forests, and Public Property**
- Part 13—National Park System Units in Alaska

**Title 40: Protection of Environment**
- Part 140—Marine Sanitation Device Standard

**Title 50: Wildlife and Fisheries**
- Part 224—Endangered Marine and Anadromous Species

(4) These regulations can only be amended by the enforcing agency or other authority cited in the regulations. Accordingly, requests for changes to these regulations should be directed to the appropriate agency for action. In those regulations where the enforcing agency is not cited or is unclear, recommendations for changes should be directed to the following Federal agencies for action:

(5) **National Oceanic and Atmospheric Administration**—50 CFR 224

(6) **United States Coast Guard**—33 CFR 26, 67, 80, 81, 82, 88, 89, 90, 110, 157, 160, 162, 164 and 165

(7) **United States Army Corps of Engineers**—33 CFR 207 and 334

(8) **National Park Service, Department of the Interior**—36 CFR 13

(9)

## TITLE 33–NAVIGATION AND NAVIGABLE WATERS

(10)

## Part 26–Vessel Bridge-to-Bridge Radiotelephone Regulations

(11)

### §26.01 Purpose.

(12) (a) The purpose of this part is to implement the provisions of the Vessel Bridge-to-Bridge Radiotelephone Act. This part–

(13) (1) Requires the use of the vessel bridge-to-bridge radiotelephone;

(14) (2) Provides the Coast Guard's interpretation of the meaning of important terms in the Act;

(15) (3) Prescribes the procedures for applying for an exemption from the Act and the regulations issued under the Act and a listing of exemptions.

(16) (b) Nothing in this part relieves any person from the obligation of complying with the rules of the road and the applicable pilot rules.

(17)

### §26.02 Definitions.

(18) For the purpose of this part and interpreting the Act:

(19) *Act* means the "Vessel Bridge-to-Bridge Radiotelephone Act," 33 U.S.C. sections 1201–1208;

(20) *Length* is measured from end to end over the deck excluding sheer;

(21) *Power-driven vessel* means any vessel propelled by machinery; and

(22) *Secretary* means the Secretary of the Department in which the Coast Guard is operating;

(23) *Territorial sea* means all waters as defined in §2.22(a)(1) of this chapter.

(24) *Towing vessel* means any commercial vessel engaged in towing another vessel astern, alongside, or by pushing ahead.

(25) *Vessel Traffic Services (VTS)* means a service implemented under Part 161 of this chapter by the United States Coast Guard designed to improve the safety and efficiency of vessel traffic and to protect the environment. The VTS has the capability to interact with marine traffic and respond to traffic situations developing in the VTS area.

(26) *Vessel Traffic Service Area or VTS Area* means the geographical area encompassing a specific VTS Area of

service as described in Part 161 of this chapter. This area of service may be subdivided into sectors for the purpose of allocating responsibility to individual Vessel Traffic Centers or to identify different operating requirements.

(27) **Note:** Although regulatory jurisdiction is limited to the navigable waters of the United States, certain vessels will be encouraged or may be required, as a condition of port entry to report beyond this area to facilitate traffic management within the VTS area.

(28)

### §26.03 Radiotelephone required.

(29) (a) Unless an exemption is granted under §26.09 and except as provided in paragraph (a)(4) of this section, this part applies to:

(30) (1) Every power-driven vessel of 20 meters or over in length while navigating;

(31) (2) Every vessel of 100 gross tons and upward carrying one or more passengers for hire while navigating;

(32) (3) Every towing vessel of 26 feet or over in length while navigating; and

(33) (4) Every dredge and floating plant engaged in or near a channel or fairway in operations likely to restrict or affect navigation of other vessels except for an unmanned or intermittently manned floating plant under the control of a dredge.

(34) (b) Every vessel, dredge, or floating plant described in paragraph (a) of this section must have a radiotelephone on board capable of operation from its navigational bridge, or in the case of a dredge, from its main control station, and capable of transmitting and receiving on the frequency or frequencies within the 156-162 MHz band using the classes of emissions designated by the Federal Communications Commission for the exchange of navigational information.

(35) (c) The radiotelephone required by paragraph (b) of this section must be carried on board the described vessels, dredges, and floating plants upon the navigable waters of the United States.

(36) (d) The radiotelephone required by paragraph (b) of this section must be capable of transmitting and receiving on VHF- FM channel 1022 (157.1 MHz).

(37) (e) While transiting any of the following waters, each vessel described in paragraph (a) of this section also must have on board a radiotelephone capable of transmitting and receiving on VHF-FM channel 67 (156.375 MHz):

(38) (1) The lower Mississippi River from the territorial sea boundary, and within either the Southwest Pass safety fairway or the South Pass safety fairway specified in 33 CFR 166.200, to mile 242.4 AHP (Above Head of Passes) near Baton Rouge;

(39) (2) The Mississippi River-Gulf Outlet from the territorial sea boundary, and within the Mississippi River-Gulf outlet Safety Fairway specified in 33 CFR 166.200, to that channel's junction with the Inner Harbor Navigation Canal; and

(40) (3) The full length of the Inner Harbor Navigation Canal from its junction with the Mississippi River to that canal's entry to Lake Pontchartrain at the New Seabrook vehicular bridge.

(41) (f) In addition to the radiotelephone required by paragraph (b) of this section each vessel described in paragraph (a) of this section while transiting any waters within a Vessel Traffic Service Area, must have on board a radiotelephone capable of transmitting and receiving on the VTS designated frequency in Table 161.12(c) (VTS and VMRS Centers, Call Signs/MMSI, Designated Frequencies, and Monitoring Areas).

(42) **Note:** A single VHF-FM radio capable of scanning or sequential monitoring (often referred to as "dual watch" capability) will not meet the requirement for two radios.

(43)

### §26.04 Use of the designated frequency.

(44) (a) No person may use the frequency designated by the Federal Communications Commission under section 8 of the Act, 33 U.S.C. 1207(a), to transmit any information other than information necessary for the safe navigation of vessels or necessary tests.

(45) (b) Each person who is required to maintain a listening watch under section 5 of the Act shall, when necessary, transmit and confirm, on the designated frequency, the intentions of his vessel and any other information necessary for the safe navigation of vessels.

(46) (c) Nothing in these regulations may be construed as prohibiting the use of the designated frequency to communicate with shore stations to obtain or furnish information necessary for the safe navigation of vessels.

(47) (d) On the navigable waters of the United States, channel 13 (156.65 MHz) is the designated frequency required to be monitored in accordance with §26.05(a) except that in the area prescribed in §26.03(e), channel 67 (156.375 MHz) is the designated frequency.

(48) (e) On those navigable waters of the United States within a VTS area, the designated VTS frequency is an additional designated frequency required to be monitored in accordance with §26.05.

(49)

### §26.05 Use of radiotelephone.

(50) Section 5 of the Act states that the radiotelephone required by this Act is for the exclusive use of the master or person in charge of the vessel, or the person designated by the master or person in charge to pilot or direct the movement of the vessel, who shall maintain a listening watch on the designated frequency. Nothing herein shall be interpreted as precluding the use of portable radiotelephone equipment to satisfy the requirements of this act.

(51)

### §26.06 Maintenance of radiotelephone; failure of radiotelephone.

(52) Section 6 of the Act states–

(53) (a) Whenever radiotelephone capability is required by this Act, a vessel's radiotelephone equipment shall be maintained in effective operating condition. If the

radiotelephone equipment carried aboard a vessel ceases to operate, the master shall exercise due diligence to restore it or cause it to be restored to effective operating condition at the earliest practicable time. The failure of a vessel's radiotelephone equipment shall not, in itself, constitute a violation of this Act, nor shall it obligate the master of any vessel to moor or anchor his vessel; however, the loss of radiotelephone capability shall be given consideration in the navigation of the vessel.

(54)

**§26.07 Communications.**

(55) No person may use the services of, and no person may serve as, a person required to maintain a listening watch under section 5 of the Act, 33 U.S.C., 1204, unless the person can communicate in the English language.

(56)

**§26.08 Exemption procedures.**

(57) (a) The Commandant has redelegated to the Assistant Commandant for Prevention Policy, U.S. Coast Guard Headquarters, with the reservation that this authority shall not be further redelegated, the authority to grant exemptions from provisions of the Vessel Bridge-to-Bridge Radiotelephone Act and this part.

(58) (b) Any person may petition for an exemption from any provision of the Act or this part;

(59) (c) Each petition must be submitted in writing to Commandant (CG–DCO–D), Attn: Deputy for Operations Policy and Capabilities, U.S. Coast Guard Stop 7318, 2703 Martin Luther King Jr. Avenue SE., Washington, DC 20593–7318, and must state:

(60) (1) The provisions of the Act or this part from which an exemption is requested; and

(61) (2) The reasons why marine navigation will not be adversely affected if the exemption is granted and if the exemption relates to a local communication system how that system would fully comply with the intent of the concept of the Act but would not conform in detail if the exemption is granted.

(62)

**§26.09 List of exemptions.**

(63) (a) All vessels navigating on those waters governed by the navigation rules for Great Lakes and their connecting and tributary waters (33 U.S.C. 241 et seq.) are exempt from the requirements of the Vessel Bridge-to-Bridge Radiotelephone Act and this part until May 6, 1975.

(64) (b) Each vessel navigating on the Great Lakes as defined in the Inland Navigational Rules Act of 1980 (33 U.S.C. 2001 et seq.) and to which the Vessel Bridge-to-Bridge Radiotelephone Act (33 U.S.C. 1201-1208) applies is exempt from the requirements in 33 U.S.C. 1203, 1204, and 1205 and the regulations under §§26.03, 26.04, 26.05, 26.06, and 26.07. Each of these vessels and each person to whom 33 U.S.C. 1208(a) applies must comply with Articles VII, X, XI, XII, XIII, XV, and XVI and Technical Regulations 1–9 of "The Agreement Between the United States of America and Canada for Promotion of Safety on the Great Lakes by Means of Radio, 1973."

(65)

## Part 67–Aids to Navigation on Artificial Islands and Fixed Structures (in part)

(66)

## Subpart 67.01–General Requirements

(67)

**§67.01–1 Scope.**

(68) (a) The regulations in this part prescribe the obstruction lights and sound signals to be operated as privately maintained maritime aids to navigation on the artificial islands and structures which are erected on or over the seabed and subsoil of the Outer Continental Shelf and in the waters under the jurisdiction of the United States, for the purpose of exploring for, developing, removing and transporting resources therefrom.

(69) (b) Subpart 66.01 in Part 66 of this subchapter shall be applicable to all private aids to navigation erected on or over the Outer Continental Shelf in the same manner and to the same extent as they are applicable to private aids to navigation established, erected, or maintained in the waters under the jurisdiction of the United States.

(70)

**§67.01–5 Definitions.**

(71) (a) *Structures*. The term "structures" as used in this part shall include all fixed structures, temporary or permanent, for which a Corps of Engineers' permit is issued. It shall include, but is not necessarily limited to, all drilling platforms, Mobile Offshore Drilling Units (MODUs) when attached to the bottom, production platforms, quarters platforms, pipe line riser platforms, manifold platforms, loading platforms, boat landings, caissons, well protective structures, tank battery barges submerged on station, drilling barges submerged on location, breakwater barges submerged on location, artificial islands and all other piles, pile clusters, pipes, or structures erected in the waters.

(72) (b) *Class "A", "B", or "C" structures*. The term "Class A, B, or C structures" refers to the classification assigned to structures erected in areas in which corresponding requirements for marking are prescribed.

(73) (c) *Line of demarcation*. The term "line of demarcation" means the dividing line used administratively to distinguish between the areas in which structures shall conform to Class "A" and Class "B" or "C" requirements.

(74) (d) *Outer Continental Shelf*. The term "Outer Continental Shelf" means all submerged lands lying seaward and outside the area of lands beneath navigable waters as defined in the Submerged Lands Act (sec. 2, 67 Stat. 29, 43 U. S. C. 1301), and of which the subsoil and seabed appertain to the United States and are subject to its jurisdiction and control.

(75) (e) *Reliable operation*. The term "reliable" as used in this part shall mean that dependability which will insure to the highest degree reasonably possible the uninterrupted operation of lights and sound signals as private aids to navigation for safety of marine commerce.

(76) (f) *Sound signal*. The term "sound signal" as used in this part shall mean the audible sound signal, authorized as a private aid to navigation, to mark a structure for the safety of marine commerce whenever the visibility has been reduced by fog, mist, rain, falling snow, smoke, dust, or other phenomena.

(77)

### §67.01–10 Delegation of functions.

(78) The Coast Guard District Commander may delegate the authority for performing inspections, enforcement, and administration of regulations to any civilian or military position in the Coast Guard.

(79)

### §67.01–15 Classification of structures

(80) (a) *When will structures be assigned to a Class?* The District Commander will assign structures to Class A, B, or C as part of processing an application for a permit to establish and operate lights and sound signals.

(81) (b) *In general, where will the different classes of structures be located?* Specific criteria in paragraph (c) of this section may create exceptions, but, in general, structures the farthest from shore are likely to be assigned to Class A and required to have obstruction lights and sound signals that can be detected from the farthest distance. Structures closest to shore are likely to be assigned to Class C and, while subject to requirements to ensure that they are also detectable from a safe distance away, will be required to have the least powerful obstruction lights or sound signals. The location and standards for Class B structures will generally be in between Class A and C structures.

(82) (c) *What criteria will be used to classify structures?* When assigning a structure to a class, the District Commander will take into consideration whether a line of demarcation has been prescribed, and matters concerning, but not necessarily limited to, the dimensions of the structure and the depth of water in which it is located, the proximity of the structure to vessel routes, the nature and amount of vessel traffic, and the effect of background lighting.

(83) (1) If a line of demarcation has been prescribed, the District Commander will assign those structures seaward of the line of demarcation to Class A. He or she will assign all structures shoreward of the line of demarcation to either Class B or Class C, unless the District Commander determines under §67.05-25 that the structure should be assigned to Class A because of the structure's proximity to a navigable channel, fairway or line of demarcation.

(84) (2) If a line of demarcation has not been prescribed, the District Commander will assign a structure to Class A, B, or C as he or she deems appropriate.

(85)

### §67.01–20 Prescribing lines of demarcation.

(86) The District Commander sends recommendations for establishing or changing lines of demarcation to the Commandant. For the purposes of this part, when the Commandant approves of additions to or changes in prescribed lines of demarcation, such additions or changes will be published in the Federal Register and will become effective on the date specified in that publication.

(87)

### §67.01–30 Equivalents.

(88) The use of alternate equipment, apparatus, or installation arrangements specified in this part may be permitted by the District Commander to such extent and under such conditions as will result in achieving a degree of safety or compliance with these regulations equivalent to or above the minimum requirements set forth in this part.

(89)

## Subpart 67.05–General Requirements for Lights

(90)

### §67.05–1 Arrangement of obstruction lights.

(91) (a) Structures having a maximum horizontal dimension of 30 feet or less on any one side, or in diameter, shall be required to have one obstruction light visible for 360°.

(92) (b) Structures having a maximum horizontal dimension of over 30 feet, but not in excess of 50 feet, on any one side, or in diameter, shall be required to have two obstruction lights installed on diagonally opposite corners, 180° apart, or as prescribed by the District Commander, each light to have a 360° lens.

(93) (c) Structures having a horizontal dimension of over 50 feet on any one side, or in diameter, shall be required to have an obstruction light on each corner, or 90° apart in the case of circular structures, or as prescribed by the District Commander, each light to have a 360° lens.

(94) (d) Where the overall dimensions of a structure require the installation of two or more obstruction lights, the lights shall all be mounted on the same horizontal plane within the limitations of height specified in §67.20–5, §67.25–5, or §67.30–5, as applicable.

(95) (e) Lesser structures and piles, pile clusters or flare templates, etc., will not normally be required to be marked by obstruction lights, when they are located within 100 yards of a Class "A", "B" or "C" structure marked by established obstruction lights, but they shall be marked with red or white retro-reflective material, installed as prescribed by the District Commander.

(96) (f) All obstruction lights shall be installed in a manner which will permit at least one of them to be carried in sight of the mariner, regardless of the angle of approach, until he is within 50 feet of the structure, visibility permitting.

(97)

### §67.05–5 Multiple obstruction lights.

(98) When more than one obstruction light is required by this part to mark a structure, all such lights shall be operated to flash in unison.

(99)

### §67.05–10 Characteristics of obstruction lights.

(100) All obstruction lights required by this part shall be powered from a reliable power source, including auxiliary power sources as necessary. They shall display a quick-flash characteristic of approximately 60 flashes per minute, unless prescribed otherwise in the permit issued by the District Commander. Their color shall be white when marking Class "A" and "B" structures, and either white or red, as prescribed by the District Commander, when marking Class "C" structures. In determining whether white or red lights shall be authorized, the District Commander shall take into consideration matters concerning, but not necessarily limited to, the dimensions of the structure and the depth of water in which it is located; the proximity of the structure to vessel routes; the nature and amount of vessel traffic; and the effect of background lighting.

(101)

### §67.05–15 Operating periods of obstruction lights.

(102) Obstruction lights shall be displayed at all times between the hours of sunset and sunrise, local time, commencing at the time the construction of a structure is begun. During construction and until such time as a platform capable of supporting the obstruction lights is completed, the fixed lights on an attending vessel shall be used. In addition, when lights are in use for general illumination to facilitate the construction or operation of a structure, and can be seen from any angle of approach at a distance equal to that prescribed for the obstruction lights for the class of structure, the actual operation of obstruction lights also will not be required.

(103)

### §67.05–20 Minimum lighting requirements.

(104) The obstruction lighting requirements prescribed in this part are the minimum requirements only and shall not preclude the maintainer from making application for authorization to establish more lights, or lights of greater intensity than required to be visible at the distances prescribed: *Provided,* That the prescribed characteristics of color and flash duration are adhered to.

(105)

### §67.05–25 Special lighting requirements.

(106) Whenever a structure is erected in a position on or adjacent to the edges of navigable channels and fairways, or lines of demarcation, the District Commander is authorized to require the structure to be marked by the lights which in his judgment are necessary for the safety of marine commerce, and without regard to the fact that the structure may be located in an area in which either Class "B" or Class "C" requirements are otherwise applicable. The requirements for the lights in any of these cases, shall not exceed those established for structures in the Class "A" areas.

(107)

## Subpart 67.10–General Requirements for Sound Signals

(108)

### §67.10–1 Apparatus requirements.

(109) The sound signal required by §§67.20–10, 67.25–10, and 67.30–10 must:

(110) (a) Have its maximum intensity at a frequency between 100 and 1,100 Hertz;

(111) (b) Sound a 2–second blast every 20 seconds (2 seconds sound, 18 seconds silence) unless otherwise authorized by the District Commander;

(112) (c) Have the rated range required by §67.20–10, §67.25–10, or §67.30–10;

(113) (d) Have a height not exceeding 25 feet;

(114) (e) Have not more than eight sound sources;

(115) (f) Be approved by the Coast Guard under §67.10–15; and

(116) (g) Be permanently marked with:

(117) (1) The date of Coast Guard approval;

(118) (2) The manufacturer and date of manufacture;

(119) (3) A model designation;

(120) (4) The approved range; and

(121) (5) The power necessary to comply with the provisions of paragraph (c) of this section.

(122)

### §67.10–5 Location requirements.

(123) The sound signal required by §§67.20–10, 67.25–10, and 67.30–10 must:

(124) (a) Be located on the structure so that the sound signal produced is audible over 360° in a horizontal plane at all ranges up to and including the required range; and

(125) (b) Be located at least 10 feet but not more than 150 feet above mean high water.

(126)

### §67.10–10 Operating requirements.

(127) (a) Sound signals required by §§67.20–10, 67.25–10 and 67.30–10 must be operated continuously, regardless of visibility, unless the fog signal is controlled:

(128) (1) By an attendant on the structure;

(129) (2) Remotely by an attendant on a nearby structure; or

(130) (3) By a fog detection device capable of activating the fog signal when the visibility in any direction is reduced to the range at which fog signal operation is required by this part.

(131) (b) During construction and until such time as a sound signal is installed and operating on a platform, the whistle of an attending vessel moored alongside the platform may be used to sound the signal required for the structure by this part.

(132)

### §67.10–15 Approval of sound signals.

(133) (a) The Coast Guard approves a sound signal if:

(134) (1) It meets the requirements for sound signals in §67.10-1 (a), (b), (c), (d), and (e) when tested under §67.10-20; or

(135) (2) It is similar to a sound signal which was tested and approved under the provisions of this section and the Coast Guard has approved all variations in design, construction, production, and manufacture from the sound signal tested.

(136) (b) A sound signal that is an identical production model of a sound signal which has been approved under paragraph (a) of this section is a Coast Guard approved sound signal.

(137)

## Part 80–COLREGS Demarcation Lines

(138)

### §80.01 General basis and purpose of demarcation lines.

(139) (a) The regulations in this part establish the lines of demarcation delineating those waters upon which mariners shall comply with the International Regulations for Preventing Collisions at Sea, 1972 (72 COLREGS) and those waters upon which mariners shall comply with the Inland Navigation Rules.

(140) (b) The waters inside of the lines are Inland Rules waters. The waters outside the lines are COLREGS waters.

(141) (c) Geographic coordinates expressed in terms of latitude or longitude, or both, are not intended for plotting on maps or charts whose referenced horizontal datum is the North American Datum of 1983 (NAD 83), unless such geographic coordinates are expressly labeled NAD 83. Geographic coordinates without the NAD 83 reference may be plotted on maps or charts referenced to NAD 83 only after application of the appropriate corrections that are published on the particular map or chart being used.

(142)

### §80.1705 Alaska.

(143) The 72 COLREGS shall apply on all the sounds, bays, harbors, and inlets of Alaska.

(144)

## Part 81–72 COLREGS: IMPLEMENTING RULES

(145)

### §81.1 Definitions.

(146) As used in this part:

(147) *72 COLREGS* refers to the International Regulations for Preventing Collisions at Sea, 1972, done at London, October 20, 1972, as rectified by the Proces-Verbal of December 1, 1973, as amended.

(148) *A vessel of special construction or purpose* means a vessel designed or modified to perform a special function and whose arrangement is thereby made relatively inflexible.

(149) *Interference with the special function of the vessel* occurs when installation or use of lights, shapes, or sound-signaling appliances under 72 COLREGS prevents or significantly hinders the operation in which the vessel is usually engaged.

(150)

### §81.3 General.

(151) Vessels of special construction or purpose which cannot fully comply with the light, shape, and sound signal provisions of 72 COLREGS without interfering with their special function may instead meet alternative requirements. The Chief of the Prevention Division in each Coast Guard District Office makes this determination and requires that alternative compliance be as close as possible with the 72 COLREGS. These regulations set out the procedure by which a vessel may be certified for alternative compliance. The information collection and recordkeeping requirements in §§81.5 and 81.18 have been approved by the Office of Management and Budget under OMB control No. 1625-0019.

(152)

### Alternative Compliance

(153)

### §81.5 Application for a Certificate of Alternative Compliance.

(154) (a) The owner, builder, operator, or agent of a vessel of special construction or purpose who believes the vessel cannot fully comply with the 72 COLREGS light, shape, or sound signal provisions without interference with its special function may apply for a determination that alternative compliance is justified. The application must be in writing, submitted to the Chief of the Prevention Division of the Coast Guard District in which the vessel is being built or operated, and include the following information:

(155) (1) The name, address, and telephone number of the applicant.

(156) (2) The identification of the vessel by its:

(157) (i) Official number;

(158) (ii) Shipyard hull number;

(159) (iii) Hull identification number; or

(160) (iv) State number, if the vessel does not have an official number or hull identification number.

(161) (3) Vessel name and home port, if known.

(162) (4) A description of the vessel's area of operation.

(163) (5) A description of the provision for which the Certificate of Alternative Compliance is sought, including:

(164) (i) The 72 COLREGS Rule or Annex section number for which the Certificate of Alternative Compliance is sought;

(165) (ii) A description of the special function of the vessel that would be interfered with by full compliance with the provision of that Rule or Annex section; and

(166) (iii) A statement of how full compliance would interfere with the special function of the vessel.

(167) (6) A description of the alternative installation that is in closest possible compliance with the applicable 72 COLREGS Rule or Annex section.

(168) (7) A copy of the vessel's plans or an accurate scale drawing that clearly shows:

(169) (i) The required installation of the equipment under the 72 COLREGS,

(170) (ii) The proposed installation of the equipment for which certification is being sought, and

(171) (iii) Any obstructions that may interfere with the equipment when installed in:

(172) (A) The required location; and

(173) (B) The proposed location.

(174) (b) The Coast Guard may request from the applicant additional information concerning the application.

(175)

### §81.9 Certificate of Alternative Compliance: Contents.

(176) The Chief of the Prevention Division issues the Certificate of Alternative Compliance to the vessel based on a determination that it cannot comply fully with 72 COLREGS light, shape, and sound signal provisions without interference with its special function. This Certificate includes—

(177) (a) Identification of the vessel as supplied in the application under §81.5(a)(2);

(178) (b) The provision of the 72 COLREGS for which the Certificate authorizes alternative compliance;

(179) (c) A certification that the vessel is unable to comply fully with the 72 COLREGS lights, shape, and sound signal requirements without interference with its special function;

(180) (d) A statement of why full compliance would interfere with the special function of the vessel;

(181) (e) The required alternative installation;

(182) (f) A statement that the required alternative installation is in the closest possible compliance with the 72 COLREGS without interfering with the special function of the vessel;

(183) (g) The date of issuance;

(184) (h) A statement that the Certificate of Alternative Compliance terminates when the vessel ceases to be usually engaged in the operation for which the certificate is issued.

(185)

### §81.17 Certificate of Alternative Compliance: Termination.

(186) The Certificate of Alternative Compliance terminates if the information supplied under §81.5(a) or the Certificate issued under §81.9 is no longer applicable to the vessel.

(187)

### §81.18 Notice and record of certification of vessels of special construction or purpose.

(188) (a) In accordance with 33 U.S.C. 1605(c), a notice is published in the Federal Register of the following:

(189) (1) Each Certificate of Alternative Compliance issued under §81.9; and

(190) (2) Each Coast Guard vessel determined by the Commandant to be a vessel of special construction or purpose.

(191) (b) Copies of Certificate of Alternative Compliance and documentation concerning Coast Guard vessels are available for inspection at Marine Transportation Systems Directorate, U.S. Coast Guard Headquarters, (CG-5PW), Stop 7509, 2703 Martin Luther King Avenue SE., Washington, DC 20593-7509.

(192) (c) The owner or operator of a vessel issued a Certificate shall ensure that the vessel does not operate unless the Certificate of Alternative Compliance or a certified copy of that Certificate is on board the vessel and available for inspection by Coast Guard personnel.

(193)

### Exemptions

(194)

### §81.20 Lights and sound signal appliances.

(195) Each vessel under the 72 COLREGS, except the vessels of the Navy, is exempt from the requirements of the 72 COLREGS to the limitation for the period of time stated in Rule 38 (a), (b), (c), (d), (e), (f), and (g) if:

(196) (a) Her keel is laid or is at a corresponding stage of construction before July 15, 1977; and

(197) (b) She meets the International Regulations for Preventing Collisions at Sea, 1960 (77 Stat. 194, 33 U.S.C. 1051-1094).

(198)

## Part 82–72 COLREGS: INTERPRETATIVE RULES

(199)

### §82.1 Purpose.

(200) This part contains the interpretative rules concerning the 72 COLREGS that are adopted by the Coast Guard for the guidance of the public.

(201)

### §82.3 Pushing vessel and vessel being pushed: Composite unit.

(202) Rule 24(b) of the 72 COLREGS states that when a pushing vessel and a vessel being pushed ahead are rigidly connected in a composite unit, they are regarded as a power-driven vessel and must exhibit the lights under Rule 23. A "composite unit" is interpreted to be a pushing vessel that is rigidly connected by mechanical means to a vessel being pushed so they react to sea and swell as one vessel. "Mechanical means" does not include the following:

(203) (a) Lines.

(204) (b) Hawsers.

(205) (c) Wires.

(206) (d) Chains.

(207)

### §82.5 Lights for moored vessels.

(208) For the purposes of Rule 30 of the 72 COLREGS, a *vessel at anchor* includes a barge made fast to one or more mooring buoys or other similar device attached to the sea or river floor. Such a barge may be lighted as a vessel at anchor in accordance with Rule 30, or may be lighted on the corners in accordance with 33 CFR 83.30(h) through (l).

(209)

### §82.7 Sidelights for unmanned barges.

(210) An unmanned barge being towed may use the exception of COLREGS Rule 24(h). However, this exception only applies to the vertical sector requirements.

(211)

## Part 88—ANNEX V: PILOT RULES

(212)

### §88.01 Purpose and applicability.

(213) This part applies to all vessels operating on United States inland waters and to United States vessels operating on the Canadian waters of the Great Lakes to the extent there is no conflict with Canadian law.

(214)

### §88.03 Definitions.

(215) The terms used in this part have the same meaning as the terms defined in part 83 of this subchapter.

(216)

### §88.05 Law enforcement vessels.

(217) (a) Law enforcement vessels may display a flashing blue light when engaged in direct law enforcement or public safety activities. This light must be located so that it does not interfere with the visibility of the vessel's navigation lights.

(218) (b) The blue light described in this section may be displayed by law enforcement vessels of the United States and the States and their political subdivisions.

(219)

### §88.07 Public safety activities.

(220) (a) Vessels engaged in government sanctioned public safety activities, and commercial vessels performing similar functions, may display an alternately flashing red and yellow light signal. This identification light signal must be located so that it does not interfere with the visibility of the vessel's navigation lights. The identification light signal may be used only as an identification signal and conveys no special privilege. Vessels using the identification light signal during public safety activities must abide by the Inland Navigation Rules, and must not presume that the light or the exigency gives them precedence or right of way.

(221) (b) Public safety activities include but are not limited to patrolling marine parades, regattas, or special water celebrations; traffic control; salvage; firefighting; medical assistance; assisting disabled vessels; and search and rescue.

(222)

## Part 89—INLAND NAVIGATION RULES: IMPLEMENTING RULES

(223)

### Subpart A—Certificate of Alternative Compliance

(224)

### §89.1 Definitions.

(225) As used in this subpart:

(226) *Inland Rules* refers to the Inland Navigation Rules contained in the Inland Navigational Rules Act of 1980 (Pub. L. 96-591) and the technical annexes established under that act.

(227) *A vessel of special construction or purpose* means a vessel designed or modified to perform a special function and whose arrangement is thereby made relatively inflexible.

(228) *Interference with the special function of the vessel* occurs when installation or use of lights, shapes, or sound-signaling appliances under the Inland Rules prevents or significantly hinders the operation in which the vessel is usually engaged.

(229)

### §89.3 General.

(230) Vessels of special construction or purpose which cannot fully comply with the light, shape, and sound signal provisions of the Inland Rules without interfering with their special function may instead meet alternative requirements. The Chief of the Prevention Division in each Coast Guard District Office makes this determination and requires that alternative compliance be as close as possible with the Inland Rules. These regulations set out the procedure by which a vessel may be certified for alternative compliance. The information collection and recordkeeping requirements in §§89.5 and 89.18 have been approved by the Office of Management and Budget under OMB control No. 1625-0019.

(231)

### §89.5 Application for a Certificate of Alternative Compliance.

(232) (a) The owner, builder, operator, or agent of a vessel of special construction or purpose who believes the vessel cannot fully comply with the Inland Rules light, shape, or sound signal provisions without interference with its special function may apply for a determination that alternative compliance is justified. The application must be in writing, submitted to the Chief of the Prevention Division of the Coast Guard District in which the vessel is being built or operated, and include the following information:

(233) (1) The name, address, and telephone number of the applicant.

(234) (2) The identification of the vessel by its:

(235) (i) Official number;

(236) (ii) Shipyard hull number;

(237) (iii) Hull identification number; or

(238) (iv) State number, if the vessel does not have an official number or hull identification number.

(239) (3) Vessel name and home port, if known.

(240) (4) A description of the vessel's area of operation.

(241) (5) A description of the provision for which the Certificate of Alternative Compliance is sought, including:

(242) (i) The Inland Rules Rule or Annex section number for which the Certificate of Alternative Compliance is sought;

(243) (ii) A description of the special function of the vessel that would be interfered with by full compliance with the provision of that Rule or Annex section; and

(244) (iii) A statement of how full compliance would interfere with the special function of the vessel.

(245) (6) A description of the alternative installation that is in closest possible compliance with the applicable Inland Navigation Rules Rule or Annex section.

(246) (7) A copy of the vessel's plans or an accurate scale drawing that clearly shows:

(247) (i) The required installation of the equipment under the Inland Rules,

(248) (ii) The proposed installation of the equipment for which certification is being sought, and

(249) (iii) Any obstructions that may interfere with the equipment when installed in:

(250) (A) The required location; and

(251) (B) The proposed location.

(252) (b) The Coast Guard may request from the applicant additional information concerning the application.

(253)

### §89.9 Certificate of Alternative Compliance: Contents.

(254) The Chief of the Prevention Division issues the Certificate of Alternative Compliance to the vessel based on a determination that it cannot comply fully with Inland Rules light, shape, and sound signal provisions without interference with its special function. This Certificate includes:

(255) (a) Identification of the vessel as supplied in the application under §89.5(a)(2);

(256) (b) The provision of the Inland Rules for which the Certificate authorizes alternative compliance;

(257) (c) A certification that the vessel is unable to comply fully with the Inland Rules light, shape, and sound signal requirements without interference with its special function;

(258) (d) A statement of why full compliance would interfere with the special function of the vessel;

(259) (e) The required alternative installation;

(260) (f) A statement that the required alternative installation is in the closest possible compliance with the Inland Rules without interfering with the special function of the vessel;

(261) (g) The date of issuance;

(262) (h) A statement that the Certificate of Alternative Compliance terminates when the vessel ceases to be usually engaged in the operation for which the certificate is issued.

(263)

### §89.17 Certificate of Alternative Compliance: Termination.

(264) The Certificate of Alternative Compliance terminates if the information supplied under §89.5(a) or the Certificate issued under §89.9 is no longer applicable to the vessel.

(265)

### §89.18 Record of certification of vessels of special construction or purpose.

(266) (a) Copies of Certificates of Alternative Compliance and documentation concerning Coast Guard vessels are available for inspection at the offices of the Marine Transportation Systems Directorate, U.S. Coast Guard Headquarters (CG-5PW), Stop 7509, 2703 Martin Luther King Avenue SE., Washington, DC 20593-7509.

(267) (b) The owner or operator of a vessel issued a Certificate shall ensure that the vessel does not operate unless the Certificate of Alternative Compliance or a certified copy of that Certificate is on board the vessel and available for inspection by Coast Guard personnel.

(268)

## Subpart B—Waters Upon Which Certain Inland Navigation Rules Apply

(269)

### §89.21 Purpose.

(270) Inland Navigation Rules 9(a)(ii), 14(d), and 15(b) apply to the Great Lakes, and along with 24(i), apply on the "Western Rivers" as defined in Rule 3(1), and to additional specifically designated waters. The purpose of this Subpart is to specify those additional waters upon which Inland Navigation Rules 9(a)(ii), 14(d), 15(b), and 24(i) apply.

(271)

### §89.23 Definitions.

(272) As used in this subpart:

(273) *Inland Rules* refers to the Inland Navigation Rules contained in the Inland Navigational Rules Act of 1980 (Pub. L. 96-591, 33 U.S.C. 2001 et. seq.) and the technical annexes established under that Act.

(274)

### §89.25 Waters upon which Inland Rules 9(a)(ii), 14(d), and 15(b) apply.

(275) Inland Rules 9(a)(ii), 14(d), and 15(b) apply on the Great Lakes, the Western Rivers, and the following specified waters:

(276) (a) Tennessee-Tombigbee Waterway.

(277) (b) Tombigbee River.

(278) (c) Black Warrior River.

(279) (d) Alabama River.

(280) (e) Coosa River.

(281) (f) Mobile River above the Cochrane Bridge at St. Louis Point.

(282) (g) Flint River.

(283) (h) Chattahoochee River.

(284) (i) The Apalachicola River above its confluence with the Jackson River.

(285)

**§89.27 Waters upon which Inland Rule 24(i) applies.**

(286) (a) Inland Rule 24(j) applies on the Western Rivers and the specified waters listed in §89.25 (a) through (i).

(287) (b) Inland Rule 24(j) applies on the Gulf Intracoastal Waterway from St. Marks, Florida, to the Rio Grande, Texas, including the Morgan City-Port Allen Alternate Route and the Galveston-Freeport Cutoff, except that a power-driven vessel pushing ahead or towing alongside shall exhibit the lights required by Inland Rule 24(c), while transiting within the following areas:

(288) (1) St. Andrews Bay from the Hathaway Fixed Bridge at Mile 284.6 East of Harvey Locks (EHL) to the DuPont Fixed Bridge at Mile 295.4 EHL.

(289) (2) Pensacola Bay, Santa Rosa Sound and Big Lagoon from the Light "10" off of Trout Point at Mile 176.9 EHL to the Pensacola Fixed Bridge at Mile 189.1 EHL.

(290) (3) Mobile Bay and Bon Secour Bay from the Dauphin Island Causeway Fixed Bridge at Mile 127.7 EHL to Little Point Clear at Mile 140 EHL.

(291) (4) Mississippi Sound from Grand Island Waterway Light "1" at Mile 53.8 EHL to Light "40" off the West Point of Dauphin Island at Mile 118.7 EHL.

(292) (5) The Mississippi River at New Orleans, Mississippi River-Gulf Outlet Canal and the Inner Harbor Navigation Canal from the junction of the Harvey Canal and the Algiers Alternate Route at Mile 6.5 West of Harvey Locks (WHL) to the Michoud Canal at Mile 18 EHL.

(293) (6) The Calcasieu River from the Calcasieu Lock at Mile 238.6 WHL to the Ellender Lift Bridge at Mile 243.6 WHL.

(294) (7) The Sabine Neches Canal from mile 262.5 WHL to mile 291.5 WHL.

(295) (8) Bolivar Roads from the Bolivar Assembling Basin at Mile 346 WHL to the Galveston Causeway Bridge at Mile 357.3 WHL.

(296) (9) Freeport Harbor from Surfside Beach Fixed Bridge at Mile 393.8 WHL to the Bryan Beach Pontoon Bridge at Mile 397.6 WHL.

(297) (10) Matagorda Ship Channel area of Matagorda Bay from Range "K" Front Light at Mile 468.7 WHL to the Port O'Connor Jetty at Mile 472.2 WHL.

(298) (11) Corpus Christi Bay from Redfish Bay Day Beacon "55" at Mile 537.4 WHL when in the Gulf Intracoastal Waterway main route or from the north end of Lydia Ann Island Mile 531.1A when in the Gulf Intracoastal Waterway Alternate Route to Corpus Christi Bay LT 76 at Mile 543.7 WHL.

(299) (12) Port Isabel and Brownsville Ship Channel south of the Padre Island Causeway Fixed Bridge at Mile 665.1 WHL.

(300)

## Part 90—INLAND RULES: INTERPRETATIVE RULES

(301)

**§90.1 Purpose.**

(302) This part contains the interpretative rules for the Inland Rules. These interpretative rules are intended as a guide to assist the public and promote compliance with the Inland Rules.

(303)

**§90.3 Pushing vessel and vessel being pushed: Composite unit.**

(304) Rule 24(b) of the Inland Rules states that when a pushing vessel and a vessel being pushed ahead are rigidly connected in a composite unit, they are regarded as a power-driven vessel and must exhibit the lights prescribed in Rule 23. A "composite unit" is interpreted to be the combination of a pushing vessel and a vessel being push ahead that are rigidly connected by mechanical means so they react to sea and swell as one vessel. Mechanical means does not include lines, wires, hawsers, or chains.

(305)

**§90.5 Lights for moored vessels.**

(306) A *vessel at anchor* includes a vessel made fast to one or more mooring buoys or other similar device attached to the ocean floor. Such vessels may be lighted as a vessel at anchor in accordance with Rule 30, or may be lighted on the corners in accordance with 33 CFR 88.30(h) through (l).

(307)

**§90.7 Sidelights for unmanned barges.**

(308) An unmanned barge being towed may use the exception of COLREGS Rule 24(h). However, this exception only applies to the vertical sector requirements for sidelights.

(309)

## Part 110–Anchorage Regulations

(310)

**§110.1 General.**

(311) (a) The areas described in subpart A of this part are designated as special anchorage areas for the purposes of rule 30 (**33 CFR 83.30**) and rule 35 (**33 CFR 83.35**) of the Inland Navigation Rules, 33 CFR chapter I, subchapter E. Vessels of less than 20 meters in length; and barges, canal boats, scows, or other nondescript craft, are not required to sound signals required by rule 35 of the Inland Navigation Rules. Vessels of less than 20 meters are not required to exhibit anchor lights or shapes required by rule 30 of the Inland Navigation Rules.

(312) (b) The anchorage grounds for vessels described in Subpart B of this part are established, and the rules and regulations in relation thereto adopted, pursuant to the authority contained in section 7 of the act of March 4, 1915, as amended (38 Stat. 1053; 33 U.S.C. 471).

(313) (c) All bearings in the part are referred to true meridian.

(314) (d) Geographic coordinates expressed in terms of latitude or longitude, or both, are not intended for plotting on maps or charts whose referenced horizontal datum is the North American Datum of 1983 (NAD 83), unless such geographic coordinates are expressly labeled NAD 83. Geographic coordinates without the NAD 83 reference may be plotted on maps or charts referenced to NAD 83 only after application of the appropriate corrections that are published on the particular map or chart being used.

(315)

## Subpart A–Special Anchorage Areas

(316)

**(None applicable to this Coast Pilot.)**

(317)

## Subpart B–Anchorage Grounds

(318)

### §110.231 Ketchikan Harbor, Alaska, Large Passenger Vessel Anchorage.

(319) (a) *The anchorage grounds. Ketchikan Harbor, Alaska, Large Passenger Vessel Anchorage*. The waters of Ketchikan harbor, Ketchikan, Alaska, enclosed by the following boundary lines: A line from Thomas Basin Entrance Light "2" to East Channel Lighted Buoy "4A", to Pennock Island Reef Lighted Buoy "PR", to Wreck Buoy "WR6", then following a line bearing 064 degrees true to shore. This anchorage is effective 24 hours per day from 1 May through 30 September, annually.

(320) (b) *The regulations*. (1) When transiting through the anchorage, all vessels using propulsion machinery shall proceed across the anchorage by the most direct route and without unnecessary delay. Sudden course changes within the anchorage are prohibited.

(321) (2) No vessels, other than a large passenger vessel of over 1600 gross tons, (including ferries), may anchor within the anchorage without the express consent of the Captain of the Port, Southeast Alaska.

(322)

### §110.232 [Removed].

(323)

## Part 157–Rules for the Protection of the Marine Environment relating to Tank Vessels Carrying Oil in Bulk.

(324)

## Subpart A–General

(325)

### §157.01 Applicability.

(326) (a) Unless otherwise indicated, this part applies to each vessel that carries oil in bulk as cargo and that is:

(327) (1) Documented under the laws of the United States (a U.S. vessel); or

(328) (2) Any other vessel that enters or operates in the navigable waters of the United States, or that operates, conducts lightering under 46 U.S.C. 3715, or receives cargo from or transfers cargo to a deepwater port under 33 U.S.C. 1501 *et seq.,* in the United States Exclusive Economic Zone, as defined in 33 U.S.C. 2701(8).

(329) (b) This part does not apply to a vessel exempted under 46 U.S.C. 2109 or 46 U.S.C. 3702.

(330)

### §157.02 Incorporation by reference: Where can I get a copy of the publications mentioned in this part?

(331) (a) Certain material is incorporated by reference into this part with the approval of the Director of the Federal Register under 5 U.S.C. 552(a) and 1 CFR part 51. To enforce any edition other than that specified in this section, the Coast Guard must publish notice of change in the **Federal Register** and the material must be available to the public. All approved material is available for inspection at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202–741–6030 or go to *http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html*. Also, it is available for inspection at the Coast Guard Headquarters. Contact Commandant (CG–ENG), Attn: Office of Design and Engineering Standards, U.S. Coast Guard Stop 7509, 2703 Martin Luther King Jr. Avenue SE., Washington, DC 20593–7509; telephone 202–372–1375. The material is also available from the sources indicated in this section.

(332) (b) *International Maritime Organization (IMO)*—4 Albert Embankment, London SE1 7SR, United Kingdom.

(333) (1) IMCO Assembly Resolution A.393(X), adopted on 14 November 1977, Recommendation on International Performance and Test Specifications For Oily Water Separating Equipment and Oil Content Meters ("A.393(x)"), incorporation by reference approved for §157.12.

(334) (2) IMO Assembly Resolution A.496(XII), Adopted on 19 November 1981, Agenda Item 11, Guidelines and Specifications for Oil Discharge Monitoring and Control Systems for Oil Tankers ("A.496(XII)"), incorporation by reference approved for §157.12.

(335) (3) IMO Assembly Resolution A.586(14), Adopted on 20 November 1985, Agenda item 12, Revised

Guidelines and Specifications for Oil Discharge Monitoring and Control Systems for Oil Tankers ("A.586(14)"), incorporation by reference approved for §157.12.

(336) (4) IMO Marine Environment Protection Committee Resolution MEPC.13 (19), adopted on 9 December 1983, Guidelines for Plan Approval and Installation Survey of Oil Discharge Monitoring and Control Systems for Oil Tankers and Environmental Testing of Control Sections Thereof ("MEPC.13(19)"), incorporation by reference approved for §157.12.

(337) (5) IMO Marine Environment Protection Committee Resolution MEPC.108(49), Adopted on 18 July 2003, Revised Guidelines and Specifications for Oil Discharge Monitoring and Control Systems for Oil Tankers ("MEPC.108(49)"), incorporation by reference approved for § 157.12.

(338) (6) IMO Assembly Resolution A.601(15), Provision and Display of Manoeuvring Information on Board Ships, Annex sections 1.1, 2.3, 3.1, and 3.2 with appendices, adopted on 19 November 1987 ("A.601(15)"), incorporation by reference approved for §157.450.

(339) (7) IMO Assembly Resolution A.744(18), Guidelines on the Enhanced Programme of Inspections During Surveys of Bulk Carriers and Oil Tankers, Annex B sections 1.1.3-1.1.4, 1.2-1.3, 2.1, 2.3-2.6, 3-8, and Annexes 1-10 with appendices, adopted 4 November 1993 ("A.744(18)"), incorporation by reference approved for §157.430.

(340) (8) IMO Assembly Resolution A.751(18), Interim Standards for Ship Manoeuvrability, Annex sections 1.2, 2.3-2.4, 3-4.2, and 5, adopted 4 November 1993 with Explanatory Notes in MSC/Circ. 644 dated 6 June 1994 ("A.751(18)"), incorporation by reference approved for §157.445.

(341) (9) MARPOL Consolidated Edition 2011, Annex I, Regulations for the prevention of pollution by oil, chapter 4—Requirements for the cargo area of oil tankers, Part A—Construction, Regulation 22, "Pump-room bottom protection," (Annex I, Regulation 22) incorporation by reference approved for §157.14.

(342) (10) MARPOL Consolidated Edition 2011, Annex I, Regulations for the prevention of pollution by oil, chapter 4—Requirements for the cargo area of oil tankers, Part A—Construction, Regulation 23, "Accidental oil outflow performance," (Annex I, Regulation 23) incorporation by reference approved for §157.20.

(343) (c) *Oil Companies International Marine Forum (OCIMF)* 27 Queen Anne's Gate, London, SW1H 9BU, England].

(344) (1) International Safety Guide for Oil Tankers and Terminals, Fourth Edition, chapters 6, 7, and 10, 1996, incorporation by reference approved for §157.435.

(345) (2) [Reserved]

(346)

**§157.03 Definitions.**

(347) Except as otherwise stated in a subpart:

(348) *Amidships* means the middle of the length.

(349) *Animal fat* means a non-petroleum oil, fat, or grease derived from animals and not specifically identified elsewhere in this part.

(350) *Ballast voyage* means the voyage that a tank vessel engages in after it leaves the port of final cargo discharge.

(351) *Breadth or B* means the maximum molded breadth of a vessel in meters.

(352) *Cargo tank length* means the length from the forward bulkhead of the forwardmost cargo tanks, to the after bulkhead of the aftermost cargo tanks.

(353) *Center tank* means any tank inboard of a longitudinal bulkhead.

(354) *Clean ballast* means ballast which:

(355) (1) If discharged from a vessel that is stationary into clean, calm water on a clear day, would not–

(356) (i) Produce visible traces of oil on the surface of the water or on adjoining shore lines; or

(357) (ii) Cause a sludge or emulsion to be deposited beneath the surface of the water or upon adjoining shore lines; or

(358) (2) If verified by an approved oil discharge monitoring and control system, has an oil content that does not exceed 15 p.m.

(359) *Combination carrier* means a vessel designed to carry oil or solid cargoes in bulk.

(360) *Crude oil* means any liquid hydrocarbon mixture occurring naturally in the earth, whether or not treated to render it suitable for transportation, and includes crude oil from which certain distillate fractions may have been removed, and crude oil to which certain distillate fractions may have been added.

(361) *Deadweight or DWT* means the difference in metric tons between the lightweight displacement and the total displacement of a vessel measured in water of specific gravity 1.025 at the load waterline corresponding to the assigned summer freeboard.

(362) *Dedicated clean ballast tank* means a cargo tank that is allocated solely for the carriage of clean ballast.

(363) *Domestic trade* means trade between ports or places within the United States, its territories and possessions, either directly or via a foreign port including trade on the navigable rivers, lakes, and inland waters.

(364) *Double bottom* means watertight protective spaces that do not carry any oil and which separate the bottom of tanks that hold any oil within the cargo tank length from the outer skin of the vessel.

(365) *Double hull* means watertight protective spaces that do not carry any oil and which separate the sides, bottom, forward end, and aft end of tanks that hold any oil within the cargo tank length from the outer skin of the vessel as prescribed in §157.10d.

(366) *Doubles sides* means watertight protective spaces that do not carry any oil and which separate the sides of tanks that hold any oil within the cargo tank length from the outer skin of the vessel.

(367) *Existing vessel* means any vessel that is not a new vessel.

(368) *Fleeting or assist towing vessel* means any commercial vessel engaged in towing astern, alongside, or pushing ahead, used solely within a limited geographic area, such as a particular barge fleeting area or commercial facility, and used solely for restricted service, such as making up or breaking up larger tows.

(369) *Foreign trade* means any trade that is not domestic trade.

(370) *From the nearest land* means from the baseline from which the territorial sea of the United States is established in accordance with international law.

(371) *Fuel oil* means any oil used as fuel for machinery in the vessel in which it is carried.

(372) *Inland vessel* means a vessel that is not oceangoing and that does not operate on the Great Lakes.

(373) *Instantaneous rate of discharge of oil content* means the rate of discharge of oil in liters per hour at any instant, divided by the speed of the vessel in knots at the same instant.

(374) *Integrated tug barge* means a tug and a tank barge with a mechanical system that allows the connection of the propulsion unit (the tug) to the stern of the cargo carrying unit (the tank barge) so that the two vessels function as a single self-propelled vessel.

(375) Large primary structural member includes any of the following:

(376) (1) Web frames.

(377) (2) Girders.

(378) (3) Webs.

(379) (4) Main brackets.

(380) (5) Transverses.

(381) (6) Stringers.

(382) (7) Struts in transverse web frames when there are 3 or more struts and the depth of each is more than 1/15 of the total depth of the tank.

(383) *Length or L* means the distance in meters from the fore side of the stem to the axis of the rudder stock on a waterline at 85 percent of the least molded depth measured from the molded baseline, or 96 percent of the total length on that waterline, whichever is greater. In vessels designed with drag, the waterline is measured parallel to the designed waterline.

(384) *Lightweight* means the displacement of a vessel in metric tons without cargo, fuel oil, lubricating oil, ballast water, fresh water, and feedwater in tanks, consumable stores, and any persons and their effects.

(385) *Major conversion* means a conversion of an existing vessel that:

(386) (1) Substantially alters the dimensions or carrying capacity of the vessel, except a conversion that includes only the installation of segregated ballast tanks, dedicated clean ballast tanks, a crude oil washing system, double sides, a double bottom, or a double hull;

(387) (2) Changes the type of vessel;

(388) (3) Substantially prolongs the vessel's service life; or

(389) (4) Otherwise so changes the vessel that it is essentially a new vessel, as determined by the Commandant (CG–CVC).

(390) *MARPOL 73/78* means the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating to that Convention. A copy of MARPOL 73/78 is available from the International Maritime Organization, 4 Albert Embankment, London, SE1, 7SR, England.

(391) New vessel means:

(392) (1) A U.S. vessel in domestic trade that:

(393) (i) Is constructed under a contract awarded after December 31, 1974;

(394) (ii) In the absence of a building contract, has the keel laid or is at a similar stage of construction after June 30, 1975;

(395) (iii) Is delivered after December 31, 1977; or

(396) (iv) Has undergone a major conversion for which:

(397) (A) The contract is awarded after December 31, 1974;

(398) (B) In the absence of a contract, conversion is begun after June 30, 1975; or

(399) (C) Conversion is completed after December 31, 1977; and

(400) (2) A foreign vessel or a U.S. vessel in foreign trade that:

(401) (i) Is constructed under a contract awarded after December 31, 1975;

(402) (ii) In the absence of a building contract, has the keel laid or is at a similar stage of construction after June 30, 1976;

(403) (iii) Is delivered after December 31, 1979; or

(404) (iv) Has undergone a major conversion for which:

(405) (A) The contract is awarded after December 31, 1975;

(406) (B) In the absence of a contract, conversion is begun after June 30, 1976; or

(407) (C) Conversion is completed after December 31, 1979.

(408) *Non-petroleum oil* means oil of any kind that is not petroleum-based. It includes, but is not limited to, animal fat and vegetable oil.

(409) *Oceangoing* has the same meaning as defined in §151.05 of this chapter.

(410) *Officer in charge of a navigational watch* means any officer employed or engaged to be responsible for navigating or maneuvering the vessel and for maintaining a continuous vigilant watch during his or her periods of duty and following guidance set out by the master, international or national regulations, and company policies.

(411) *Oil* means oil of any kind or in any form including, but not limited to, petroleum, fuel oil, sludge, oil refuse, and oil mixed with wastes other than dredged spoil. This includes liquid hydrocarbons as well as animal and vegetable oils.

(412) *Oil cargo residue* means any residue of oil cargo whether in solid, semi-solid, emulsified, or liquid form

from cargo tanks and cargo pump room bilges, including but not limited to, drainages, leakages, exhausted oil, muck, clingage, sludge, bottoms, paraffin (wax), and any constituent component of oil. The term "oil cargo residue" is also known as "cargo oil residue."

(413) *Oil residue* means–

(414) (1) Oil cargo residue; and

(415) (2) Other residue of oil whether in solid, semi-solid, emulsified, or liquid form resulting from drainages, leakages, exhausted oil and other similar occurrences from machinery spaces.

(416) *Oil spill response vessel* means a vessel that is exclusively dedicated to operations to prevent or mitigate environmental damage due to an actual or impending accidental oil spill. This includes a vessel that performs routine service as an escort for a tank vessel, but excludes a vessel that engages in any other commercial activity, such as the carriage of any type of cargo.

(417) *Oil tanker* means a vessel that is constructed or adapted primarily to carry crude oil or products in bulk as cargo. This includes a tank barge, a tankship, and a combination carrier, as well as a vessel that is constructed or adapted primarily to carry noxious liquid substances in bulk as cargo and which also carries crude oil or products in bulk as cargo.

(418) *Oily mixture* means a mixture, in any form, with any oil content. "Oily mixture" includes, but is not limited to–

(419) (1) Slops from bilges;

(420) (2) Slops from oil cargoes (such as cargo tank washings, oily waste, and oily refuse);

(421) (3) Oil residue; and

(422) (4) Oily ballast water from cargo or fuel oil tanks, including any oil cargo residue.

(423) *Other non-petroleum oil* means an oil of any kind that is not petroleum oil, an animal fat, or a vegetable oil.

(424) *Permeability of a space* means the ratio of the volume within a space that is assumed to be occupied by water to the total volume of that space.

(425) *Petroleum oil* means petroleum in any form, including but not limited to, crude oil, fuel oil, sludge, oil residue, and refined products.

(426) *Primary towing vessel* means any vessel engaged in towing astern, alongside, or pushing ahead and includes the tug in an integrated tug barge. It does not include fleeting or assist towing vessels.

(427) *Product* means any liquid hydrocarbon mixture in any form, except crude oil, petrochemicals, and liquefied gases.

(428) *Segregated ballast* means the ballast water introduced into a tank that is completely separated from the cargo oil and fuel oil system and that is permanently allocated to the carriage of ballast.

(429) *Slop tank* means a tank specifically designated for the collection of cargo drainings, washings, and other oily mixtures.

(430) *Tank* means an enclosed space that is formed by the permanent structure of a vessel, and designed for the carriage of liquid in bulk.

(431) *Tank barge* means a tank vessel not equipped with a means of self-propulsion.

(432) *Tank vessel* means a vessel that is constructed or adapted primarily to carry, or that carries, oil or hazardous material in bulk as cargo or cargo residue, and that–

(433) (1) Is a vessel of the United States;

(434) (2) Operates on the navigable waters of the United States; or

(435) (3) *Transfers oil* or hazardous material in a port or place subject to the jurisdiction of the United States. This does not include an offshore supply vessel, or a fishing vessel or fish tender vessel of not more than 750 gross tons when engaged only in the fishing industry.

(436) *Tankship* means a tank vessel propelled by mechanical power or sail.

(437) *Vegetable oil* means a non-petroleum oil or fat not specifically identified elsewhere in this part that is derived from plant seeds, nuts, kernels, or fruits.

(438) *Wing tank* means a tank that is located adjacent to the side shell plating.

(439)

### §157.04 Authorization of classification societies.

(440) (a) The Coast Guard may authorize any classification society (CS) to perform certain plan reviews, certifications, and inspections required by this part on vessels classed by that CS except that only U.S. classification societies may be authorized to perform those plan reviews, inspections, and certifications for U.S. vessels.

(441) (b) If a CS desires authorization to perform the plan reviews, certifications, and inspections required under this part, it must submit to the Commandant (CG–CVC), Attn: Office of Commercial Vessel Compliance, U.S. Coast Guard Stop 7501, 2703 Martin Luther King Jr. Avenue SE., Washington, DC 20593–7501, evidence from the governments concerned showing that they have authorized the CS to inspect and certify vessels on their behalf under the MARPOL 73/78.

(442) (c) The Coast Guard notifies the CS in writing whether or not it is accepted as an authorized CS. If authorization is refused, reasons for the refusal are included.

(443) (d) Acceptance as an authorized CS terminates unless the following are met:

(444) (1) The authorized CS must have each Coast Guard regulation that is applicable to foreign vessels on the navigable waters of the United States.

(445) (2) Each issue concerning equivalents to the regulations in this part must be referred to the Coast Guard for determination.

(446) (3) Copies of any plans, calculations, records of inspections, or other documents relating to any plan review, inspection, or certification performed to meet this part must be made available to the Coast Guard.

(447) (4) Each document certified under §§157.116(a)(2), 157.118(b)(1)(ii), and 157.216(b)(1)(11) must be marked with the name or seal of the authorized CS.

(448) (5) A copy of the final documentation that is issued to each vessel that is certified under this part must be referred to the Commandant (CG–CVC), Attn: Office of Commercial Vessel Compliance, U.S. Coast Guard Stop 7501, 2703 Martin Luther King Jr. Avenue SE., Washington, DC 20593–7501.

(449)

## Subpart B–Design, Equipment, and Installation

(450)

### §157.08 Applicability of Subpart B.

(451) NOTE: An "oil tanker" as defined in §157.03 includes barges as well as self-propelled vessels.

(452) (a) Sections 157.10d and 157.11(g) apply to each vessel to which this part applies.

(453) (b) Sections 157.11 (a) through (f), 157.12, 157.15, 157.19(b)(3), 157.33, and 157.37 apply to each vessel to which this part applies that carries 200 cubic meters or more of crude oil or products in bulk as cargo, as well as to each oceangoing oil tanker to which this part applies of 150 gross tons or more. These sections do not apply to a foreign vessel which remains beyond the navigable waters of the United States and does not transfer oil cargo at a port or place subject to the jurisdiction of the United States.

(454) (c) Section 157.21 applies to each oil tanker to which this part applies of 150 gross tons or more that is oceangoing or that operates on the Great Lakes. This section does not apply to a foreign vessel which remains beyond the navigable waters of the United States and does not transfer oil cargo at a port or place subject to the jurisdiction of the United States.

(455) (d) Sections in subpart B of 33 CFR part 157 that are not specified in paragraphs (a) through (c) of this section apply to each oceangoing oil tanker to which this part applies of 150 gross tons or more, unless otherwise indicated in paragraphs (e) through (m) of this section. These sections do not apply to a foreign vessel which remains beyond the navigable waters of the United States and does not transfer oil cargo at a port or place subject to the jurisdiction of the United States.

(456) (e) Sections 157.11 (a) through (f), 157.12, and 157.15 do not apply to a vessel, except an oil tanker, that carries less than 1,000 cubic meters of crude oil or products in bulk as cargo and which retains oil mixtures on board and discharges them to a reception facility.

(457) (f) Sections 157.11 (a) through (f), 157.12, 157.13, and 157.15 do not apply to a tank vessel that carries only asphalt, carbon black feedstock, or other products with similar physical properties, such as specific gravity and cohesive and adhesive characteristics, that inhibit effective product/water separation and monitoring.

(458) (g) Sections 157.11 (a) through (f), 157.12, 157.13, 157.15, and 157.23 do not apply to a tank barge that cannot ballast cargo tanks or wash cargo tanks while underway.

(459) (h) Sections 157.19 and 157.21 do not apply to a tank barge that is certificated by the Coast Guard for limited short protected coastwise routes if the barge is otherwise constructed and certificated for service exclusively on inland routes.

(460) (i) Section 157.09(d) does not apply to any:

(461) (1) U.S. vessel in domestic trade that is constructed under a contract awarded before January 8, 1976;

(462) (2) U.S. vessel in foreign trade that is constructed under a contract awarded before April 1, 1977; or

(463) (3) Foreign vessel that is constructed under a contract awarded before April 1, 1977.

(464) (j) Sections 157.09 and 157.10a do not apply to a new vessel that:

(465) (1) Is constructed under a building contract awarded after June 1, 1979;

(466) (2) In the absence of a building contract, has the keel laid or is at a similar stage of construction after January 1, 1980;

(467) (3) Is delivered after June 1, 1982; or

(468) (4) Has undergone a major conversion for which:

(469) (i) The contract is awarded after June 1, 1979;

(470) (ii) In the absence of a contract, conversion is begun after January 1, 1980; or

(471) (iii) Conversion is completed after June 1, 1982.

(472) (k) Sections 157.09(b)(3), 157.10(c)(3), 157.10a(d)(3), and 157.10b(b)(3) do not apply to tank barges.

(473) (l) Section 157.10b does not apply to tank barges if they do not carry ballast while they are engaged in trade involving the transfer of crude oil from an offshore oil exploitation or production facility on the Outer Continental Shelf of the United States.

(474) (m) Section 157.12 does not apply to a U.S. vessel that:

(475) (1) Is granted an exemption under Subpart F of this part; or

(476) (2) Is engaged solely in voyages that are:

(477) (i) Between ports or places within the United States, its territories or possessions;

(478) (ii) Of less than 72 hours in length; and

(479) (iii) At all times within 50 nautical miles of the nearest land.

(480) (n) Section 157.10d does not apply to:

(481) (1) A vessel that operates exclusively beyond the navigable waters of the United States and the United States Exclusive Economic Zone, as defined in 33 U.S.C. 2701(8);

(482) (2) An oil spill response vessel;

(483) (3) Before January 1, 2015–

(484) (i) A vessel unloading oil in bulk as cargo at a deepwater port licensed under the Deepwater Port Act of 1974 (33 U.S.C. 1501 et seq.); or

(485) (ii) A delivering vessel that is offloading oil in bulk as cargo in lightering activities–

(486) (A) Within a lightering zone established under 46 U.S.C. 3715(b)(5); and

(487) (B) More than 60 miles from the territorial sea base line, as defined in 33 CFR 2.20.

(488) (4) A vessel documented under 46 U.S.C., chapter 121, that was equipped with a double hull before August 12, 1992;

(489) (5) A barge of less than 1,500 gross tons as measured under 46 U.S.C., chapter 145, carrying refined petroleum in bulk as cargo in or adjacent to waters of the Bering Sea, Chukchi Sea, and Arctic Ocean and waters tributary thereto and in the waters of the Aleutian Islands and the Alaskan Peninsula west of 155 degrees west longitude; or

(490) (6) A vessel in the National Defense Reserve Fleet pursuant to 50 App. U.S.C. 1744.

(491) (o) Section 157.11(h) applies to every oil tanker delivered on or after January 1, 2010, meaning an oil tanker—

(492) (1) For which the building contract is placed on or after January 1, 2007;

(493) (2) In the absence of a building contract, the keel of which is laid or which is at a similar stage of construction on or after July 1, 2007;

(494) (3) The delivery of which is on or after January 1, 2010; or

(495) (4) That has undergone a major conversion—

(496) (i) For which the contract is placed on or after January 1, 2007;

(497) (ii) In the absence of a contract, the construction work of which is begun on or after July 1, 2007; or

(498) (iii) That is completed on or after January 1, 2010.

(499)

### §157.10d Double hulls on tank vessels.

(500) (a) With the exceptions stated in §157.08(n), this section applies to a tank vessel–

(501) (1) For which the building contract is awarded after June 30, 1990; or

(502) (2) That is delivered after December 31, 1993;

(503) (3) That undergoes a major conversion for which;

(504) (i) The contract is awarded after June 30, 1990; or

(505) (ii) Conversion is completed after December 31, 1993; or

(506) (4) That is otherwise required to have a double hull by 46 U.S.C. 3703a(c).

(507) NOTE: The double hull compliance dates of 46 U.S.C. 3703a(c) are set out in appendix G to this part. To determine a tank vessel's double hull compliance date under OPA 90, use the vessel's hull configuration ( i.e., single hull; single hull with double sides; or single hull with double bottom) on August 18, 1990.

(508) (b) Each vessel to which this section applies must be fitted with:

(509) (1) A double hull in accordance with this section; and

(510) (2) If §157.10 applies, segregated ballast tanks and a crude oil washing system in accordance with that section.

(511) (c) Except on a vessel to which §157.10d(d) applies, tanks within the cargo tank length that carry any oil must be protected by double sides and a double bottom as follows:

(512) (1) Double sides must extend for the full depth of the vessel's side or from the uppermost deck, disregarding a rounded gunwale where fitted, to the top of the double bottom. At any cross section, the molded width of the double side, measured at right angles to the side shell plating, from the side of tanks containing oil to the side shell plating, must not be less than the distance w, as shown in Figure 157.10d(c) and specified as follows:

(513) (i) For a vessel of 5,000 DWT and above: w=[0.5+(DWT/20,000)] meters; or, w=2.0 meters (79 in.), whichever is less, but in no case less than 1.0 meter (39 in.).

(514) (ii) For a vessel of less than 5,000 DWT: w=[0.4+(2.4)(DWT/20,000)] meters, but in no case less than 0.76 meter (30 in.).

(515) (iii) For a vessel to which paragraph (a)(4) of this section applies: w=0.76 meter (30 in.), provided that the double side was fitted under a construction or conversion contract awarded prior to June 30, 1990.

(516) (2) At any cross section, the molded depth of the double bottom, measured at right angles to the bottom shell plating, from the bottom of tanks containing oil to the bottom shell plating, must not be less than the distance h, as shown in Figure 157.10d(c) and specified as follows:

(517) (i) For a vessel of 5,000 DWT and above: h=B/15; or, h=2.0 meters (79 in.), whichever is less, but in no case less than 1.0 meter (39 in.).

(518) (ii) For a vessel of less than 5,000 DWT: h=B/15, but in no case less than 0.76 meter (30 in.).

(519) (iii) For a vessel to which paragraph (a)(4) of this section applies: h=B/15; or, h=2.0 meters (79 in.), whichever is the lesser, but in no case less than 0.76 meter (30 in.), provided that the double bottom was fitted under a construction or conversion contract awarded prior to June 30, 1990.

(520) (3) For a vessel built under a contract awarded after September 11, 1992, within the turn of the bilge or at cross sections where the turn of the bilge is not clearly defined, tanks containing oil must be located inboard of the outer shell–

(521) (i) For a vessel of 5,000 DWT and above: At levels up to 1.5h above the base line, not less than the distance h, as shown in Figure 157.10d(c) and specified in paragraph (c)(2) of this section. At levels greater than 1.5h above the base line, not less than the distance w, as shown in Figure 157.10d(c) and specified in paragraph (c)(1) of this section.

(522)

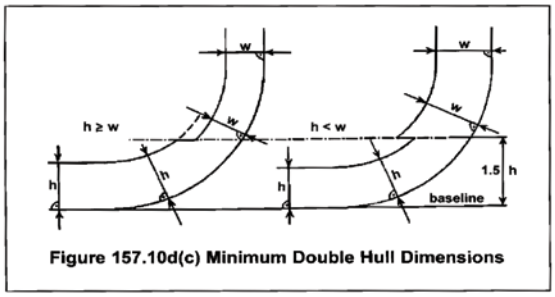



Figure 157.10d(c) Minimum Double Hull Dimensions

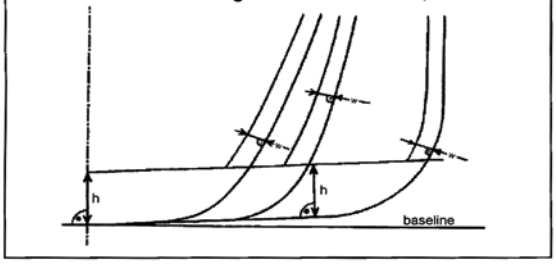
(523) (ii) For a vessel of less than 5,000 DWT: Not less the distance h above the line of the mid-ship flat bottom, as shown in Figure 157.10d(c)(3)(ii) and specified in paragraph (c)(2) of this section. At levels greater than h above the line of the mid-ship flat bottom, not less than the distance w, as shown in Figure 157.10d(c)(3)(ii) and specified in paragraph (c)(1) of this section.

(525) (4) For a vessel to which §157.10(b) applies that is built under a contract awarded after September 11, 1992.

(526) (i) The aggregate volume of the double sides, double bottom, forepeak tanks, and afterpeak tanks must not be less than the capacity of segregated ballast tanks required under §157.10(b). Segregated ballast tanks that may be provided in addition to those required under §157.10(b) may be located anywhere within the vessel.

(524)

**Figure 157.10d(c)(3)(ii) - Minimum Double Hull Dimensions Within the turn of the bilge of Vessels under 5,000 DWT**




(527) (ii) Double side and double bottom tanks used to meet the requirements of §157.10(b) must be located as uniformly as practicable along the cargo tank length. Large inboard extensions of individual double side and double bottom tanks, which result in a reduction of overall side or bottom protection, must be avoided.

(528) (d) A vessel of less than 10,000 DWT that is constructed and certificated for service exclusively on inland or limited short protected coastwise routes must be fitted with double sides and a double bottom as follows:

(529) (1) A minimum of 61 cm. (2 ft.) from the inboard side of the side shell plate, extending the full depth of the side or from the main deck to the top of the double bottom, measured at right angles to the side shell; and

(530) (2) A minimum of 61 cm. (2 ft.) from the top of the bottom shell plating, along the full breadth of the vessel's bottom, measured at right angles to the bottom shell.

(531) (3) For a vessel to which paragraph (a)(4) of this section applies, the width of the double sides and the depth of the double bottom may be 38 cm. (15 in.), in lieu of the dimensions specified in paragraphs (d)(1) and (d)(2) of this section, provided that the double side and double bottom tanks were fitted under a construction or conversion contract awarded prior to June 30, 1990.

(532) (4) For a vessel built under a contract awarded after September 11, 1992, a minimum 46 cm. (18 in.) clearance for passage between framing must be maintained throughout the double sides and double bottom.

(533) (e) Except as provided in paragraph (e)(3) of this section, a vessel must not carry any oil in any tank extending forward of:

(534) (1) The collision bulkhead; or

(535) (2) In the absence of a collision bulk-head, the transverse plane perpendicular to the centerline through a point located:

(536) (i) The lesser of 10 meters (32.8 ft.) or 5 percent of the vessel length, but in no case less than 1 meter (39 in.), aft of the forwarded perpendicular;

(537) (ii) On a vessel of less than 10,000 DWT tons that is constructed and certificated for service exclusively on inland or limited short protected coastwise routes, the lesser of 7.62 meters (25 ft.) or 5 percent of the vessel length, but in no case less than 61 cm. (2 ft.), aft of the headlog or stem at the freeboard deck; or

(538) (iii) On each vessel which operates exclusively as a box or trail barge, 61 cm. (2 ft.) aft of the headlog.

(539) (3) This paragraph does not apply to independent fuel oil tanks that must be located on or above the main deck within the areas described in paragraphs (e)(1) and (e)(2) of this section to serve adjacent deck equipment that cannot be located further aft. Such tanks must be as small and as far aft as is practicable.

(540) (f) On each vessel, the cargo tank length must not extend aft to any point closer to the stern than the distance equal to the required width of the double side, as prescribed in §157.10d(c)(1) or §157.10d(d)(1).

(541)

## Subpart G–Interim Measures for Certain Tank Vessels Without Double Hulls Carrying Petroleum Oils

(542)

### §157.400 Purpose and applicability.

(543) (a) The purpose of this subpart is to establish mandatory safety and operational requirements to reduce environmental damage resulting from petroleum oil spills.

(544) (b) This subpart applies to each tank vessel specified in §157.01 of this part that–

(545) (1) Is 5,000 gross tons or more;

(546) (2) Carries petroleum oil in bulk as cargo or oil cargo residue; and

(547) (3) Is not equipped with a double hull meeting §157.10d of this part, or an equivalent to the requirements of §157.10d, but required to be equipped with a double hull at a date set forth in 46 U.S.C. 3703a (b)(3) and (c)(3).

(548)

### §157.445 Maneuvering performance capability.

(549) (a) A tankship owner or operator shall ensure that maneuvering tests in accordance with IMO Resolution A.751(18), sections 1.2, 2.3-2.4, 3-4.2, and 5 (with Explanatory Notes in MSC/Circ. 644) have been conducted by July 29, 1997. Completion of maneuvering performance tests must be shown by–

(550) (1) For a foreign flag tankship, a letter from the flag administration or an authorized classification society, as

described in §157.04 of this part, stating the requirements in paragraph (a) of this section have been met; or

(551) (2) For a U.S. flag tankship, results from the vessel owner confirming the completion of the tests or a letter from an authorized classification society, as described in §157.04 of this part, stating the requirements in paragraph (a) of this section have been met.

(552) (b) If a tankship undergoes a major conversion or alteration affecting the control systems, control surfaces, propulsion system, or other areas which may be expected to alter maneuvering performance, the tankship owner or operator shall ensure that new maneuvering tests are conducted as required by paragraph (a) of this section.

(553) (c) If a tankship is one of a class of vessels with identical propulsion, steering, hydrodynamic, and other relevant design characteristics, maneuvering performance test results for any tankship in the class may be used to satisfy the requirements of paragraph (a) of this section.

(554) (d) The tankship owner or operator shall ensure that the performance test results, recorded in the format of Appendix 6 of the Explanatory Notes in MSC/Circ. 644., are prominently displayed in the wheelhouse.

(555) (e) Prior to entering the port or place of destination and prior to getting underway, the tankship master shall discuss the results of the performance tests with the pilot while reviewing the anticipated transit and the possible impact of the tankship's maneuvering capability on the transit.

(556)

## Part 160–Ports and Waterways Safety-General

(557)

## Subpart A–General

(558)

### §160.1 Purpose.

(559) (a) This subchapter contains regulations implementing the Ports and Waterways Safety Act (33 U.S.C. 1221) and related statutes.

(560)

### §160.3 Definitions.

(561) For the purposes of this subchapter:

(562) *Bulk* means material in any quantity that is shipped, stored, or handled without the benefit of package, label, mark or count and carried in integral or fixed independent tanks.

(563) *Captain of the Port* means the Coast Guard officer designated by the Commandant to command a Captain of the Port Zone as described in part 3 of this chapter.

(564) *Commandant* means the Commandant of the United States Coast Guard.

(565) *Deviation* means any departure from any rule in this subchapter.

(566) *Director, Vessel Traffic Services* means the Coast Guard officer designated by the Commandant to command a Vessel Traffic Service (VTS) as described in part 161 of this chapter.

(567) *District Commander* means the Coast Guard officer designated by the Commandant to command a Coast Guard District as described in part 3 of this chapter.

(568) *ETA* means estimated time of arrival.

(569) *Length of Tow* means, when towing with a hawser, the length in feet from the stern of the towing vessel to the stern of the last vessel in tow. When pushing ahead or towing alongside, length of tow means the tandem length in feet of the vessels in tow excluding the length of the towing vessel.

(570) *Person* means an individual, firm, corporation, association, partnership, or governmental entity.

(571) *State* means each of the several States of the United States, the District of Columbia, the Commonwealth of Puerto Rico, Guam, American Samoa, the United States Virgin Islands, the Trust Territories of the Pacific Islands, the Commonwealth of the Northern Marianas Islands, and any other commonwealth, territory, or possession of the United States.

(572) *Tanker* means a self-propelled tank vessel constructed or adapted primarily to carry oil or hazardous materials in bulk in the cargo spaces.

(573) *Tank Vessel* means a vessel that is constructed or adapted to carry, or that carries, oil or hazardous material in bulk as cargo or cargo residue.

(574) *Vehicle* means every type of conveyance capable of being used as a means of transportation on land.

(575) *Vessel* means every description of watercraft or other artificial contrivance used, or capable of being used, as a means of transportation on water.

(576) *Vessel Traffic Services (VTS)* means a service implemented under part 161 of this chapter by the United States Coast Guard designed to improve the safety and efficiency of vessel traffic and to protect the environment. The VTS has the capability to interact with marine traffic and respond to traffic situations developing in the VTS area.

(577) *Vessel Traffic Service Area or VTS Area* means the geographical area encompassing a specific VTS area of service as described in part 161 of this chapter. This area of service may be subdivided into sectors for the purpose of allocating responsibility to individual Vessel Traffic Centers or to identify different operating requirements.

(578) **Note:** Although regulatory jurisdiction is limited to the navigable waters of the United States, certain vessels will be encouraged or may be required, as a condition of port entry, to report beyond this area to facilitate traffic management within the VTS area.

(579) *VTS Special Area* means a waterway within a VTS area in which special operating requirements apply.

(580)

### §160.5 Delegations.

(581) (a) District Commanders and Captains of the Ports are delegated the authority to establish safety zones.

(582) (b) Under the provisions of 33 CFR 6.04-1 and 6.04-6 of this chapter, District Commanders and Captains of the Ports have been delegated authority to establish security zones.

(583) (c) Under the provisions 33 CFR §1.05-1 of this chapter, District Commanders have been delegated authority to establish regulated navigation areas.

(584) (d) Subject to the supervision of the cognizant Captain of the Port and District Commander, Directors, Vessel Traffic Services are delegated authority under 33 CFR 1.01-30 to discharge the duties of the Captain of the Port that involve directing the operation, movement and anchorage of vessels within a Vessel Traffic Service area including management of vessel traffic within anchorages, regulated navigation areas and safety zones, and to enforce Vessel Traffic Service and ports and waterways safety regulations. This authority may be exercised by Vessel Traffic Center personnel. The Vessel Traffic Center may, within the Vessel Traffic Service area, provide information, make recommendations, or, to a vessel required under Part 161 of this chapter to participate in a Vessel Traffic Service, issue an order, including an order to operate or anchor as directed; require the vessel to comply with orders issued; specify times of entry, movement or departure; restrict operations as necessary for safe operation under the circumstances; or take other action necessary for control of the vessel and the safety of the port or of the marine environment.

(585)

**§160.7 Appeals.**

(586) (a) Any person directly affected by a safety zone or an order or direction issued under this subchapter may request reconsideration by the official who issued it or in whose name it was issued. This request may be made orally or in writing, and the decision of the official receiving the request may be rendered orally or in writing.

(587) (b) Any person directly affected by the establishment of a safety zone or by an order or direction issued by, or on behalf of, a Captain of the Port may appeal to the District Commander through the Captain of the Port. The appeal must be in writing, except as allowed under paragraph (e) of this section, and shall contain complete supporting documentation and evidence which the appellant wishes to have considered. Upon receipt of the appeal, the District Commander may direct a representative to gather and submit documentation or other evidence which would be necessary or helpful to a resolution of the appeal. A copy of this documentation and evidence is made available to the appellant. The appellant is afforded five working days from the date of receipt to submit rebuttal materials. Following submission of all materials, the District Commander issues a ruling, in writing, on the appeal. Prior to issuing the ruling, the District Commander may, as a matter of discretion, allow oral presentation on the issues.

(588) (c) Any person directly affected by the establishment of a safety zone or by an order or direction issued by, or on behalf of, a District Commander, or who receives an unfavorable ruling on an appeal taken under paragraph (b) of this section may appeal to the Area Commander through the District Commander. The appeal must be in writing, except as allowed under paragraph (e) of this section, and shall contain complete supporting documentation and evidence which the appellant wishes to have considered. Upon receipt of the appeal, the Area Commander may direct a representative to gather and submit documentation or other evidence which would be necessary or helpful to a resolution of the appeal. A copy of this documentation and evidence is made available to the appellant. The appellant is afforded five working days from the date of receipt to submit rebuttal materials. Following submission of all materials, the Area Commander issues a ruling, in writing, on the appeal. Prior to issuing the ruling, the Area Commander may, as a matter of discretion, allow oral presentation on the issues.

(589) (d) Any person who receives an unfavorable ruling on an appeal taken under paragraph (c) of this section, may appeal to the Commandant (CG–5P), Attn: Assistant Commandant for Prevention, U.S. Coast Guard Stop 7501, 2703 Martin Luther King Jr. Avenue SE., Washington, DC 20593–7501. The appeal must be in writing, except as allowed under paragraph (e) of this section. The Area Commander forwards the appeal, all the documents and evidence which formed the record upon which the order or direction was issued or the ruling under paragraph (c) of this section was made, and any comments which might be relevant, to the Assistant Commandant for Prevention. A copy of this documentation and evidence is made available to the appellant. The appellant is afforded 5 working days from the date of receipt to submit rebuttal materials to the Assistant Commandant for Prevention. The decision of the Assistant Commandant for Prevention is based upon the materials submitted, without oral argument or presentation. The decision of the Assistant Commandant for Prevention is issued in writing and constitutes final agency action.

(590) (e) If the delay in presenting a written appeal would have significant adverse impact on the appellant, the appeal under paragraphs (b) and (c) of this section may initially be presented orally. If an initial presentation of the appeal is made orally, the appellant must submit the appeal in writing within five days of the oral presentation to the Coast Guard official to whom the presentation was made. The written appeal must contain, at a minimum, the basis for the appeal and a summary of the material presented orally. If requested, the official to whom the appeal is directed may stay the effect of the action while the ruling is being appealed.

(591)

## Subpart B–Control of Vessel and Facility Operations

(592)

### §160.101 Purpose.

(593) This subpart describes the authority exercised by District Commanders and Captains of the Ports to insure the safety of vessels and waterfront facilities, and the protection of the navigable waters and the resources therein. The controls described in this subpart are directed to specific situations and hazards.

(594)

### §160.103 Applicability.

(595) (a) This subpart applies to any–

(596) (1) Vessel on the navigable waters of the United States, except as provided in paragraphs (b) and (c) of this section;

(597) (2) Bridge or other structure on or in the navigable waters of the United States; and

(598) (3) Land structure or shore area immediately adjacent to the navigable waters of the United States.

(599) (b) This subpart does not apply to any vessel on the Saint Lawrence Seaway.

(600) (c) Except pursuant to international treaty, convention, or agreement, to which the United States is a party, this subpart does not apply to any foreign vessel that is not destined for, or departing from, a port or place subject to the jurisdiction of the United States and that is in–

(601) (1) Innocent passage through the territorial sea of the United States;

(602) (2) Transit through the navigable waters of the United States which form a part of an international strait.

(603)

### §160.105 Compliance with orders.

(604) Each person who has notice of the terms of an order issued under this subpart must comply with that order.

(605)

### §160.107 Denial of entry.

(606) Each District Commander or Captain of the Port, subject to recognized principles of international law, may deny entry into the navigable waters of the United States or to any port or place under the jurisdiction of the United States, and within the district or zone of that District Commander or Captain of the Port, to any vessel not in compliance with the provisions of the Port and Tanker Safety Act (46 U.S.C. Chapter 700) or the regulations issued thereunder.

(607)

### §160.109 Waterfront facility safety.

(608) (a) To prevent damage to, or destruction of, any bridge or other structure on or in the navigable waters of the United States, or any land structure or shore area immediately adjacent to such waters, and to protect the navigable waters and the resources therein from harm resulting from vessel or structure damage, destruction, or loss, each District Commander or Captain of the Port may–

(609) (1) Direct the handling, loading, unloading, storage, stowage, and movement (including the emergency removal, control, and disposition) of explosives or other dangerous articles and substances, including oil or hazardous material as those terms are defined in 46 U.S.C. 2101 on any structure on or in the navigable waters of the United States, or any land structure or shore area immediately adjacent to those waters; and

(610) (2) Conduct examinations to assure compliance with the safety equipment requirements for structures.

(611)

### §160.111 Special orders applying to vessel operations.

(612) Each District Commander or Captain of the Port may order a vessel to operate or anchor in the manner directed when–

(613) (a) The District Commander or Captain of the Port has reasonable cause to believe that the vessel is not in compliance with any regulation, law or treaty;

(614) (b) The District Commander or Captain of the Port determines that the vessel does not satisfy the conditions for vessel operation and cargo transfers specified in §160.113; or

(615) (c) The District Commander or Captain of the Port has determined that such order is justified in the interest of safety by reason of weather, visibility, sea conditions, temporary port congestion, other temporary hazardous circumstances, or the condition of the vessel.

(616)

### §160.113 Prohibition of vessel operation and cargo transfers.

(617) (a) Each District Commander or Captain of the Port may prohibit any vessel, subject to the provisions of chapter 37 of Title 46, U.S. Code, from operating in the navigable waters of the United States, or from transferring cargo or residue in any port or place under the jurisdiction of the United States, and within the district or zone of that District Commander or Captain of the Port, if the District Commander or the Captain of the Port determines that the vessel's history of accidents, pollution incidents, or serious repair problems creates reason to believe that the vessel may be unsafe or pose a threat to the marine environment.

(618) (b) The authority to issue orders prohibiting operation of the vessels or transfer of cargo or residue under paragraph (a) of this section also applies if the vessel:

(619) (1) Fails to comply with any applicable regulation;

(620) (2) Discharges oil or hazardous material in violation of any law or treaty of the United States;

(621) (3) Does not comply with applicable vessel traffic service requirements;

(622) (4) While underway, does not have at least one deck officer on the navigation bridge who is capable of communicating in the English language.

(623) (c) When a vessel has been prohibited from operating in the navigable waters of the United States under paragraphs (a) or (b) of this section, the District Commander or Captain of the Port may allow provisional entry into the navigable waters of the United States, or into any port or place under the jurisdiction of the United States and within the district or zone of that District Commander or Captain of the Port, if the owner or operator of such vessel proves to the satisfaction of the District Commander or Captain of the Port, that the vessel is not unsafe or does not pose a threat to the marine environment, and that such entry is necessary for the safety of the vessel or the persons on board.

(624) (d) A vessel which has been prohibited from operating in the navigable waters of the United States, or from transferring cargo or residue in a port or place under the jurisdiction of the United States under the provisions of paragraph (a) or (b)(1), (2) or (3) of this section, may be allowed provisional entry if the owner or operator proves, to the satisfaction of the District Commander or Captain of the Port that has jurisdiction, that the vessel is no longer unsafe or a threat to the environment, and that the condition which gave rise to the prohibition no longer exists.

(625)

### §160.115 Withholding of clearance.

(626) (a) Each District Commander or Captain of the Port may request the Secretary of the Treasury, or the authorized representative thereof, to withhold or revoke the clearance required by 46 U.S.C. App. 91 of any vessel, the owner or operator of which is subject to any penalties under 46 U.S.C. 70036.

(627)

## Subpart C–Notification of Arrival, Hazardous Conditions, and Certain Dangerous Cargoes

(628)

### §160.201 General.

(629) This subpart contains requirements and procedures for submitting a notice of arrival (NOA), and a notice of hazardous condition. The sections in this subpart describe:

(630) (a) Applicability and exemptions from requirements in this subpart;

(631) (b) Required information in an NOA;

(632) (c) Required updates to an NOA;

(633) (d) Methods and times for submission of an NOA, and updates to an NOA;

(634) (e) How to obtain a waiver; and

(635) (f) Requirements for submission of the notice of hazardous condition.

(636) **Note to §160.201**. For notice-of-arrival requirements for the U.S. Outer Continental Shelf, see 33 CFR part 146.

(637)

### §160.202 Definitions.

(638) Terms in this subpart that are not defined in this section or in §160.3 have the same meaning as those terms in 46 U.S.C. 2101. As used in this subpart—

(639) *Agent* means any person, partnership, firm, company or corporation engaged by the owner or charterer of a vessel to act in their behalf in matters concerning the vessel.

(640) *Barge* means a non-self propelled vessel engaged in commerce.

(641) *Boundary waters* mean the waters from main shore to main shore of the lakes and rivers and connecting waterways, or the portions thereof, along which the international boundary between the United States and the Dominion of Canada passes, including all bays, arms, and inlets thereof, but not including tributary waters which in their natural channels would flow into such lakes, rivers, and waterways, or waters flowing from such lakes, rivers, and waterways, or the waters of rivers flowing across the boundary.

(642) *Carried in bulk* means a commodity that is loaded or carried on board a vessel without containers or labels and received and handled without mark or count.

(643) *Certain dangerous cargo (CDC)* includes any of the following:

(644) (1) Division 1.1 or 1.2 explosives as defined in 49 CFR 173.50.

(645) (2) Division 1.5D blasting agents for which a permit is required under 49 CFR 176.415 or, for which a permit is required as a condition of a Research and Special Programs Administration exemption.

(646) (3) Division 2.3 "poisonous gas", as listed in 49 CFR 172.101 that is also a "material poisonous by inhalation" as defined in 49 CFR 171.8, and that is in a quantity in excess of 1 metric ton per vessel.

(647) (4) Division 5.1 oxidizing materials for which a permit is required under 49 CFR 176.415 or for which a permit is required as a condition of a Research and Special Programs Administration exemption.

(648) (5) A liquid material that has a primary or subsidiary classification of Division 6.1 "poisonous material" as listed 49 CFR 172.101 that is also a "material poisonous by inhalation," as defined in 49 CFR 171.8 and that is in a bulk packaging, or that is in a quantity in excess of 20 metric tons per vessel when not in a bulk packaging.

(649) (6) Class 7, "highway route controlled quantity" radioactive material or "fissile material, controlled shipment," as defined in 49 CFR 173.403.

(650) (7) All bulk liquefied gas cargo carried under 46 CFR 151.50-31 or listed in 46 CFR 154.7 that is flammable and/or toxic and that is not carried as certain dangerous cargo residue (CDC residue).

(651) (8) The following bulk liquids except when carried as CDC residue:

(652) (i) Acetone cyanohydrin;

(653) (ii) Allyl alcohol;

(654) (iii) Chlorosulfonic acid;

(655) (iv) Crotonaldehyde;

(656) (v) Ethylene chlorohydrin;

(657) (vi) Ethylene dibromide;

(658) (vii) Methacrylonitrile;

(659) (viii) Oleum (fuming sulfuric acid); and

(660) (ix) Propylene oxide, alone or mixed with ethylene oxide.

(661) (9) The following bulk solids:

(662) (i) Ammonium nitrate listed as Division 5.1 (oxidizing) material in 49 CFR 172.101 except when carried as CDC residue; and

(663) (ii) Ammonium nitrate based fertilizer listed as a Division 5.1 (oxidizing) material in 49 CFR 172.101 except when carried as CDC residue.

(664) *Certain dangerous cargo residue (CDC residue)* includes any of the following:

(665) (1) Ammonium nitrate in bulk or ammonium nitrate based fertilizer in bulk remaining after all saleable cargo is discharged, not exceeding 1,000 pounds in total and not individually accumulated in quantities exceeding two cubic feet.

(666) (2) For bulk liquids and liquefied gases, the cargo that remains onboard in a cargo system after discharge that is not accessible through normal transfer procedures, with the exception of the following bulk liquefied gas cargoes carried under 46 CFR 151.50-31 or listed in 46 CFR 154.7:

(667) (i) Ammonia, anhydrous;

(668) (ii) Chlorine;

(669) (iii) Ethane;

(670) (iv) Ethylene oxide;

(671) (v) Methane (LNG);

(672) (vi) Methyl bromide;

(673) (vii) Sulfur dioxide; and

(674) (viii) Vinyl chloride.

(675) *Charterer* means the person or organization that contracts for the majority of the carrying capacity of a ship for the transportation of cargo to a stated port for a specified period. This includes "time charterers" and "voyage charterers."

(676) *Crewmember* means all persons carried on board the vessel to provide navigation and maintenance of the vessel, its machinery, systems, and arrangements essential for propulsion and safe navigation or to provide services for other persons on board.

(677) *Embark* means when a crewmember or a person in addition to the crew joins the vessel.

(678) *Ferry schedule* means a published document that:

(679) (1) Identifies locations a ferry travels to and from;

(680) (2) Lists the times of departures and arrivals; and

(681) (3) Identifies the portion of the year in which the ferry maintains this schedule.

(682) *Foreign vessel* means a vessel of foreign registry or operated under the authority of a country except the United States.

(683) *Great Lakes* means Lakes Superior, Michigan, Huron, Erie, and America, their connecting and tributary waters, the Saint Lawrence River as far as Saint Regis, and adjacent port areas.

(684) *Gross tons* means the tonnage determined by the tonnage authorities of a vessel's flag state in accordance with the national tonnage rules in force before the entry into force of the International Convention on Tonnage Measurement of Ships, 1969 ("Convention"). For a vessel measured only under Annex I of the Convention, gross tons means that tonnage. For a vessel measured under both systems, the higher gross tonnage is the tonnage used for the purposes of the 300-gross-ton threshold.

(685) *Hazardous condition* means any condition that may adversely affect the safety of any vessel, bridge, structure, or shore area or the environmental quality of any port, harbor, or navigable waterway of the United States. It may, but need not, involve collision, allision, fire, explosion, grounding, leaking, damage, injury or illness of a person aboard, or manning-shortage.

(686) *Nationality* means the state (nation) in which a person is a citizen or to which a person owes permanent allegiance.

(687) *Operating exclusively within a single Captain of the Port zone* refers to vessel movements within the boundaries of a single COTP zone, e.g., from one dock to another, one berth to another, one anchorage to another, or any combination of such transits. Once a vessel has arrived in a port in a COPT zone, it would not be considered as departing from a port or place simply because of its movements within that specific port.

(688) *Operator* means any person including, but not limited to, an owner, a charterer, or another contractor who conducts, or is responsible for, the operation of a vessel.

(689) *Persons in addition to crewmembers* mean any person onboard the vessel, including passengers, who are not included on the list of crewmembers.

(690) *Port or place of departure* means any port or place in which a vessel is anchored or moored.

(691) *Port or place of destination* means any port or place in which a vessel is bound to anchor or moor.

(692) *Public vessel* means a vessel that is owned or demise-(bareboat) chartered by the government of the United States, by a State or local government, or by the government of a foreign country and that is not engaged in commercial service.

(693) *Time charterer* means the party who hires a vessel for a specific amount of time. The owner and his crew manage the vessel, but the charterer selects the ports of destination.

(694) *Voyage charterer* means the party who hires a vessel for a single voyage. The owner and his crew manage the vessel, but the charterer selects the ports of destination.

(695)

### §160.203 Applicability.

(696) (a) This subpart applies to the following vessels that are bound for or departing from ports or places within the navigable waters of the United States, as defined in

(731)

## Table 160.206 – NOA Information Items

| Required Information | Vessels neither carrying CDC nor controlling another vessel carrying CDC | Vessels carrying CDC or controlling another vessel carrying CDC |
|---|---|---|
| **(1) Vessel Information** | | |
| (i) Name | X | X |
| (ii) Name of the registered owner | X | X |
| (iii) Country of registry | X | X |
| (iv) Call sign | X | X |
| (v) International Maritime Organization (IMO) international number or, if vessel does not have an assigned IMO international number, substitute with official number | X | X |
| (vi) Name of the operator | X | X |
| (vii) Name of the charterer | X | X |
| (viii) Name of classification society or recognized organization | X | X |
| (ix) Maritime Mobile Service Identity (MMSI) number, if applicable | X | X |
| (x) Whether the vessel is 300 gross tons or less (yes or no) | X | X |
| (xi) USCG Vessel Response Plan Control Number, if applicable | X | X |
| **(2) Voyage Information** | | |
| (i) Names of last five foreign ports or places visited | X | X |
| (ii) Dates of arrival and departure for last five foreign ports or places visited | X | X |
| (iii) For the port or place of the United States to be visited, list the names of the receiving facility, the port or place, the city, and the state | X | X |
| (iv) For the port or place in the United States to be visited, the estimated date and time of arrival | X | X |
| (v) For the port or place in the United States to be visited, the estimated date and time of departure | X | X |
| (vi) The location (port or place and country) or position (latitude and longitude or waterway and mile marker) of the vessel at the time of reporting | X | X |
| (vii) The name and telephone number of a 24-hour point of contact | X | X |
| (viii) Whether the vessel's voyage time is less than 24 hours (yes or no) | X | X |
| (ix) Last port or place of departure | X | X |
| (x) Dates of arrival and departure for last port or place of departure | X | X |
| **(3) Cargo Information** | | |
| (i) A general description of cargo, other than CDC, on board the vessel (e.g. grain, container, oil, etc.) | X | X |
| (ii) Name of each CDC carried, including cargo UN number, if applicable | – | X |
| (iii) Amount of each CDC carried | – | X |
| **(4) Information for each Crewmember On Board** | | |
| (i) Full name | X | X |
| (ii) Date of birth | X | X |
| (iii) Nationality | X | X |
| (iv) Passport* or mariners document number (type of identification and number) | X | X |
| (v) Position or duties on the vessel | X | X |
| (vi) Where the crewmembers embarked (list port or place and country) | X | X |
| **(5) Information for each Person On Board in Addition to Crew** | | |
| (i) Full name | X | X |
| (ii) Date of birth | X | X |
| (iii) Nationality | X | X |
| (iv) Passport number* | X | X |
| (v) Where the person embarked (list port or place and country) | X | X |
| **(6) Operational condition of equipment required by 33 CFR part 164 of this chapter (see note to table)** | X | X |
| **(7) International Safety Management (ISM) Code Notice** | | |
| (i) The date of expiration for the company's Document of Compliance certificate that covers the vessel | X | X |
| (ii) The date of expiration for the vessel's Safety Management Certificate | X | X |
| (iii) The name of the Flag Administration, or the recognized organization(s) representing the vessel Flag Administration, that issued those certificates | X | X |
| **(8) International Ship and Port Facility Code (ISPS) Notice** | | |
| (i) The date of issuance for the vessel's International Ship Security Certificate (ISSC), if any | X | X |
| (ii) Whether the ISSC, if any, is an initial Interim ISSC, subsequent and consecutive Interim ISSC, or final ISSC | X | X |
| (iii) Declaration that the approved ship security plan, if any, is being implemented | X | X |
| (iv) If a subsequent and consecutive Interim ISSC, the reasons therefore | X | X |
| (v) The name and 24-hour contact information for the Company Security Officer | X | X |
| (vi) The name of the Flag Administration, or the recognized security organization(s) representing the vessel Flag Administration that issued the ISSC | X | X |

**Note to Table 160.206**. For items with an asterisk (*), see paragraph (b) of this section. Submitting a response for item 6 indicating that navigation equipment is not operating properly does not serve as notice to the District Commander, Captain of the Port, or Vessel Traffic Center, under 33 CFR 164.53.

33 CFR 2.36(a), which includes internal waters and the territorial seas of the United States, and any deepwater port as defined in 33 CFR 148.5:

(697) (1) U.S. vessels in commercial service, and

(698) (2) All foreign vessels.

(699) (b) Unless otherwise specified in this subpart, the owner, agent, master, operator, or person in charge of a vessel regulated by this subpart is responsible for compliance with the requirements in this subpart.

(700) (c) Towing vessels controlling a barge or barges required to submit an NOA under this subpart must submit only one NOA containing the information required for the towing vessel and each barge under its control

(701)

**§160.204 Exemptions and exceptions.**

(702) (a) Except for reporting notice of hazardous conditions, the following vessels are exempt from requirements in this subpart:

(703) (1) A passenger or offshore supply vessel when employed in the exploration for or in the removal of oil, gas, or mineral resources on the continental shelf.

(704) (2) An oil spill response vessel (OSRV) when engaged in actual spill response operations or during spill response exercises.

(705) (3) After December 31, 2015, a vessel required by 33 CFR 165.830 or 165.921 to report its movements, its cargo, or the cargo in barges it is towing.

(706) (4) A United States or Canadian vessel engaged in the salving operations of any property wrecked, or rendering aid and assistance to any vessels wrecked, disabled, or in distress, in waters specified in Article II of the 1908 Treaty of Extradition, Wrecking and Salvage (35 Stat. 2035; Treaty Series 502).

(707) (5) The following vessels neither carrying certain dangerous cargo nor controlling another vessel carrying certain dangerous cargo:

(708) (i) A foreign vessel 300 gross tons or less not engaged in commercial service.

(709) (ii) A vessel operating exclusively within a single Captain of the Port zone. Captain of the Port zones are defined in 33 CFR part 3.

(710) (iii) A U.S. towing vessel and a U.S. barge operating solely between ports or places of the contiguous 48 states, Alaska, and the District of Columbia.

(711) (iv) A public vessel.

(712) (v) Except for a tank vessel, a U.S. vessel operating solely between ports or places of the United States on the Great Lakes.

(713) (vi) A U.S. vessel 300 gross tons or less, engaged in commercial service not coming from a foreign port or place.

(714) (vii) Each ferry on a fixed route that is described in an accurate schedule that is submitted by the ferry operator, along with information in paragraphs (a)(5)(vii)(A) through (J) of this section, to the Captain of the Port for each port or place of destination listed in the schedule at least 24 hours in advance of the first date and time of arrival listed on the schedule. At least 24 hours before the first date and time of arrival listed on the ferry schedule, each ferry operator who submits a schedule under paragraph (a)(5)(vii) of this section must also provide the following information to the Captain of the Port for each port or place of destination listed in the schedule for the ferry, and if the schedule or the following submitted information changes, the ferry operator must submit an updated schedule at least 24 hours in advance of the first date and time of arrival listed on the new schedule and updates on the following items whenever the submitted information is no longer accurate:

(715) (A) Name of the vessel;

(716) (B) Country of registry of the vessel;

(717) (C) Call sign of the vessel;

(718) (D) International Maritime Organization (IMO) international number or, if the vessel does not have an assigned IMO international number, the official number of the vessel;

(719) (E) Name of the registered owner of the vessel;

(720) (F) Name of the operator of the vessel;

(721) (G) Name of the vessel's classification society or recognized organization, if applicable;

(722) (H) Each port or place of destination;

(723) (I) Estimated dates and times of arrivals at and departures from these ports or places; and

(724) (J) Name and telephone number of a 24-hour point of contact.

(725) (b) A vessel less than 500 gross tons is not required to submit the International Safety Management (ISM) Code Notice (Entry 7 in Table 160.206 of §160.206).

(726) (c) A U.S. vessel is not required to submit the International Ship and Port Facility Security (ISPS) Code Notice information (Entry 8 in Table 160.206 of §160.206).

(727)

**§160.205 Notices of arrival.**

(728) The owner, agent, Master, operator, or person in charge of a vessel must submit notices of arrival consistent with the requirements in this subpart.

(729)

**§160.206 Information required in an NOA.**

(730) (a) *Information required*. With the exceptions noted in paragraph (b) of this section, each NOA must contain all of the information items specified in Table 160.206. Vessel owners and operators should protect any personal information they gather in preparing notices for transmittal to the National Vessel Movement Center (NVMC) to prevent unauthorized disclosure of that information.

(732) (b) *Exceptions*. If a crewmember or person on board other than a crewmember is not required to carry a passport for travel, then passport information required in Table 160.206 by items (4)(iv) and (5)(iv) need not be provided for that person.

(733)

**§160.208 Updates to a submitted NOA.**

(734) (a) Unless otherwise specified in this section, whenever events cause NOA information submitted for a vessel to become inaccurate, or the submitter to realize that data submitted was inaccurate, the owner, agent, Master, operator, or person in charge of that vessel must submit an update within the times required in §160.212.

(735) (b) Changes in the following information need not be reported:

(736) (1) Changes in arrival or departure times that are less than six (6) hours;

(737) (2) Changes in vessel location or position of the vessel at the time of reporting (entry (2)(vi) to Table 160.206); and

(738) (3) Changes to crewmembers' position or duties on the vessel (entry (4)(vii) to Table 160.206).

(739) (c) When reporting updates, revise and resubmit the NOA.

(740)

**§160.210 Methods for submitting an NOA.**

(741) (a) *National Vessel Movement Center (NVMC)*. Except as otherwise provided in this paragraph or paragraph (b) of this section, vessels must submit NOA information required by §160.206 to the NVMC using methods currently specified at *www.nvmc.uscg.gov*, which includes submission through the NVMC electronic Notice of Arrival and Departure (eNOAD) World Wide Web site, and XML, which includes the Excel Workbook format. These data may also be submitted using other methods that may be added as future options on *www.nvmc.uscg.gov*. XML spreadsheets may be submitted via email to *enoad@nvmc.uscg.gov*. If a vessel operator must submit an NOA or an update, for a vessel in an area without internet access or when experiencing technical difficulties with an onboard computer, and he or she has no shore-side support available, the vessel operator may fax or phone the submission to the NVMC. Fax at 1–800–547–8724 or 304–264–2684. Workbook available at *www.nvmc.uscg.gov*; or, telephone at 1–800–708–9823 or 304–264–2502.

(742) (b) *Saint Lawrence Seaway*. Those vessels transiting the Saint Lawrence Seaway inbound, bound for a port or place in the United States, may meet the submission requirements of paragraph (a) of this section by submitting the required information to the Saint Lawrence Seaway Development Corporation and the Saint Lawrence Seaway Management Corporation of Canada using methods specified at *www.nvmc.uscg.gov*.

(743)

**§160.212 When to submit an NOA.**

(744) (a) Submission of an NOA. (1) Except as set out in paragraphs (a)(2) and (a)(3) of this section, all vessels must submit NOAs within the times required in paragraph (a)(4) of this section.

(745) (2) Towing vessels, when in control of a vessel carrying CDC and operating solely between ports or places of the contiguous 48 states, Alaska, and the District of Columbia, must submit an NOA before departure but at least 12 hours before arriving at the port or place of destination.

(746) (3) U.S. vessels 300 gross tons or less, arriving from a foreign port or place, and whose voyage time is less than 24 hours must submit an NOA at least 60 minutes before departure from the foreign port or place. Also, Canadian vessels 300 gross tons or less, arriving directly from Canada, via boundary waters, to a United States port or place on the Great Lakes, whose voyage time is less than 24 hours must submit an NOA at least 60 minutes before departure from the Canadian port or place.

(747) (4) Times for submitting NOAs are as follows:

(748)

| If your voyage time is – | Then you must submit an NOA – |
|---|---|
| (i) 96 hours or more; or | At least 96 hours before arriving at the port or place of destination; or |
| (ii) Less than 96 hours | Before departure but at least 24 hours before arriving at the port or place of destination. |

(749) (b) Submission of updates to an NOA. (1) Except as set out in paragraphs (b)(2) and (b)(3) of this section, vessels must submit updates in NOA information within the times required in paragraph (b)(4) of this section.

(750) (2) Towing vessels, when in control of a vessel carrying CDC and operating solely between ports or places in the contiguous 48 states, Alaska, and the District of Columbia, must submit updates to an NOA as soon as practicable but at least 6 hours before entering the port or place of destination.

(751) (3) U.S. vessels 300 gross tons or less, arriving from a foreign port or place, whose voyage time is—

(752) (i) Less than 24 hours but greater than 6 hours, must submit updates to an NOA as soon as practicable, but at least 6 hours before entering the port or place of destination.

(753) (ii) Less than or equal to 6 hours, must submit updates to an NOA as soon as practicable, but at least 60 minutes before departure from the foreign port or place.

(754) (4) Times for submitting updates to NOAs are as follows:

(755)

| If your remaining voyage time is – | Then you must submit updates to an NOA – |
|---|---|
| (i) 96 hours or more; | As soon as practicable, but at least 24 hours before arriving at the port or place of destination; |
| (ii) Less than 96 hours but not less than 24 hours; or | As soon as practicable, but at least 24 hours before arriving at the port or place of destination; or |
| (iii) Less than 24 hours | As soon as practicable, but at least 12 hours before arriving at the port or place of destination. |

(756)

**§160.214 Waivers.**

(757) The Captain of the Port may waive, within that Captain of the Port's designated zone, any of the requirements of this subpart for any vessel or class of vessels upon finding

that the vessel, route, area of operations, conditions of the voyage, or other circumstances are such that application of this subpart is unnecessary or impractical for purposes of safety, environmental protection, or national security.

(758)

### §160.215 Force majeure.

(759) When a vessel is bound for a port or place of the United States under force majeure, it must comply with the requirements in this section, but not other sections of this subpart. The vessel must report the following information to the nearest Captain of the Port as soon as practicable:

(760) (a) The vessel Master's intentions;

(761) (b) Any hazardous conditions as defined in §160.202; and

(762) (c) If the vessel is carrying certain dangerous cargo or controlling a vessel carrying certain dangerous cargo, the amount and name of each CDC carried, including cargo UN number if applicable.

(763)

### §160.216 Notice of hazardous conditions.

(764) (a) Whenever there is a hazardous condition either on board a vessel or caused by a vessel or its operation, the owner, agent, master, operator, or person in charge must immediately notify the nearest Coast Guard Sector Office or Group Office, and in addition submit any report required by 46 CFR 4.05-10.

(765) (b) When the hazardous condition involves cargo loss or jettisoning as described in 33 CFR 97.115, the notification required by paragraph (a) of this section must include—

(766) (1) What was lost, including a description of cargo, substances involved, and types of packages;

(767) (2) How many were lost, including the number of packages and quantity of substances they represent;

(768) (3) When the incident occurred, including the time of the incident or period of time over which the incident occurred;

(769) (4) Where the incident occurred, including the exact or estimated location of the incident, the route the ship was taking, and the weather (wind and sea) conditions at the time or approximate time of the incident; and

(770) (5) How the incident occurred, including the circumstances of the incident, the type of securing equipment that was used, and any other material failures that may have contributed to the incident.

(771)

## Part 162–Inland Waterways Navigation Regulations

(772)

### §162.1 General.

(773) Geographic coordinates expressed in terms of latitude or longitude, or both, are not intended for plotting on maps or charts whose referenced horizontal datum is the North American Datum of 1983 (NAD 83), unless such geographic coordinates are expressly labeled NAD 83. Geographic coordinates without the NAD 83 reference may be plotted on maps or charts referenced to NAD 83 only after application of the appropriate corrections that are published on the particular map or chart being used.

(774)

### §162.5 Definitions.

(775) The following definitions apply to this part:

(776) *Merchant mariner credential or MMC* means the credential issued by the Coast Guard under 46 CFR part 10. It combines the individual merchant mariner's document, license, and certificate of registry enumerated in 46 U.S.C. subtitle II part E as well as the STCW endorsement into a single credential that serves as the mariner's qualification document, certificate of identification, and certificate of service.

(777)

### §162.240 Tongass Narrows, Alaska; navigation.

(778) (a) *Definitions*. The term "Tongass Narrows" includes the body of water lying between Revillagigedo Channel and Guard Islands in Clarence Strait.

(779) (b) No vessel, except for public law enforcement and emergency response vessels, floatplanes during landings and take-offs, and vessels of 23 feet registered length or less, shall exceed a speed of 7 knots in the region of Tongass Narrows bounded to the north by Tongass Narrows Buoy 9 and to the south by Tongass Narrows East Channel Regulatory marker at position 55°19'22.0"N., 131°36'40.5"W. and Tongass Narrows West Channel Regulatory marker at position 55°19'28.5"N., 131°39'09.7"W., respectively.

(780) (c) No vessel shall while moored or at anchor, or by slow passage or otherwise while underway, unreasonably obstruct the free passage and progress of other vessels.

(781) (d) No vessel shall moor or anchor to any structure of the United States other than mooring piers, wharves, and floats without the consent of the Commander, Sector Southeast Alaska.

(782)

### §162.245 Kenai River, Kenai, Alaska; use, administration, and navigation.

(783) (a) *The area*. The main channel area of the river, having a width of 150 feet, beginning at a point directly offshore from the centerline of the city dock and extending about 2,200 feet upstream to a point 200 feet upstream from the Inlet Co. Dock.

(784) (b) *The regulations*. (1) Vessels may navigate, anchor, or moor within the area until such time as notification is received or observation is made of intended passage to or from the docking areas.

(785) (2) Notice of anticipated passage of towboats and barges shall be indicated 24 hours in advance by display of a red flag by the Inlet Co. from its warehouse.

(786)

**§162.250 Port Alexander, Alaska; speed of vessels.**

(787) (a) *Definition*. The term "Port Alexander" includes the entire inlet from its head to its entrance from Chatham Strait.

(788) (b) *Speed*. The speed of all vessels of 5 tons or more gross, ships register, shall not exceed 3 miles per hour either in entering, leaving, or navigating within Port Alexander, Alaska.

(789)

**§162.255 Wrangell Narrows, Alaska; use, administration, and navigation.**

(790) (a) *Definitions*. (1) The term "Wrangell Narrows" includes the entire body of water between Wrangell Narrows North Entrance Lighted Bell Buoy 63 and Midway Rock Light.

(791) (2) The term "raft section" refers to a standard raft of logs or piling securely fastened together for long towing in Alaska inland waters in the manner customary with the local logging interests, i.e. with booms, swifters, and tail sticks. It normally contains 30,000 to 70,000 feet board measure of logs or piling and has a width of 45 to 60 feet and a length of 75 to 100 feet.

(792) (b) *Speed restrictions*. No vessel shall exceed a speed of seven (7) knots in the vicinity of Petersburg, between Wrangell Narrows Channel Light 58 and Wrangell Narrows Lighted Buoy 60.

(793) (c) *Tow channel*. The following route shall be taken by all tows passing through Wrangell Narrows when the towboat has a draft of 9 feet or less (northbound, read down; southbound, read up):

(794) East of Battery Islets:

(795) East of Tow Channel Buoy 1 TC.

(796) East of Tow Channel Buoy 3 TC.

(797) West of Tow Channel Buoy 4 TC.

(798) East of Colorado Reef:

(799) East of Wrangell Narrows Channel Light 21.

(800) West of Wrangell Narrows Channel Lighted Buoy 25.

(801) East of Tow Channel Buoy 5 TC.

(802) East of Tow Channel Buoy 7 TC.

(803) West of Petersburg:

(804) East of Wrangell Narrows Channel Light 54 FR.

(805) East of Wrangell Narrows Channel Light 56 Qk FR.

(806) East of Wrangell Narrows Channel Light 58 FR, thence proceeding to West side of channel and leaving Wrangell Narrows by making passage between Wrangell Narrows Channel Daybeacon 61 and Wrangell Narrows North Entrance Lighted Bell Buoy 63 F.

(807) (d) *Size of tows*. The maximum tows permitted shall be one pile driver, or three units of other towable equipment or seven raft sections.

(808) (e) *Arrangement of tows*. (1) No towline or aggregate of towlines between towboat and separated pieces shall exceed 150 feet in length.

(809) (2) Raft and barge tows of more than one unit shall not exceed 65 feet in width overall. Single barge tows shall not exceed 100 feet in width overall.

(810) (3) Tows other than rafts shall be taken alongside the towboat whenever possible.

(811) (f) *Anchorage*. Vessels may anchor in the anchorage basin in the vicinity of Anchor Point. No craft or tow shall be anchored in Wrangell Narrows in either the main ship channel or the towing channel, nor shall any craft or tow be anchored so that it can swing into either of these channels.

(812) (g) *Disabled craft*. Disabled craft in a condition of absolute necessity are exempt from the regulations in this section.

(813)

## Part 164–Navigation Safety Regulations (in part).

(814)

**For a complete description of this part see 33 CFR 164.**

(815)

**§164.01 Applicability.**

(816) (a) This part (except as specifically limited by this section) applies to each self-propelled vessel of 1600 or more gross tons (except as provided in paragraphs (c) and (d) of this section, or for foreign vessels described in §164.02) when it is operating in the navigable waters of the United States except the St. Lawrence Seaway.

(817) (b) Sections 164.70 through 164.82 of this part apply to each towing vessel of 12 meters (39.4 feet) or more in length operating in the navigable waters of the United States other than the St. Lawrence Seaway; except that a towing vessel is exempt from the requirements of §164.72 if it is–

(818) (1) Used solely within a limited geographic area, such as a fleeting-area for barges or a commercial facility, and used solely for restricted service, such as making up or breaking up larger tows;

(819) (2) Used solely for assistance towing as defined by 46 CFR 10.103;

(820) (3) Used solely for pollution response; or

(821) (4) Any other vessel exempted by the Captain of the Port (COTP). The COTP, upon written request, may, in writing, exempt a vessel from §164.72 for a specified route if he or she decides that exempting it would not allow its unsafe navigation under anticipated conditions.

(822) (c) Provisions of §§164.11(a)(2) and (c), 164.30, 164.33, and 164.46 do not apply to warships or other vessels owned, leased, or operated by the United States Government and used only in government non commercial service when these vessels are equipped with electronic navigation systems that have met the applicable agency regulations regarding navigation safety.

(823) (d) Provisions of §164.46 apply to some self-propelled vessels of less than 1600 gross tonnage.

(824)

**§164.02 Applicability exception for foreign vessels.**

(825) (a) Except for §164.46(c), none of the requirements of this part apply to foreign vessels that:

(826) (1) Are not destined for, or departing from, a port or place subject to the jurisdiction of the United States; and

(827) (2) Are in:

(828) (i) Innocent passage through the territorial sea of the United States; or

(829) (ii) Transit through navigable waters of the United States which form a part of an international strait.

(830)

**§164.03 Incorporation by reference.**

(831) (a) Certain material is incorporated by reference into this part with the approval of the Director of the Federal Register under 5 U.S.C. 552(a) and 1 CFR part 51. To enforce any edition other than that specified in this section, the Coast Guard must publish notice of the change in the Federal Register and the material must be available to the public. All approved material is available for inspection at the National Archives and Records Administration (NARA). For more information on the availability of this material at NARA, call 202–741–6030, or go to: *www.archives.gov/federal-register/cfr/ibr-locations.html*. Also, it is available for inspection at the Commandant (CG-NAV), U.S. Coast Guard Stop 7418, Attn: Office of Navigation Systems, 2703 Martin Luther King Jr. Ave. SE., Washington, DC 20593-7418, telephone 202–372–1565, and is available from the sources listed below.

(832) (b) American Petroleum Institute (API), 1220 L Street NW., Washington, DC 20005-4070, 202–682–8000, *www.api.org*:

(833) (1) API Specification 9A, Specification for Wire Rope, Section 3, Properties and Tests for Wire and Wire Rope, May 28, 1984, IBR approved for §164.74.

(834) (2) [Reserved]

(835) (c) ASTM International, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959, 610–832–9585, *www.astm.org*:

(836) (1) ASTM D4268-93, Standard Test Method for Testing Fiber Rope, IBR approved for §164.74.

(837) (2) [Reserved]

(838) (d) Cordage Institute, 350 Lincoln Street, Hingham, MA 02043.

(839) (1) CIA-3, Standard Test Methods for Fiber Rope Including Standard Terminations, Revised, June 1980, IBR approved for §164.74.

(840) (2) [Reserved]

(841) (e) International Maritime Organization (IMO), 4 Albert Embankment, London SE1 7SR, United Kingdom, *www.imo.org*:

(842) (1) IMO Resolution A342(IX), Recommendation on Performance Standards for Automatic Pilots, November 12, 1975, IBR approved for §164.13.

(843) (2) IMO Resolution A.917(22), Guidelines for the Onboard Operational Use of Shipborne Automatic Identification System (AIS), January 25, 2002, IBR approved for §164.46.

(844) (3) SN/Circ.227, Guidelines for the Installation of a Shipborne Automatic Identification System (AIS), January 6, 2003, IBR approved for §164.46.

(845) (4) SN/Circ.244, Guidance on the Use of the UN/LOCODE in the Destination Field in AIS Messages, December 15, 2004, IBR approved for §164.46.

(846) (5) SN/Circ.245, Amendments to the Guidelines for the Installation of a Shipborne Automatic Identification System (AIS)(SN/Circ.227), December 15, 2004, IBR approved for §164.46.

(847) (6) SOLAS, International Convention for the Safety of Life at Sea, 1974, and 1988 Protocol relating thereto, 2000 Amendments, effective January and July 2002, (SOLAS 2000 Amendments), IBR approved for §164.46.

(848) (7) Conference resolution 1, Adoption of amendments to the Annex to the International Convention for the Safety of Life at Sea, 1974, and amendments to chapter V of SOLAS 1974, adopted on December 12, 2002, IBR approved for §164.46.

(849) (8) SN.1/Circ.289, Guidance on the Use of AIS Application-Specific Messages, June 2, 2010, IBR approved for §164.46.

(850) (f) National Marine Electronics Association (NMEA), 7 Riggs Avenue, Severna Park, MD 21146, 800–808–6632, *www.nmea.org*:

(851) (1) NMEA 0400, Installation Standard for Marine Electronic Equipment used on Moderate-Sized Vessels, Version 3.10, February 2012, IBR approved for §164.46.

(852) (2) [Reserved]

(853) (g) Radio Technical Commission for Maritime Services *(RTCM)*, 1611 N. Kent St., Suite 605, Arlington, VA 22209, 703–527–2000, *www.rtcm.org*:

(854) (1) RTCM Paper 12-78/DO-100, Minimum Performance Standards, Loran C Receiving Equipment, 1977, IBR approved for §164.41.

(855) (2) RTCM Paper 71-95/SC112-STD, RTCM Recommended Standards for Marine Radar Equipment Installed on Ships of Less Than 300 Tons Gross Tonnage, Version 1.1, October 10, 1995, IBR approved for §164.72.

(856) (3) RTCM Paper 191-93/SC112-X, RTCM Recommended Standards for Maritime Radar Equipment Installed on Ships of 300 Tons Gross Tonnage and Upwards, Version 1.2, December 20, 1993, IBR approved for §164.72.

(857) (h) International Electrotechnical Commission (IEC), 3, rue de Varembe, Geneva, Switzerland, +41 22 919 02 11, *http://www.iec.ch/*. Email: info@iec.ch.

(858) (1) IEC 62065 (IEC 62065 2002–03), Maritime navigation and radiocommunication equipment and systems—Track control systems— Operational and performance requirements, methods of testing and required test results, First Edition, dated 2002, IBR approved for **§ 164.13(d)**.

(859) (2) IEC 62065 (IEC 62065 2014–02), Maritime navigation and radiocommunication equipment and systems—Track control systems— Operational and

performance requirements, methods of testing and required test results, Edition 2.0, dated 2014, IBR approved for **§ 164.13(d)**.

(860)

### §164.11 Navigation underway: General.

(861) The owner, master, or person in charge of each vessel underway shall ensure that:

(862) (a) The wheelhouse is constantly manned by persons who–

(863) (1) Direct and control the movement of the vessel; and

(864) (2) Fix the vessel's position;

(865) (b) Each person performing a duty described in paragraph (a) of this section is competent to perform that duty;

(866) (c) The position of the vessel at each fix is plotted on a chart of the area and the person directing the movement of the vessel is informed of the vessel's position;

(867) (d) Electronic and other navigational equipment, external fixed aids to navigation, geographic reference points, and hydrographic contours are used when fixing the vessel's position;

(868) (e) Buoys alone are not used to fix the vessel's position;

(869) **Note:** Buoys are aids to navigation placed in approximate positions to alert the mariner to hazards to navigation or to indicate the orientation of a channel. Buoys may not maintain an exact position because strong or varying currents, heavy seas, ice, and collisions with vessels can move or sink them or set them adrift. Although buoys may corroborate a position fixed by other means, buoys cannot be used to fix a position: however, if no other aids are available, buoys alone may be used to establish an estimated position.

(870) (f) The danger of each closing visual or each closing radar contact is evaluated and the person directing the movement of the vessel knows the evaluation;

(871) (g) Rudder orders are executed as given;

(872) (h) Engine speed and direction orders are executed as given;

(873) (i) Magnetic variation and deviation and gyrocompass errors are known and correctly applied by the person directing the movement of the vessel;

(874) (j) A person whom he has determined is competent to steer the vessel is in the wheelhouse at all times.

(875) (k) If a pilot other than a member of the vessel's crew is employed, the pilot is informed of the draft, maneuvering characteristics, and peculiarities of the vessel and of any abnormal circumstances on the vessel that may affect its safe navigation.

(876) (l) Current velocity and direction for the area to be transited are known by the person directing the movement of the vessel;

(877) (m) Predicted set and drift are known by the person directing movement of the vessel;

(878) (n) Tidal state for the area to be transited is known by the person directing movement of the vessel;

(879) (o) The vessel's anchors are ready for letting go;

(880) (p) The person directing the movement of the vessel sets the vessel's speed with consideration for–

(881) (1) The prevailing visibility and weather conditions;

(882) (2) The proximity of the vessel to fixed shore and marine structures;

(883) (3) The tendency of the vessel underway to squat and suffer impairment of maneuverability when there is small underkeel clearance;

(884) (4) The comparative proportions of the vessel and the channel;

(885) (5) The density of marine traffic;

(886) (6) The damage that might be caused by the vessel's wake;

(887) (7) The strength and direction of the current; and

(888) (8) Any local vessel speed limit;

(889) (q) The tests required by §164.25 are made and recorded in the vessel's log; and

(890) (r) The equipment required by this part is maintained in operable condition.

(891) (s) Upon entering U.S. waters, the steering wheel or lever on the navigating bridge is operated to determine if the steering equipment is operating properly under manual control, unless the vessel has been steered under manual control from the navigating bridge within the preceding 2 hours, except when operating on the Great Lakes and their connecting and tributary waters.

(892) (t) At least two of the steering-gear power units on the vessel are in operation when such units are capable of simultaneous operation, except when the vessel is sailing on the Great Lakes and their connecting and tributary waters, and except as required by paragraph (u) of this section.

(893) (u) On each passenger vessel meeting the requirements of the International Convention for the Safety of Life at Sea, 1960 (SOLAS 60) and on each cargo vessel meeting the requirements of SOLAS 74 as amended in 1981, the number of steering-gear power units necessary to move the rudder from 35° on either side to 30° on the other in not more than 28 seconds must be in simultaneous operation.

(894)

### §164.13 Navigation underway: tankers.

(895) (a) As used in this section, "tanker" means a self-propelled tank vessel, including integrated tug barge combinations, constructed or adapted primarily to carry oil or hazardous material in bulk in the cargo spaces and inspected and certificated as a tanker.

(896) (b) Each tanker must have an engineering watch capable of monitoring the propulsion system, communicating with the bridge, and implementing manual control measures immediately when necessary. The watch must be physically present in the machinery spaces or in the main control space and must consist of at least an engineer with an appropriately endorsed license or merchant mariner credential.

(897) (c) Each tanker must navigate with at least two deck officers with an appropriately endorsed license or merchant mariner credential on watch on the bridge, one of whom may be a pilot. In waters where a pilot is required, the second officer, must be an individual holding an appropriately endorsed license or merchant mariner credential and assigned to the vessel as master, mate, or officer in charge of a navigational watch, who is separate and distinct from the pilot.

(898) (d) This paragraph (d) has preemptive effect over State or local regulation within the same field. A tanker may navigate using a heading or track control system only if:

(899) (1) The tanker is at least one-half nautical mile (1,012 yards) beyond the territorial sea baseline, as defined in **33 CFR 2.20**;

(900) (i) Not within waters specified in **33 CFR part 110** (anchorages), or; (ii) Not within waters specified as precautionary areas in **33 CFR part 167**, and;

(901) (2) There is a person, competent to steer the vessel, present to assume manual control of the steering station at all times including, but not limited to, the conditions listed in **46 CFR 35.20–45(a)** through **(c)**; and

(902) (3) The system meets the heading or track control specifications of either IEC 62065 (2002–03) or IEC 62065 (2014–02) (incorporated by reference, see **§164.03**).

(903)

### §164.15 Navigation bridge visibility.

(904) (a) The arrangement of cargo, cargo gear, and trim of all vessels entering or departing from U.S. ports must be such that the field of vision from the navigation bridge conforms as closely as possible to the following requirements:

(905) (1) From the conning position, the view of the sea surface must not be obscured by more than the lesser of two ship lengths or 500 meters (1640 feet) from dead ahead to 10 degrees on either side of the vessel. Within this arc of visibility any blind sector caused by cargo, cargo gear, or other permanent obstruction must not exceed 5 degrees.

(906) (2) From the conning position, the horizontal field of vision must extend over an arc from at least 22.5 degrees abaft the beam on one side of the vessel, through dead ahead, to at least 22.5 degrees abaft the beam on the other side of the vessel. Blind sectors forward of the beam caused by cargo, cargo gear, or other permanent obstruction must not exceed 10 degrees each, nor total more than 20 degrees, including any blind sector within the arc of visibility described in paragraph (a)(1) of this section.

(907) (3) From each bridge wing, the field of vision must extend over an arc from at least 45 degrees on the opposite bow, through dead ahead, to at least dead astern.

(908) (4) From the main steering position, the field of vision must extend over an arc from dead ahead to at least 60 degrees on either side of the vessel.

(909) (b) A clear view must be provided through at least two front windows at all times regardless of weather condition.

(910)

### §164.19 Requirements for vessels at anchor.

(911) The master or person in charge of each vessel that is anchored shall ensure that–

(912) (a) A proper anchor watch is maintained;

(913) (b) Procedures are followed to detect a dragging anchor; and

(914) (c) Whenever weather, tide, or current conditions are likely to cause the vessel's anchor to drag, action is taken to ensure the safety of the vessel, structures, and other vessels, such as being ready to veer chain, let go a second anchor, or get underway using the vessel's own propulsion or tug assistance.

(915)

### §164.25 Tests before entering or getting underway.

(916) (a) Except as provided in paragraphs (b) and (c) of this section no person may cause a vessel to enter into or get underway on the navigable waters of the United States unless no more than 12 hours before entering or getting underway, the following equipment has been tested:

(917) (1) Primary and secondary steering gear. The test procedure includes a visual inspection of the steering gear and its connecting linkage, and, where applicable, the operation of the following:

(918) (i) Each remote steering gear control system.

(919) (ii) Each steering position located on the navigating bridge.

(920) (iii) The main steering gear from the alternative power supply, if installed.

(921) (iv) Each rudder angle indicator in relation to the actual position of the rudder.

(922) (v) Each remote steering gear control system power failure alarm.

(923) (vi) Each remote steering gear power unit failure alarm.

(924) (vii) The full movement of the rudder to the required capabilities of the steering gear.

(925) (2) All internal vessel control communications and vessel control alarms.

(926) (3) Standby or emergency generator, for as long as necessary to show proper functioning, including steady state temperature and pressure readings.

(927) (4) Storage batteries for emergency lighting and power systems in vessel control and propulsion machinery spaces.

(928) (5) Main propulsion machinery, ahead and astern.

(929) (b) Vessels navigating on the Great Lakes and their connecting and tributary waters, having once completed the test requirements of this subpart, are considered to remain in compliance until arriving at the next port of call on the Great Lakes.

(930) (c) Vessels entering the Great Lakes from the St. Lawrence Seaway are considered to be in compliance with this subpart if the required tests are conducted

preparatory to or during the passage of the St. Lawrence Seaway or within one hour of passing Wolfe Island.

(931) (d) No vessel may enter, or be operated on the navigable waters of the United States unless the emergency steering drill described below has been conducted within 48 hours prior to entry and logged in the vessel logbook, unless the drill is conducted and logged on a regular basis at least once every three months. This drill must include at a minimum the following:

(932) (1) Operation of the main steering gear from within the steering gear compartment.

(933) (2) Operation of the means of communications between the navigating bridge and the steering compartment.

(934) (3) Operation of the alternative power supply for the steering gear if the vessel is so equipped.

(935)

### §164.30 Charts, publications, and equipment: General.

(936) No person may operate or cause the operation of a vessel unless the vessel has the marine charts, publications, and equipment as required by §§164.33 through 164.41 of this part.

(937)

### §164.33 Charts and publications.

(938) (a) Each vessel must have the following:

(939) (1) Marine charts of the area to be transited, published by the National Ocean Service, U.S. Army Corps of Engineers, or a river authority that–

(940) (i) Are of a large enough scale and have enough detail to make safe navigation of the area possible; and

(941) (ii) Are currently corrected.

(942) (2) For the area to be transited, a currently corrected copy of, or applicable currently corrected extract from, each of the following publications:

(943) (i) U.S. Coast Pilot.

(944) (ii) Coast Guard Light List.

(945) (3) For the area to be transited, the current edition of, or applicable current extract from:

(946) (i) Tide Tables published by private entities using data provided by the National Ocean Service.

(947) (ii) Tidal Current Tables published by private entities using data provided by the National Ocean Service, or river current publication issued by a river authority.

(948) (b) As an alternative to the requirements for paragraph (a) of this section, a marine chart or publication, or applicable extract, published by a foreign government may be substituted for a U.S. chart and publication required by this section. The chart must be of large enough scale and have enough detail to make safe navigation of the area possible, and must be currently corrected. The publication, or applicable extract, must singly or in combination contain similar information to the U.S. Government publication to make safe navigation of the area possible. The publication, or applicable extract must be currently corrected, with the exceptions of tide and tidal current tables, which must be the current editions.

(949) (c) As used in this section, "currently corrected" means corrected with changes contained in all Notices to Mariners published by the National Geospatial-Intelligence Agency, or an equivalent foreign government publication, reasonably available to the vessel, and that is applicable to the vessel's transit.

(950)

### §164.35 Equipment: All vessels.

(951) Each vessel must have the following:

(952) (a) A marine radar system for surface navigation.

(953) (b) An illuminated magnetic steering compass, mounted in a binnacle, that can be read at the vessel's main steering stand.

(954) (c) A current magnetic compass deviation table or graph or compass comparison record for the steering compass, in the wheelhouse.

(955) (d) A gyrocompass.

(956) (e) An illuminated repeater for the gyrocompass required by paragraph (d) of this section that is at the main steering stand, unless that gyrocompass is illuminated and is at the main steering stand.

(957) (f) An illuminated rudder angle indicator in the wheelhouse.

(958) (g) The following maneuvering information prominently displayed on a fact sheet in the wheelhouse:

(959) (1) A turning circle diagram to port and starboard that shows the time and distance and advance and transfer required to alter course 90 degrees with maximum rudder angle and constant power settings, for either full and half speeds, or for full and slow speeds. For vessels whose turning circles are essentially the same for both directions, a diagram showing a turning circle in one direction, with a note on the diagram stating that turns to port and starboard are essentially the same, may be substituted.

(960) (2) The time and distance to stop the vessel from either full and half speeds, or from full and slow speeds, while maintaining approximately the initial heading with minimum application of rudder.

(961) (3) For each vessel with a fixed propeller, a table of shaft revolutions per minute for a representative range of speeds.

(962) (4) For each vessel with a controllable pitch propeller, a table of control settings for a representative range of speeds.

(963) (5) For each vessel that is fitted with an auxiliary device to assist in maneuvering, such as a bow thruster, a table of vessel speeds at which the auxiliary device is effective in maneuvering the vessel.

(964) (6) The maneuvering information for the normal load and normal ballast condition for–

(965) (i) Calm weather-wind 10 knots or less, calm sea;

(966) (ii) No current;

(967) (iii) Deep water conditions-water depth twice the vessel's draft or greater; and

(968) (iv) Clean hull.

(969) (7) At the bottom of the fact sheet, the following statement:

(970)

**WARNING**

The response of the (name of the vessel) may be different from that listed above if any of the following conditions, upon which the maneuvering information is based, are varied:
(1) Calm weather—wind 10 knots or less, calm sea;
(2) No current;
(3) Water depth twice the vessel's draft or greater;
(4) Clean hull; and
(5) Intermediate drafts or unusual trim.

(971) (h) An echo depth sounding device.

(972) (i) A device that can continuously record the depth readings of the vessel's echo depth sounding device, except when operating on the Great Lakes and their connecting and tributary waters.

(973) (j) Equipment on the bridge for plotting relative motion.

(974) (k) Simple operating instructions with a block diagram, showing the change-over procedures for remote steering gear control systems and steering gear power units, permanently displayed on the navigating bridge and in the steering gear compartment.

(975) (l) An indicator readable from the centerline conning position showing the rate of revolution of each propeller, except when operating on the Great Lakes and their connecting and tributary waters.

(976) (m) If fitted with controllable pitch propellers, an indicator readable from the centerline conning position showing the pitch and operational mode of such propellers, except when operating on the Great Lakes and their connecting and tributary waters.

(977) (n) If fitted with lateral thrust propellers, an indicator readable from the centerline conning position showing the direction and amount of thrust of such propellers, except when operating on the Great Lakes and their connecting and tributary waters.

(978) (o) A telephone or other means of communication for relaying headings to the emergency steering station. Also, each vessel of 500 gross tons and over and constructed on or after June 9, 1995 must be provided with arrangements for supplying visual compass-readings to the emergency steering station.

(979)

### §164.37 Equipment: Vessels of 10,000 gross tons or more.

(980) (a) Each vessel of 10,000 gross tons or more must have, in addition to the radar system under §164.35(a), a second marine radar system that operates independently of the first.

(981) **Note:** Independent operation means two completely separate systems, from separate branch power supply circuits or distribution panels to antennas, so that failure of any component of one system will not render the other system inoperative.

(982) (b) On each tanker of 10,000 gross tons or more that is subject to 46 U.S.C. 3708, the dual radar system required by this part must have a short range capability and a long range capability; and each radar must have true north features consisting of a display that is stabilized in azimuth.

(983)

### §164.38 Automatic radar plotting aids (ARPA). (See 33 CFR 164.)

(984)

### §164.39 Steering gear: Foreign tankers.

(985) (a) This section applies to each foreign tanker of 10,000 gross tons or more, except a public vessel, that–

(986) (1) Transfers oil at a port or place subject to the jurisdiction of the United States; or

(987) (2) Otherwise enters or operates in the navigable waters of the United States, except a vessel described by §164.02 of this part.

(988) (b) *Definitions*. The terms used in this section are as follows:

(989) *Constructed* means the same as in chapter II-1, Regulations 1.1.2 and 1.1.3.1, of SOLAS 74.

(990) *Existing tanker* means a tanker–

(991) (1) For which the building contract is placed on or after June 1, 1979;

(992) (2) In the absence of a building contract, the keel of which is laid or which is at a similar stage of construction on or after January 1, 1980;

(993) (3) The delivery of which occurs on or after June 1, 1982; or

(994) (4) That has undergone a major conversion contracted for on or after June 1, 1979; or construction of which was begun on or after January 1, 1980, or completed on or after June 1, 1982.

(995) *Public vessel, oil, hazardous materials, and foreign vessel* mean the same as in 46 U.S.C. 2101.

(996) *SOLAS 74* means the International Convention for the Safety of Life at Sea, 1974, as amended.

(997) *Tanker* means a self-propelled vessel defined as a tanker by 46 U.S.C. 2101(38) or as a tank vessel by 46 U.S.C. 2101(39).

(998) (c) Each tanker constructed on or after September 1, 1984, must meet the applicable requirements of chapter II-1, Regulations 29 and 30, of SOLAS 74.

(999) (d) Each tanker constructed before September 1, 1984, must meet the requirements of chapter II-1, Regulation 29.19, of SOLAS 74.

(1000) (e) Each tanker of 40,000 gross tons or more, constructed before September 1, 1984, that does not meet the single-failure criterion of chapter II-1, Regulation 29.16, of SOLAS 74, must meet the requirements of Chapter II-1, Regulation 29.20, of SOLAS 74.

(1001) (f) Each tanker constructed before September 1, 1984, must meet the applicable requirements of chapter II-1, Regulations 29.14 and 29.15, of SOLAS 74.

(1002)

### §164.40 Devices to indicate speed and distance.

(1003) (a) Each vessel required to be fitted with an Automatic Radar Plotting Aid (ARPA) under §164.38 of this part must be fitted with a device to indicate speed and distance of the vessel either through the water, or over the ground.

(1004) (b) The device must meet the following specifications:

(1005) (1) The display must be easily readable on the bridge by day or night.

(1006) (2) Errors in the indicated speed, when the vessel is operating free from shallow water effect, and from the effects of wind, current, and tide, should not exceed 5 percent of the speed of the vessel, or 0.5 knot, whichever is greater.

(1007) (3) Errors in the indicated distance run, when the vessel is operating free from shallow water effect, and from the effects of wind, current, and tide, should not exceed 5 percent of the distance run of the vessel in one hour or 0.5 nautical mile in each hour, whichever is greater.

(1008)

### §164.41 Electronic position fixing devices.

(1009) (a) Each vessel calling at a port in the continental United States, including Alaska south of Cape Prince of Wales, except each vessel owned or bareboat chartered and operated by the United States, or by a state or its political subdivision, or by a foreign nation, and not engaged in commerce, must have a satellite navigation receiver with—

(1010) (1) Automatic acquisition of satellite signals after initial operator settings have been entered; and

(1011) (2) Position updates derived from satellite information during each usable satellite pass.

(1012) (b) A system that is found by the Commandant to meet the intent of the statements of availability, coverage, and accuracy for the U.S. Coastal Confluence Zone (CCZ) contained in the U.S. "Federal Radionavigation Plan" (Report No. DOD–NO 4650.4–P, I or No. DOT–TSC–RSPA–80–16, I). A person desiring a finding by the Commandant under this subparagraph must submit a written application describing the device to the Coast Guard Deputy Commander for Operations (CG–DCO), Attn:Deputy for Operations Policy and Capabilities, U.S. Coast Guard Stop 7318, 2703 Martin Luther King Jr. Avenue SE., Washington, DC 20593-7318. After reviewing the application, the Commandant may request additional information to establish whether or not the device meets the intent of the Federal Radionavigation Plan.

(1013) **Note:** The Federal Radionavigation Plan is available from the National Technical Information Service, Springfield, VA. 22161, with the following Government Accession Numbers:

(1014) Vol 1, ADA 116468

(1015) Vol 2, ADA 116469

(1016) Vol 3, ADA 116470

(1017) Vol 4, ADA 116471

(1018)

### §164.42 Rate of turn indicator.

(1019) Each vessel of 100,000 gross tons or more constructed on or after September 1, 1984, shall be fitted with a rate of turn indicator.

(1020)

### §164.43 [Removed]

(1021)

### §164.46 Automatic Identification System.

(1022) (a) *Definitions*. As used in this section—*Automatic Identification Systems* or *AIS* means a maritime navigation safety communications system standardized by the International Telecommunication Union (ITU), adopted by the International Maritime Organization (IMO), that—

(1023) (1) Provides vessel information, including the vessel's identity, type, position, course, speed, navigational status and other safety-related information automatically to appropriately equipped shore stations, other ships, and aircraft;

(1024) (2) Receives automatically such information from similarly fitted ships, monitors and tracks ships; and

(1025) (3) Exchanges data with shore-based facilities.

(1026) *Gross tonnage* means tonnage as defined under the International Convention on Tonnage Measurement of Ships, 1969.

(1027) *International voyage* means a voyage from a country to which the present International Convention for the Safety of Life at Sea applies to a port outside such country, or conversely.

(1028) *Properly installed, operational* means an Automatic Identification System (AIS) that is installed and operated using the guidelines set forth by the International Maritime Organization (IMO) Resolution A.917(22) and Safety of Navigation Circulars (SN/Circ.) 227, 244, 245, and SN.1/Circ.289; or National Marine Electronics Association (NMEA) Installation Standard 0400-3.10 in lieu of SN/Circ.227 and 245 (incorporated by reference, see §164.03).

(1029) (b) *AIS carriage*—(1) *AIS Class A device*. The following vessels must have on board a properly installed, operational Coast Guard type-approved AIS Class A device:

(1030) (i) A self-propelled vessel of 65 feet or more in length, engaged in commercial service.

(1031) (ii) A towing vessel of 26 feet or more in length and more than 600 horsepower, engaged in commercial service.

(1032) (iii) A self-propelled vessel that is certificated to carry more than 150 passengers.

(1033) (iv) A self-propelled vessel engaged in dredging operations in or near a commercial channel or shipping fairway in a manner likely to restrict or affect navigation of other vessels.

(1034) (v) A self-propelled vessel engaged in the movement of—

(1035) (A) Certain dangerous cargo as defined in subpart C of part 160 of this chapter, or

(1036) (B) Flammable or combustible liquid cargo in bulk that is listed in 46 CFR 30.25-1, Table 30.25-1.

(1037) (2) *AIS Class B device*. Use of a Coast Guard type-approved AIS Class B device in lieu of an AIS Class A

device is permissible on the following vessels if they are not subject to pilotage by other than the vessel Master or crew:

(1038) (i) Fishing industry vessels;

(1039) (ii) Vessels identified in paragraph (b)(1)(i) of this section that are certificated to carry less than 150 passengers and that—

(1040) (A) Do not operate in a Vessel Traffic Service (VTS) or Vessel Movement Reporting System (VMRS) area defined in Table 161.12(c) of §161.12 of this chapter, and

(1041) (B) Do not operate at speeds in excess of 14 knots; and

(1042) (iii) Vessels identified in paragraph (b)(1)(iv) of this section engaged in dredging operations.

(1043) *Note to paragraph (b)*: Under 33 U.S.C. 1223(b)(3) and 33 CFR 160.111, a Coast Guard Captain of the Port (COTP) may restrict the operation of a vessel if he or she determines that by reason of weather, visibility, sea conditions, port congestion, other hazardous circumstances, or the condition of such vessel, the restriction is justified in the interest of safety. In certain circumstances, if a COTP is concerned that the operation of a vessel not subject to §164.46 would be unsafe, the COTP may determine that voluntary installation of AIS by the operator would mitigate that concern. Fishing industry vessels include fishing vessels, fish processing vessels, and fish tender vessels as defined in 46 U.S.C. 2101.

(1044) (c) *SOLAS provisions*. The following self-propelled vessels must comply with International Convention for Safety of Life at Sea (SOLAS), as amended, chapter V, regulation 19.2.1.6 (Positioning System), 19.2.4 (AIS Class A), and 19.2.3.5 (Transmitting Heading Device) or 19.2.5.1 (Gyro Compass) as applicable (Incorporated by reference, see §164.03):

(1045) (1) A vessel of 300 gross tonnage or more, on an international voyage.

(1046) (2) A vessel of 150 gross tonnage or more, when carrying more than 12 passengers on an international voyage.

(1047) (d) Operations. The requirements in this paragraph are applicable to any vessel equipped with AIS.

(1048) (1) Use of AIS does not relieve the vessel of the requirements to sound whistle signals or display lights or shapes in accordance with the International Regulations for Preventing Collisions at Sea, 1972 (72 COLREGS), 28 U.S.T. 3459, T.I.A.S. 8587, or Inland Navigation Rules, 33 CFR part 83; nor of the radio requirements of the Vessel Bridge-to-Bridge Radiotelephone Act, 33 U.S.C. 1201-1208, part 26 of this chapter, and 47 CFR part 80.

(1049) (2) AIS must be maintained in effective operating condition, which includes—

(1050) (i) The ability to reinitialize the AIS, which requires access to and knowledge of the AIS power source and password;

(1051) (ii) The ability to access AIS information from the primary conning position of the vessel;

(1052) (iii) The accurate broadcast of a properly assigned Maritime Mobile Service Identity (MMSI) number;

(1053) (iv) The accurate input and upkeep of all AIS data fields and system updates; and

(1054) (v) For those vessels denoted in paragraph (b) of this section, the continual operation of AIS and its associated devices ( *e.g.*, positioning system, gyro, converters, displays) at all times while the vessel is underway or at anchor, and, if moored, at least 15 minutes prior to getting underway; except when its operation would compromise the safety or security of the vessel or a security incident is imminent. The AIS should be returned to continuous operation as soon as the compromise has been mitigated or the security incident has passed. The time and reason for the silent period should be recorded in the ship's official log and reported to the nearest Captain of the Port or Vessel Traffic Center (VTC).

(1055) (3) AIS safety-related text messaging must be conducted in English and solely to exchange or communicate pertinent navigation safety information (analogous to a SECURITE broadcast). Although not prohibited, AIS text messaging should not be relied upon as the primary means for broadcasting distress (MAYDAY) or urgent (PAN PAN) communications. (47 CFR 80.1109, Distress, urgency, and safety communications).

(1056) (4) AIS application-specific messaging (ASM) is permissible, but is limited to applications adopted by the International Maritime Organization (such as IMO SN.1/Circ.289) or those denoted in the International Association of Marine Aids to Navigation and Lighthouse Authorities' (IALA) ASM Collection for use in the United States or Canada, and to no more than one ASM per minute.

(1057) *Note 1 to § 164.46(d)*: The Coast Guard has developed the "USCG AIS Encoding Guidance" to help ensure consistent and accurate data encoding (input) by AIS users. This Guide is available at our "AIS Frequently Asked Questions" (FAQ #2) World Wide Web page at *www.navcen.uscg.gov/ais-frequently-asked-questions#2.* Although of great benefit, the interfacing or installation of other external devices or displays (*e.g.*, transmitting heading device, gyro, rate of turn indicator, electronic charting systems, and radar), is not currently required except as denoted in §164.46(c). Most application-specific messages require interfacing to an external system that is capable of their portrayal, such as equipment certified to meet Radio Technical Commission for Maritime Services (RTCM) electronic chart system (ECS) standard 10900 series.

(1058) (e) *Watchkeeping.* AIS is primarily intended for use by the Master or person in charge of the vessel, or by the person designated by the Master or person in charge to pilot or direct the movement of the vessel, who must maintain a periodic watch for AIS information.

(1059) (f) *Portable AIS.* The use of a portable AIS is permissible only to the extent that electromagnetic interference does not affect the proper function of existing navigation and communication equipment on board and

such that only one AIS device may be transmitting on board a vessel at any one time.

(1060) (g) *AIS Pilot Plug.* The AIS Pilot Plug on any vessel subject to pilotage by other than the vessel Master or crew must be readily available and easily accessible from the primary conning position of the vessel and permanently affixed (not an extension cord) and adjacent (within 3 feet) to a 120-volt 50/60 Hz AC power receptacle (NEMA 5-15).

(1061) (h) *Exceptions.* The following vessels may seek up to a 5-year deviation from the AIS requirements of this section by requesting a deviation under §164.55.

(1062) (1) Vessels that operate solely within a very confined area (*e.g.*, less than a 1 nautical-mile radius, shipyard, or barge fleeting facility);

(1063) (2) Vessels that conduct only short voyages (less than 1 nautical mile) on a fixed schedule (*e.g.*, a bank-to-bank river ferry service or a tender vessel);

(1064) (3) Vessels that are not likely to encounter other AIS-equipped vessels;

(1065) (4) Vessels whose design or construction makes it impracticable to operate an AIS device (*e.g.*, those that lack electrical power, have an exposed or open cabin, or are submersible); or

(1066) (5) Vessels denoted in paragraph (b)(2) that seek a deviation from requirements in paragraphs (d)(2)(ii) and (e) of this section because their AIS Class B device lacks a display.

(1067) (i) *Prohibition.* Except for maritime support stations (see 47 CFR 80.5) licensed by the Federal Communications Commission (FCC), broadcasts from AIS Class A or B devices on aircraft, non-self propelled vessels or from land are prohibited.

(1068) (j) *Implementation date.* Those vessels identified in paragraphs (b) and (c) of this section that were not previously subject to AIS carriage must install AIS no later than March 1, 2016.

(1069)

### §164.51 Deviations from rules: Emergency.

(1070) Except for the requirements of §164.53(b), in an emergency, any person may deviate from any rule in this part to the extent necessary to avoid endangering persons, property, or the environment.

(1071)

### §164.53 Deviations from rules and reporting: Non-operating equipment.

(1072) (a) If during a voyage any equipment required by this part stops operating properly, the person directing the movement of the vessel may continue to the next port of call, subject to the directions of the District Commander or the Captain of the Port, as provided by part 160 of this chapter.

(1073) (b) If the vessel's automatic identification system (AIS), radar, radio navigation receivers, gyrocompass, echo depth sounding device, or primary steering gear stops operating properly, the person directing the movement of the vessel must report or cause to be reported that it is not operating properly to the nearest Captain of the Port, District Commander, or, if participating in a Vessel Traffic Service, to the Vessel Traffic Center, as soon as possible.

(1074)

### §164.55 Deviations from rules: Continuing operation or period of time.

(1075) The Captain of the Port, upon written application, may authorize a deviation from any rule in this part if he determines that the deviation does not impair the safe navigation of the vessel under anticipated conditions and will not result in a violation of the rules for preventing collisions at sea. The authorization may be issued for vessels operating in the waters under the jurisdiction of the Captain of the Port for any continuing operation or period of time the Captain of the Port specifies.

(1076)

### §164.61 Marine casualty reporting and record retention.

(1077) When a vessel is involved in a marine casualty as defined in 46 CFR 4.03-1, the master or person in charge of the vessel shall–

(1078) (a) Ensure compliance with 46 CFR 4.05, "Notice of Marine Casualty and Voyage Records," and

(1079) (b) Ensure that the voyage records required by 46 CFR 4.05-15 are retained for–

(1080) (1) 30 days after the casualty if the vessel remains in the navigable waters of the United States; or

(1081) (2) 30 days after the return of the vessel to a United States port if the vessel departs the navigable waters of the United States within 30 days after the marine casualty.

(1082)

### §164.70 Definitions.

(1083) For purposes of §§164.72 through 164.82, the term–

(1084) *Current edition* means the most recent published version of a publication, chart, or map required by §164.72.

(1085) *Currently corrected edition* means a current or previous edition of a publication required by §164.72, corrected with changes that come from Notice to Mariners (NTMs) or Notices to Navigation reasonably available and that apply to the vessel's transit. Hand-annotated river maps from U.S. Army Corps of Engineers (USACE) are currently corrected editions if issued within the previous 5 years.

(1086) *Great Lakes* means the Great Lakes and their connecting and tributary waters including the Calumet River as far as the Thomas J. O'Brien Lock and Controlling Works (between miles 326 and 327), the Chicago River as far as the east side of the Ashland Avenue Bridge (between miles 321 and 322), and the Saint Lawrence River as far east as the lower exit of Saint Lambert Lock.

(1087) *Merchant mariner credential or MMC* means the credential issued by the Coast Guard under 46 CFR part 10. It combines the individual merchant mariner's document, license, and certificate of registry enumerated in 46 U.S.C. subtitle II part E as well as the STCW endorsement into a

single credential that serves as the mariner's qualification document, certificate of identification, and certificate of service.

(1088) *Swing-meter* means an electronic or electric device that indicates the rate of turn of the vessel on board which it is installed.

(1089) *Towing vessel* means a commercial vessel engaged in or intending to engage in pulling, pushing or hauling alongside, or any combination of pulling, pushing, or hauling alongside.

(1090) *Western Rivers* means the Mississippi River, its tributaries, South Pass, and Southwest Pass, to the navigational-demarcation lines dividing the high seas from harbors, rivers, and other inland waters of the United States, and the Port Allen-Morgan City Alternative Route, and that part of the Atchafalaya River above its junction with the Port Allen-Morgan City Alternative Route including the Old River and the Red River and those waters specified by §§89.25 and 89.27 of this chapter, and such other, similar waters as are designated by the COTP.

(1091)

### §164.72 Navigational-safety equipment, charts or maps, and publications required on towing vessels.

(1092) (a) Except as provided by §164.01(b), each towing vessel must be equipped with the following navigational-safety equipment:

(1093) (1) *Marine Radar*. By August 2, 1997, a marine radar that meets the following applicable requirements:

(1094) (i) For a vessel of less than 300 tons gross tonnage that engages in towing on navigable waters of the U.S., including Western Rivers, the radar must meet–

(1095) (A) The requirements of the Federal Communications Commission (FCC) specified by 47 CFR part 80; and

(1096) (B) RTCM Standard for Marine Radar Equipment Installed on Ships of Less Than 300 Tons Gross Tonnage, RTCM Paper-71-95/SC112-STD, Version 1.1, display Category II and stabilization Category Bravo.

(1097) (ii) For a vessel of less than 300 tons gross tonnage that engages in towing seaward of navigable waters of the U.S. or more than three nautical miles from shore on the Great Lakes, the radar must meet–

(1098) (A) The requirements of the FCC specified by 47 CFR part 80; and

(1099) (B) RTCM Standard for Marine Radar Equipment Installed on Ships of Less Than 300 Tons Gross Tonnage, RTCM Paper 71-95/SC112-STD, Version 1.1, display Category I and stabilization Category Alpha.

(1100) (iii) For a vessel of 300 tons gross tonnage or more that engages in towing on navigable waters of the U.S., including Western rivers, the radar must meet–

(1101) (A) The requirements of the Federal Communications Commission (FCC) specified by 47 CFR part 80; and

(1102) (B) RTCM Recommended Standards for Marine Radar Equipment Installed on Ships of 300 Tons Gross Tonnage and Upwards, RTCM Paper 191-93/SC112-X, Version 1.2 except the requirements for azimuth stabilization in paragraph 3.10.

(1103) (iv) For a vessel of 300 tons gross tonnage or more that engages in towing seaward of navigable waters of the U.S. or more than three nautical miles from shore on the Great Lakes, the radar must meet–

(1104) (A) The requirements of the FCC specified by 47 CFR part 80; and

(1105) (B) RTCM Recommended Standards for Marine Radar Equipment Installed on Ships of 300 Tons Gross Tonnage and Upwards, RTCM Paper 191-93/SC112-X, Version 1.2.

(1106) (v) A towing vessel with an existing radar must meet the applicable requirements of paragraphs (a)(1)(i) through (iv) of this section by August 2, 1998; except that a towing vessel with an existing radar must meet the display and stabilization requirements of paragraph (a)(1)(ii)(B) of this section by August 2, 2001.

(1107) (2) *Searchlight*. A searchlight, directable from the vessel's main steering station and capable of illuminating objects at a distance of at least two times the length of the tow.

(1108) (3) *VHF-FM Radio*. An installation or multiple installations of VHF-FM radios as prescribed by part 26 of this chapter and 47 CFR part 80, to maintain a continuous listening watch on the designated calling channel, VHF-FM Channel 13 (except on portions of the Lower Mississippi River, where VHF-FM Channel 67 is the designated calling channel), and to separately monitor the International Distress and Calling Channel, VHF-FM Channel 16, except when transmitting or receiving traffic on other VHF-FM channels or when participating in a Vessel Traffic Service (VTS) or monitoring a channel of a VTS. (Each U.S. towing vessel of 26 feet (about 8 meters) or more in length, except a public vessel, must hold a ship-radio-station license for radio transmitters (including radar and EPIRBs), and each operator must hold a restricted operator's license or higher. To get an application for either license, call (800) 418-FORM or (202) 418-FORM, or write to the FCC; Wireless Bureau, Licensing Division; 1270 Fairfield Road; Gettysburg, PA 17325-7245.)

(1109) (4) *Magnetic Compass*. Either–

(1110) (i) An illuminated swing-meter or an illuminated card-type magnetic steering compass readable from the vessel's main steering station, if the vessel engages in towing exclusively on Western Rivers; or

(1111) (ii) An illuminated card-type magnetic steering compass readable from the vessel's main steering station.

(1112) (5) Echo Depth-Sounding Device. By August 2, 2001, an echo depth-sounding device readable from the vessel's main steering station, unless the vessel engages in towing exclusively on Western Rivers.

(1113) (6) Electronic Position-Fixing Device. An electronic position-fixing device, a satellite navigational system such as the Global Positioning System (GPS) as required by §164.41, if the vessel engages in towing seaward of

(1133)

**TABLE 164.72 – Equipment, Charts or Maps, and Publications of Towing Vessels for 12 Meters or More in Length**

| | Western Rivers | U.S. Navigable Waters (other than Western Rivers) | Waters seaward of Navigable Waters and 3 NM or more from shore on the Great Lakes |
|---|---|---|---|
| Marine Radar: Towing Vessels of less than 300 GT | RTCM Paper 71-95/SC112-STD Version 1.1 Display Category II[1] Stabilization Category BRAVO | RTCM Paper 71-95/SC112-STD Version 1.1 Display Category II[1] Stabilization Category BRAVO | RTCM Paper 71-95/SC112-STD Version 1.1 Display Category I[2] Stabilization Category ALPHA |
| Towing Vessels of 300 GT or more | RTCM Paper 191-93/SC112-X Version 1.2 (except the Azimuth stabilization requirement in paragraph 3.10)[1] | RTCM Paper 191-93/SC112-X Version 1.2 (except the Azimuth stabilization requirement in paragraph 3.10)[1] | RTCM Paper 191-93/SC112-X Version 1.2[1] |
| Searchlight | X | X | X |
| VHF-FM Radio | X | X | X |
| Magnetic Compass | X[3] | X | X |
| Swing Meter | X[3] | | |
| Echo Depth-sounding Device | | X | X |
| Electronic Position Fixing Device | | | X |
| Charts or Maps | (1) Large enough scale (2) Current edition or currently corrected edition | (1) Large enough scale (2) Current edition or currently corrected edition | (1) Large enough scale (2) Currently corrected edition |
| General Publications | (1) U.S. Coast Guard Light List (2) Notices to Navigation or Local Notices to Mariners (3) River-current Tables | (1) U.S. Coast Guard Light List (2) Local Notices to Mariners (3) Tidal-current Tables (4) Tide Tables (5) U.S. Coast Pilot | (1) U.S. Coast Guard Light List (2) Local Notices to Mariners (3) Tidal-current Tables (4) Tide Tables (5) U.S. Coast Pilot |

Notes:
[1] Towing vessels with existing radar must meet this requirement by August 2, 1998.
[2] Towing vessels with existing radar must meet this requirement by August 2, 1998 but do not need to meet the display and stabilization requirements until August 2, 2001.
[3] A towing vessel may carry either a swing-meter or a magnetic compass.

navigable waters of the U.S. or more than three nautical miles from shore on the Great Lakes.

(1114) (b) Each towing vessel must carry on board and maintain the following:

(1115) (1) *Charts or maps*. Marine charts or maps of the areas to be transited, published by the National Ocean Service (NOS), the ACOE, or a river authority that satisfy the following requirements:

(1116) (i) The charts or maps must be of a large enough scale and have enough detail to make safe navigation of the areas possible.

(1117) (ii) The charts or maps must be either–

(1118) (A) Current editions or currently corrected editions, if the vessel engages in towing exclusively on navigable waters of the U.S., including Western Rivers; or

(1119) (B) Currently corrected editions, if the vessel engages in towing seaward of navigable waters of the U.S. or more than three nautical miles from shore on the Great Lakes.

(1120) (iii) The charts or maps may be, instead of charts or maps required by paragraphs (b)(1) (i) and (ii) of this section, currently corrected marine charts or maps, or applicable extracts, published by a foreign government. These charts or maps, or applicable extracts, must contain information similar to that on the charts or maps required by paragraphs (b)(1) (i) and (ii) of the section, be of large enough scale, and have enough detail to make safe navigation of the areas possible, and must be currently corrected.

(1121) (2) *General publications*. A currently corrected edition of, or an applicable currently corrected extract from, each of the following publications for the area to be transited:

(1122) (i) If the vessel is engaged in towing exclusively on Western Rivers–

(1123) (A) U.S. Coast Guard Light List;

(1124) (B) Applicable Notices to Navigation published by the ACOE, or Local Notices to Marines (LNMs) published by the Coast Guard, for the area to be transited, when available; and

(1125) (C) Tidal-current tables published by private entities using data provided by the NOS, or river-current tables published by a river authority;

(1126) (ii) if the vessel is engaged other than in towing exclusively on Western Rivers–

(1127) (A) Coast Guard Light List;

(1128) (B) Notices to Mariners published by the National Geospatial-Intelligence Agency, or LNMs published by the Coast Guard;

(1129) (C) Tidal-Current tables published by the NOS, or river-current tables published by the ACOE or a river authority:

(1130) (D) Tide tables published by the NOS; and

(1131) (E) U.S. Coast Pilot.

(1132) (c) Table 164.72, following, summarizes the navigational-safety equipment, charts or maps, and publications required for towing vessels of 12 meters or more in length engaged in towing:

(1134)

**§164.74 Towline and terminal gear for towing astern.**

(1135) (a) *Towline*. The owner, master, or operator of each vessel towing astern shall ensure that the strength of each towline is adequate for its intended service, considering at least the following factors:

(1136) (1) The size and material of each towline must be–

(1137) (i) Appropriate for the horsepower or bollard pull of the vessel;

(1138) (ii) Appropriate for the static loads and dynamic loads expected during the intended service;

(1139) (iii) Appropriate for the sea conditions expected during the intended service;

(1140) (iv) Appropriate for exposure to the marine environment and to any chemicals used or carried on board the vessel;

(1141) (v) Appropriate for the temperatures of normal stowage and service on board the vessel;

(1142) (vi) Compatible with associated navigational-safety equipment; and

(1143) (vii) Appropriate for the likelihood of mechanical damage.

(1144) (2) Each towline as rigged must be–

(1145) (i) Free of knots;

(1146) (ii) Spliced with a thimble, or have a poured socket at its end; and

(1147) (iii) Free of wire clips except for temporary repair, for which the towline must have a thimble and either five wire clips or as many wire clips as the manufacturer specifies for the nominal diameter and construction of the towline, whichever is more.

(1148) (3) The condition of each towline must be monitored through the–

(1149) (i) Keeping on board the towing vessel or in company files of a record of the towline's initial minimum breaking strength as determined by the manufacturer, by a classification ("class") society authorized in §157.04 of this chapter, or by a tensile test that meets API Specifications 9A, Specification for Wire Rope, Section 3; ASTM D 4268 (incorporated by reference, see §164.03), Standard Test Method for Testing Fiber Ropes; or Cordage Institute CIA 3, Standard Test Methods for Fiber Rope Including Standard Terminations;

(1150) (ii) If the towline is purchased from another owner, master, or operator of a vessel with the intent to use it as a towline or if it is retested for any reason, keeping on board the towing vessel or in company files of a record of each retest of the towline's minimum breaking strength as determined by a class society authorized in §157.04 of this chapter or by a tensile test that meets API Specification 9A, Section 3; ASTM D 4268 (incorporated by reference, see §164.03); or Cordage Institute CIA 3, Standard Test Methods;

(1151) (iii) Conducting visual inspections of the towline in accordance with the manufacturer's recommendations, or at least monthly, and whenever the serviceability of the towline is in doubt (the inspections being conducted by the owner, master, or operator, or by a person on whom the owner, master, or operator confers the responsibility to take corrective measures appropriate for the use of the towline);

(1152) (iv) Evaluating the serviceability of the whole towline or any part of the towline, and removing the whole or part from service either as recommended by the manufacturer or a class society authorized in §157.04 of this chapter or in accordance with a replacement schedule developed by the owner, master, or operator that accounts for at least the–

(1153) (A) Nautical miles on, or time in service of, the towline;

(1154) (B) Operating conditions experienced by the towline;

(1155) (C) History of loading of the towline;

(1156) (D) Surface condition, including corrosion and discoloration, of the towline;

(1157) (E) Amount of visible damage to the towline;

(1158) (F) Amount of material deterioration indicated by measurements of diameter and, if applicable, measurements of lay extension of the towline; and

(1159) (G) Point at which a tensile test proves the minimum breaking strength of the towline inadequate by the standards of paragraph (a)(1) of this section, if necessary; and

(1160) (v) Keeping on board the towing vessel or in company files of a record of the material condition of the towline when inspected under paragraphs (a)(3)(iii) and (iv) of this section. Once this record lapses for three months or more, except when a vessel is laid up or out of service or has not deployed its towline, the owner, master, or operator shall retest the towline or remove it from service.

(1161) (b) *Terminal gear*. The owner, master, or operator of each vessel towing astern shall ensure that the gear used to control, protect, and connect each towline meets the following criteria:

(1162) (1) The material and size of the terminal gear are appropriate for the strength and anticipated loading of the towline and for the environment;

(1163) (2) Each connection is secured by at least one nut with at least one cotter pin or other means of preventing its failure;

(1164) (3) The lead of the towline is appropriate to prevent sharp bends in the towline from fairlead blocks, chocks, or tackle;

(1165) (4) There is provided a method, whether mechanical or non-mechanical, that does not endanger operating personnel but that easily releases the towline;

(1166) (5) The towline is protected from abrasion or chafing by chafing gear, lagging, or other means;

(1167) (6) Except on board a vessel towing in ice on Western Rivers or one using a towline of synthetic or natural fiber, there is fitted a winch that evenly spools and tightly winds the towline; and

(1168) (7) If a winch is fitted, there is attached to the main drum a brake that has holding power appropriate for the horsepower or bollard pull of the vessel and can be operated without power to the winch.

(1169)

### §164.76 Towline and terminal gear for towing alongside and pushing ahead.

(1170) The owner, master, or operator of each vessel towing alongside or pushing ahead shall ensure the face wires, spring lines, and push gear used–

(1171) (a) Are appropriate for the vessel's horsepower;

(1172) (b) Are appropriate for the arrangement of the tow;

(1173) (c) Are frequently inspected; and

(1174) (d) Remain serviceable.

(1175)

### §164.78 Navigation under way: Towing vessels.

(1176) (a) The owner, master, or operator of each vessel towing shall ensure that each person directing and controlling the movement of the vessel–

(1177) (1) Understands the arrangement of the tow and the effects of maneuvering on the vessel towing and on the vessel, barge, or object being towed;

(1178) (2) Can fix the position of the vessel using installed navigational equipment, aids to navigation, geographic reference-points, and hydrographic contours;

(1179) (3) Does not fix the position of the vessel using buoys alone (Buoys are aids to navigation placed in approximate positions either to alert mariners to hazards to navigation or to indicate the orientation of a channel. They may not maintain exact charted positions, because strong or varying currents, heavy seas, ice and collisions with vessels can move or sink them or set them adrift. Although they may corroborate a position fixed by other means, they cannot fix a position; however, if no other aids are available, buoys alone may establish an estimated position.);

(1180) (4) Evaluates the danger of each closing visual or radar contact;

(1181) (5) Knows and applies the variation and deviation, where a magnetic compass is fitted and where charts or maps have enough detail to enable this type of correction;

(1182) (6) Knows the speed and direction of the current, and the set, drift, and tidal state for the area to be transited;

(1183) (7) Proceeds at a safe speed taking into account the weather, visibility, density of traffic, draft of tow, possibility of wake damage, speed and direction of the current, and local speed-limits; and

(1184) (8) Monitors the voyage plan required by §164.80.

(1185) (b) The owner, master, or operator of each vessel towing shall ensure that the tests and inspections required by §164.80 are conducted and that the results are entered in the log or other record carried on board.

(1186)

### §164.80 Tests, inspections, and voyage planning.

(1187) (a) The owner, master, or operator of each towing vessel of less than 1,600 GT shall ensure that the following tests and inspections of gear occur before the vessel embarks on a voyage of more than 24 hours or when each new master or operator assumes command:

(1188) (1) *Steering-systems*. A test of the steering-gear-control system; a test of the main steering gear from the alternative power supply, if installed; a verification of the rudder-angle indicator relative to the actual position of the rudder; and a visual inspection of the steering gear and its linkage.

(1189) (2) *Navigational equipment*. A test of all installed navigational equipment.

(1190) (3) *Communications*. Operation of all internal vessel control communications and vessel-control alarms, if installed.

(1191) (4) *Lights*. Operation of all navigational lights and all searchlights.

(1192) (5) *Terminal gear*. Visual inspection of tackle; of connections of bridle and towing pendant, if applicable; of chafing gear; and the winch brake, if installed.

(1193) (6) *Propulsion systems*. Visual inspection of the spaces for main propulsion machinery, of machinery, and of devices for monitoring machinery.

(1194) (b) The owner, master, or operator of each towing vessel of 1,600 GT or more shall ensure that the following tests of equipment occur at the frequency required by §164.25 and that the following inspections of gear occur before the vessel embarks on a voyage of more than 24 hours or when each new master or operator assumes command:

(1195) (1) *Navigational equipment*. Tests of onboard equipment as required by §164.25.

(1196) (2) *Terminal gear*. Visual inspection of tackle; of connections of bridle and towing pendant, if applicable; of chafing gear; and of the winch brake, if installed.

(1197) (c)(1) The voyage-planning requirements outlined in this section do not apply to you if your towing vessel is–

(1198) (i) Used solely for any of the following services or any combination of these services–

(1199) (A) Within a limited geographic area, such as fleeting-area for barges or a commercial facility, and used for restricted service, such as making up or breaking up larger tows:

(1200) (B) For harbor assist;

(1201) (C) For assistance towing as defined by 46 CFR 10.103;

(1202) (D) For response to emergency or pollution;

(1203) (ii) A public vessel that is both owned, or demise chartered, and operated by the United States Government or by a government of a foreign country; and that is not engaged in commercial service;

(1204) (iii) A foreign vessel engaged in innocent passage; or

(1205) (iv) Exempted by the Captain of the Port (COTP).

(1206) (2) If you think your towing vessel should be exempt from these voyage planning requirements for a specified route, you should submit a written request to the appropriate COTP. The COTP will provide you with a written response granting or denying your request.

(1207) (3) If any part of a towing vessel's intended voyage is seaward of the baseline (*i.e.,* the shoreward boundary) of the territorial sea of the U.S., then the owner, master, or operator of the vessel, employed to tow a barge or barges, must ensure that the voyage with the barge or barges is planned, taking into account all pertinent information before the vessel embarks on the voyage. The master must check the planned route for proximity to hazards before the voyage begins. During a voyage, if a decision is made to deviate substantially from the planned route, then the master or mate must plan the new route before deviating from the planned route. The voyage plan must follow company policy and consider the following (related requirements noted in parentheses):

(1208) (i) Applicable information from nautical charts and publication (also see paragraph (b) of section 164.72), including Coast Pilot, Coast Guard Light List, and Coast Guard Local Notice to Mariners for the port of departures, all ports of call, and the destination;

(1209) (ii) Current and forecast weather, including visibility, wind, and sea state for the port of departure, all ports of call, and the destination (also see paragraphs (a)(7) of section 164.78 and (b) of section 164.82);

(1210) (iii) Data on tides and currents for the port of departure, all ports of call, and the destination, and the river staged and forecast, if appropriate;

(1211) (iv) Forward and after drafts of the barge or barges and under-keel and vertical clearances (air-gaps) for all bridges, ports, and berthing areas;

(1212) (v) Pre-departure checklists;

(1213) (vi) Calculated speed and estimated time of arrival at proposed waypoints;

(1214) (vii) Communication contacts at any Vessel Traffic Services, bridges, and facilities, and any port specific requirements for VHF radio;

(1215) (viii) Any master's or operator's standings orders detailing closest points of approach, special conditions, and critical maneuvers; and

(1216) (ix) Whether the towing vessel has sufficient power to control the tow under all foreseeable circumstances.

(1217)

**§164.82 Maintenance, failure, and reporting.**

(1218) (a) *Maintenance*. The owner, master, or operator of each towing vessel shall maintain operative the navigational-safety equipment required by §164.72.

(1219) (b) *Failure*. If any of the navigational-safety equipment required by §164.72 fails during a voyage, the owner, master, or operator of the towing vessel shall exercise due diligence to repair it at the earliest practicable time. He or she shall enter its failure in the log or other record carried on board. The failure of equipment, in itself, does not constitute a violation of this rule; nor does it constitute unseaworthiness; nor does it obligate an owner, master, or operator to moor or anchor the vessel. However, the owner, master, or operator shall consider the state of the equipment-along with such factors as weather, visibility, traffic, and the dictates of good seamanship-in deciding whether it is safe for the vessel to proceed.

(1220) (c) *Reporting*. The owner, master, or operator of each towing vessel whose equipment is inoperative or otherwise impaired while the vessel is operating within a Vessel Traffic Service (VTS) Area shall report the fact as required by 33 CFR 161.124. (33 CFR 161.124 requires that each user of a VTS report to the Vessel Traffic Center as soon as practicable:

(1221) (1) Any absence or malfunction of vessel-operating equipment for navigational safety, such as propulsion machinery, steering gear, radar, gyrocompass, echo depth-sounding or other sounding device, automatic dependent surveillance equipment, or navigational lighting;

(1222) (2) Any condition on board the vessel likely to impair navigation, such as shortage of personnel or lack of current nautical charts or maps, or publications; and

(1223) (3) Any characteristics of the vessel that affect or restrict the maneuverability of the vessel, such as arrangement of cargo, trim, loaded condition, under-keel clearance, and speed.)

(1224) (d) *Deviation and authorization*. The owner, master, or operator of each towing vessel unable to repair within 96 hours an inoperative marine radar required by §164.72(a) shall so notify the Captain of the Port (COTP) and shall seek from the COTP both a deviation from the requirements of this section and an authorization for continued operation in the area to be transited. Failure of redundant navigational-safety equipment, including but not limited to failure of one of two installed radars, where each satisfies §164.72(a), does not necessitate either a deviation or an authorization.

(1225) (1) The initial notice and request for a deviation and an authorization may be spoken, but the request must also be written. The written request must explain why immediate repair is impracticable, and state when and by whom the repair will be made.

(1226) (2) The COTP, upon receiving even a spoken request, may grant a deviation and an authorization from any of the provisions of §§164.70 through 164.82 for a specified time if he or she decides that they would not impair the safe navigation of the vessel under anticipated conditions.

(1227)

# Part 165–Regulated Navigation Areas and Limited Access Areas

(1228)

## Subpart A–General

(1229)

### §165.1 Purpose of part.

(1230) The purpose of this part is to–

(1231) (a) Prescribe procedures for establishing different types of limited or controlled access areas and regulated navigation areas;

(1232) (b) Prescribe general regulations for different types of limited or controlled access areas and regulated navigation areas;

(1233) (c) Prescribe specific requirements for established areas; and

(1234) (d) List specific areas and their boundaries.

(1235)

### §165.3 Definitions.

(1236) The following definitions apply to this part:

(1237) *Credential* means any or all of the following:

(1238) (1) Merchant mariner's document.

(1239) (2) Merchant mariner's license.

(1240) (3) STCW endorsement.

(1241) (4) Certificate of registry.

(1242) (5) Merchant mariner credential.

(1243) *Merchant mariner credential or MMC* means the credential issued by the Coast Guard under 46 CFR part 10. It combines the individual merchant mariner's document, license, and certificate of registry enumerated in 46 U.S.C. subtitle II part E as well as the STCW endorsement into a single credential that serves as the mariner's qualification document, certificate of identification, and certificate of service.

(1244)

### §165.5 Establishment procedures.

(1245) (a) A safety zone, security zone, or regulated navigation area may be established on the initiative of any authorized Coast Guard official.

(1246) (b) Any person may request that a safety zone, security zone, or regulated navigation area be established. Except as provided in paragraph (c) of this section, each request must be submitted in writing to either the Captain of the Port or District Commander having jurisdiction over the location as described in Part 3 of this chapter, and include the following:

(1247) (1) The name of the person submitting the request;

(1248) (2) The location and boundaries of the safety zone, security zone, or regulated navigation area;

(1249) (3) The date, time, and duration that the safety zone, security zone, or regulated navigation area should be established;

(1250) (4) A description of the activities planned for the safety zone, security zone, or regulated navigation area;

(1251) (5) The nature of the restrictions or conditions desired; and

(1252) (6) The reason why the safety zone, security zone, or regulated navigation area is necessary.

(1253) (c) Safety Zones and Security Zones. If, for good cause, the request for a safety zone or security zone is made less than 5 working days before the zone is to be established, the request may be made orally, but it must be followed by a written request within 24 hours. (Requests for safety zones, security zones, and regulated navigation areas are approved by the Office of Management and Budget under control number 1625-0020.)

(1254)

### §165.7 Notification.

(1255) (a) The establishment of these limited access areas and regulated navigation areas is considered rulemaking. The procedures used to notify persons of the establishment of these areas vary depending upon the circumstances and emergency conditions. Notification may be made by marine broadcasts, local notice to mariners, local news media, distribution in leaflet form, and on-scene oral notice, as well as publication in the Federal Register.

(1256) (b) Notification normally contains the physical boundaries of the area, the reasons for the rule, its estimated duration, and the method of obtaining authorization to enter the area, if applicable, and special navigational rules, if applicable.

(1257)

### §165.8 Geographic coordinates.

(1258) Geographic coordinates expressed in terms of latitude or longitude, or both, are not intended for plotting on maps or charts whose referenced horizontal datum is the North American Datum of 1983 (NAD 83), unless such geographic coordinates are expressly labeled NAD 83. Geographic coordinates without the NAD 83 reference may be plotted on maps or charts referenced to NAD 83 only after application of the appropriate corrections that are published on the particular map or chart being used.

(1259)

### §165.9 Geographic application of limited and controlled access areas and regulated navigation areas.

(1260) (a) *General*. The geographic application of the limited and controlled access areas and regulated navigation areas in this part are determined based on the statutory authority under which each is created.

(1261) (b) *Safety zones and regulated navigation areas*. These zones and areas are created under the authority of 46 U.S.C. chapter 700. Safety zones established under 46 U.S.C. 70116 and regulated navigation areas may be established in waters subject to the jurisdiction of the United States as defined in §2.38 of this chapter, including the territorial sea to a seaward limit of 12 nautical miles from the baseline.

(1262) (c) *Security zones*. These zones have two sources of authority–46 U.S.C. chapter 700, and the Act of June 15, 1917, as amended by both the Magnuson Act of August 9, 1950 ("Magnuson Act"), 46 U.S.C. 70051–54,

and sec. 104 the Maritime Transportation Security Act of 2002 (Pub. L. 107-295, 116 Stat. 2064). Security zones established under either 46 U.S.C. 70116 or 46 U.S.C. 70051 may be established in waters subject to the jurisdiction of the United States as defined in §2.38 of this chapter, including the territorial sea to a seaward limit of 12 nautical miles from the baseline.

(1263) (d) *Naval vessel protection zones*. These zones are issued under the authority of 14 U.S.C. 91 and 633 and may be established in waters subject to the jurisdiction of the United States as defined in §2.38 of this chapter, including the territorial sea to a seaward limit of 12 nautical miles from the baseline.

(1264)

## Subpart B–Regulated Navigation Areas

(1265)

### §165.10 Regulated navigation area.

(1266) A regulated navigation area is a water area within a defined boundary for which regulations for vessels navigating within the area have been established under this part.

(1267)

### §165.11 Vessel operating requirements (regulations).

(1268) Each District Commander may control vessel traffic in an area which is determined to have hazardous conditions, by issuing regulations–

(1269) (a) Specifying times of vessel entry, movement, or departure to, from, within, or through ports, harbors, or other waters;

(1270) (b) Establishing vessel size, speed, draft limitations, and operating conditions; and

(1271) (c) Restricting vessel operation, in a hazardous area or under hazardous conditions, to vessels which have particular operating characteristics or capabilities which are considered necessary for safe operation under the circumstances.

(1272)

### §165.13 General regulations.

(1273) (a) The master of a vessel in a regulated navigation area shall operate the vessel in accordance with the regulations contained in Subpart F.

(1274) (b) No person may cause or authorize the operation of a vessel in a regulated navigation area contrary to the regulations in this Part.

(1275)

## Subpart C–Safety Zones

(1276)

### §165.20 Safety zones.

(1277) A Safety Zone is a water area, shore area, or water and shore area to which, for safety or environmental purposes, access is limited to authorized persons, vehicles, or vessels. It may be stationary and described by fixed limits or it may be described as a zone around a vessel in motion.

(1278)

### §165.23 General regulations.

(1279) Unless otherwise provided in this part–

(1280) (a) No person may enter a safety zone unless authorized by the COTP or the District Commander;

(1281) (b) No person may bring or cause to be brought into a safety zone any vehicle, vessel, or object unless authorized by the COTP or the District Commander;

(1282) (c) No person may remain in a safety zone or allow any vehicle, vessel, or object to remain in a safety zone unless authorized by the COTP or the District Commander; and

(1283) (d) Each person in a safety zone who has notice of a lawful order or direction shall obey the order or direction of the COTP or District Commander issued to carry out the purposes of this subpart.

(1284)

## Subpart D–Security Zones

(1285)

### §165.30 Security zones.

(1286) (a) A security zone is an area of land, water, or land and water which is so designated by the Captain of the Port or District Commander for such time as is necessary to prevent damage or injury to any vessel or waterfront facility, to safeguard ports, harbors, territories, or waters of the United States or to secure the observance of the rights and obligations of the United States.

(1287) (b) The purpose of a security zone is to safeguard from destruction, loss, or injury from sabotage or other subversive acts, accidents, or other causes of a similar nature–

(1288) (1) Vessels,

(1289) (2) Harbors,

(1290) (3) Ports, and

(1291) (4) Waterfront facilities–in the United States and all territory and water, continental or insular, that is subject to the jurisdiction of the United States.

(1292)

### §165.33 General regulations.

(1293) Unless otherwise provided in the special regulations in Subpart F of this part–

(1294) (a) No person or vessel may enter or remain in a security zone without the permission of the Captain of the Port;

(1295) (b) Each person and vessel in a security zone shall obey any direction or order of the Captain of the Port;

(1296) (c) The Captain of the Port may take possession and control of any vessel in the security zone;

(1297) (d) The Captain of the Port may remove any person, vessel, article, or thing from a security zone;

(1298) (e) No person may board, or take or place any article or thing on board, any vessel in a security zone without the permission of the Captain of the Port; and

(1299) (f) No person may take or place any article or thing upon any waterfront facility in a security zone without the permission of the Captain of the Port.

(1300)

## Subpart E–Restricted Waterfront Areas

(1301)

### §165.40 Restricted Waterfront Areas.

(1302) The Commandant may direct the COTP to prevent access to waterfront facilities, and port and harbor areas, including vessels and harbor craft therein. This section may apply to persons who do not possess the credentials outlined in 33 CFR 125.09 when certain shipping activities are conducted that are outlined in 33 CFR 125.15.

(1303)

## Subpart F–Specific Regulated Navigation Areas and Limited Access Areas

(1304)

### §165.1702 Gastineau Channel, Juneau, Alaska-safety zone.

(1305) (a) The waters within the following boundaries are a safety zone: A line beginning at position 58°17.8'N., 134°24.9'W., in the direction of 140° True to Rock Dump Lighted Buoy 2A (LLNR 23685) at position 58°17.1'N., 134°23.8'W.; thence in the direction of 003° true to a point at position 58°17.4'N., 134°23.8'W., on the north shore of Gastineau Channel; thence northwesterly along the north shore of Gastineau Channel to the point of origin.

(1306) (b) Special Regulations:

(1307) (1) All vessels may transit or navigate within the safety zone.

(1308) (2) No vessels, other than a large passenger (including cruise ships and ferries) may anchor within the safety zone without the express consent from the Captain of the Port, Southeast Alaska.

(1309)

### §165.1711 Security Zones; Waters of the Seventeenth Coast Guard District

(1310) (a) *Definitions*. As used in this section–

(1311) *Alaska Marine Highway System vessel ("AMHS vessel")* means any vessel owned or operated by the Alaska Marine Highway System, including, but not limited to: M/V AURORA, M/V CHENEGA, M/V COLUMBIA, M/V FAIRWEATHER, M/V KENNICOTT, M/V LECONTE, M/V LITUYA, M/V MALASPINA, M/V MATANUSKA, M/V TAKU, and the M/V TUSTUMENA.

(1312) *Designated on Scene Representative* means any U.S. Coast Guard commissioned, warrant or petty officer who has been authorized by the District Commander or local Captain of the Port (COTP), as defined in 33 CFR part 3, subpart 3.85, to act on his or her behalf, or other Federal, State or local law enforcement Officers designated by the COTP.

(1313) *Escorted HCPV or AMHS vessel* means a HCPV or AMHS vessel that is accompanied by one or more Coast Guard assets or Federal, State or local law enforcement agency assets as listed below:

(1314) (1) Coast Guard surface or air asset displaying the Coast Guard insignia.

(1315) (2) State, Federal or local law enforcement assets displaying the applicable agency markings and/or equipment associated with the agency.

(1316) *Federal Law Enforcement Officer* means any Federal government law enforcement officer who has authority to enforce federal criminal laws.

(1317) *High Capacity Passenger Vessel ("HCPV")* means a passenger vessel greater than 100 feet in length that is authorized to carry more than 500 passengers for hire.

(1318) *State law enforcement Officer* means any State or local government law enforcement officer who has authority to enforce State or local criminal laws.

(1319) (b) *Location*. The following areas are security zones: all waters within 100 yards around escorted High Capacity Passenger Vessels or escorted Alaska Marine Highway System vessels in the navigable waters of the Seventeenth Coast Guard District as defined in 33 CFR 3.85-1, from surface to bottom.

(1320) (c) *Regulations*. (1) No vessel may approach within 100 yards of an escorted HCPV or escorted AMHS vessel during their transits within the navigable waters of the Seventeenth Coast Guard District.

(1321) (2) Moored or anchored vessels that are overtaken by this moving zone must remain stationary at their location until the escorted vessel maneuvers at least 100 yards away.

(1322) (3) The local Captain of the Port may notify the maritime and general public by marine information broadcast of the periods during which individual security zones have been activated by providing notice in accordance with 33 CFR 165.7.

(1323) (4) Persons desiring to transit within 100 yards of a moving, escorted HCPV or AMHS vessel in the Seventeenth Coast Guard District must contact the designated on scene representative on VHF channel 16 (156.800 MHz) or VHF channel 13 (156.650 MHz) to receive permission.

(1324) (5) If permission is granted to transit within 100 yards of an escorted HCPV or AMHS vessel, all persons and vessels must comply with the instructions of the designated on scene representative.

(1325) (6) All commercial fishing vessels as defined by 46 U.S.C. 2101(11a) while actively engaged in fishing are exempted from the provisions of this section.

(1326)

### §165.1712 Safety Zones; Annual Independence Day Firework Displays, Skagway, Haines, and Wrangell, AK.

(1327) (a) *Regulated areas*. The following areas are permanent safety zones:

(1328) (1) All navigable waters of Taiya Inlet within a 300-yard radius of the fireworks launching point located on the White Pass and Yukon Railway Dock at approximate position 59°26.70′ N, 135°19.58′ W in the vicinity of the mouth of the Small Boat Harbor, Skagway, Alaska;

(1329) (2) All navigable waters of Portage Cove, Haines, AK within a 300-yard radius around the fireworks launch area, centered at approximate position 59°14′16.72″ N, 135°25′35.79″ W; (3) all navigable waters of Wrangell Harbor within a 300-yard radius of the fireworks launch platform centered at approximate position 56°28.223′ N and 132°23.285′ W.

(1330) (b) *Effective date*. This rule is effective from 10 p.m. until 2:30 a.m., July 3 through July 5, of each year.

(1331) (c) *Definitions*. The following definitions apply to this section:

(1332) Designated Representative—a "designated representative" is any Coast Guard commissioned, warrant or petty officer of the U.S. Coast Guard who has been designated by the Captain of the Port, to act on his or her behalf

(1333) (d) *Regulations.* (1) The general regulations contained in 33 CFR 165.23, as well as the following regulations, apply.

(1334) (2) No vessels, except for fireworks barge and accompanying vessels, will be allowed to transit the safety zones without the permission of the COTP or the designated representative.

(1335) (3) Vessel operators desiring to enter or operate within any of the regulated areas shall contact the COTP or the designated representative via VHF channel 16 or 907-463-2990 (Sector Southeast Alaska command center) to obtain permission to do so.

(1336)

## Subpart G-Protection of Naval Vessels

(1337)

### §165.2010 Purpose.

(1338) This subpart establishes the geographic parameters of naval vessel protection zones surrounding U.S. naval vessels in the navigable waters of the United States. This subpart also establishes when the U.S. Navy will take enforcement action in accordance with the statutory guideline of 14 U.S.C. 91. Nothing in the rules and regulations contained in this subpart shall relieve any vessel, including U.S. naval vessels, from the observance of the Navigation Rules. The rules and regulations contained in this subpart supplement, but do not replace or supercede, any other regulation pertaining to the safety or security of U.S. naval vessels.

(1339)

### §165.2015 Definitions.

(1340) The following definitions apply to this subpart:

(1341) *Atlantic Area* means that area described in 33 CFR 3.04–1 Atlantic Area.

(1342) *Large U.S. naval vessel* means any U.S. naval vessel greater than 100 feet in length overall.

(1343) *Naval defensive sea area* means those areas described in 32 CFR part 761.

(1344) *Naval vessel protection zone* is a 500-yard regulated area of water surrounding large U.S. naval vessels that is necessary to provide for the safety or security of these U.S. naval vessels.

(1345) *Navigable waters of the United States* means those waters defined as such in 33 CFR part 2.

(1346) *Navigation rules* means the Navigation Rules, International-Inland.

(1347) *Official patrol* means those personnel designated and supervised by a senior naval officer present in command and tasked to monitor a naval vessel protection zone, permit entry into the zone, give legally enforceable orders to persons or vessels within the zone, and take other actions authorized by the U.S. Navy.

(1348) *Pacific Area* means that area described in 33 CFR 3.04–3 Pacific Area.

(1349) *Restricted area* means those areas established by the Army Corps of Engineers and set out in 33 CFR part 334.

(1350) *Senior naval officer present in command* is, unless otherwise designated by competent authority, the senior line officer of the U.S. Navy on active duty, eligible for command at sea, who is present and in command of any part of the Department of Navy in the area.

(1351) *U.S. naval vessel* means any vessel owned, operated, chartered, or leased by the U.S. Navy; any pre-commissioned vessel under construction for the U.S. Navy, once launched into the water; and any vessel under the operational control of the U.S. Navy or a Combatant Command.

(1352) *Vessel* means every description of watercraft or other artificial contrivance used, or capable of being used, as a means of transportation on water, except U.S. Coast Guard or U.S. naval vessels.

(1353)

### §165.2020 Enforcement authority.

(1354) (a) *Coast Guard*. Any Coast Guard commissioned, warrant or petty officer may enforce the rules and regulations contained in this subpart.

(1355) (b) *Senior naval officer present in command*. In the navigable waters of the United States, when immediate action is required and representatives of the Coast Guard are not present or not present in sufficient force to exercise effective control in the vicinity of large U.S. naval vessels, the senior naval officer present in command is responsible for the enforcement of the rules and regulations contained in this subpart to ensure the safety and security of all large naval vessels present. In meeting this responsibility, the senior naval officer present in command may directly assist any Coast Guard enforcement personnel who are present.

(1356)

### §165.2030 Pacific Area.

(1357) (a) This section applies to any vessel or person in the navigable waters of the United States within the boundaries of the U.S. Coast Guard Pacific Area, which

includes the Eleventh, Thirteenth, Fourteenth, and Seventeenth U.S. Coast Guard Districts.

(1358) **Note to paragraph (a):** The boundaries of the U.S. Coast Guard Pacific Area and the Eleventh, Thirteenth, Fourteenth, and Seventeenth U.S. Coast Guard Districts are set out in 33 CFR part 3.

(1359) (b) A naval vessel protection zone exists around U.S. naval vessels greater than 100 feet in length overall at all times in the navigable waters of the United States, whether the large U.S. naval vessel is underway, anchored, moored, or within a floating dry dock, except when the large naval vessel is moored or anchored within a restricted area or within a naval defensive sea area.

(1360) (c) The Navigation Rules shall apply at all times within a naval vessel protection zone.

(1361) (d) When within a naval vessel protection zone, all vessels shall operate at the minimum speed necessary to maintain a safe course, unless required to maintain speed by the Navigation Rules, and shall proceed as directed by the Coast Guard, the senior naval officer present in command, or the official patrol. When within a naval vessel protection zone, no vessel or person is allowed within 100 yards of a large U.S. naval vessel unless authorized by the Coast Guard, the senior naval officer present in command, or official patrol.

(1362) (e) To request authorization to operate within 100 yards of a large U.S. naval vessel, contact the Coast Guard, the senior naval officer present in command, or the official patrol on VHF-FM channel 16.

(1363) (f) When conditions permit, the Coast Guard, senior naval officer present in command, or the official patrol should:

(1364) (1) Give advance notice on VHF-FM channel 16 of all large U.S. naval vessel movements;

(1365) (2) Permit vessels constrained by their navigational draft or restricted in their ability to maneuver to pass within 100 yards of a large U.S. naval vessel in order to ensure a safe passage in accordance with the Navigation Rules; and

(1366) (3) Permit commercial vessels anchored in a designated anchorage area to remain at anchor when within 100 yards of passing large U.S. naval vessels; and

(1367) (4) Permit vessels that must transit via a navigable channel or waterway to pass within 100 yards of a moored or anchored large U.S. naval vessel with minimal delay consistent with security.

(1368) **Note to paragraph (f):** The listed actions are discretionary and do not create any additional right to appeal or otherwise dispute a decision of the Coast Guard, the senior naval officer present in command, or the official patrol.

(1369)

## Part 169-Ship Reporting Systems

(1370)

## Subpart A-General

(1371)

### §169.1 What is the purpose of this part?

(1372) This subpart prescribes the requirements for mandatory ship reporting systems. Ship reporting systems are used to provide, gather, or exchange information through radio reports. The information is used to provide data for many purposes including, but not limited to: navigation safety, maritime security and domain awareness, environmental protection, vessel traffic services, search and rescue, weather forecasting and prevention of marine pollution. Note to §169.1: For ship reporting system requirements not established by the Coast Guard, see 50 CFR Part 404.

(1373)

### §169.5 How are terms used in this part defined?

(1374) As used in this part–

(1375) *Administration* means the Government of the State whose flag the ship is entitled to fly.

(1376) *Cargo ship* means any ship which is not a passenger ship.

(1377) *Flag Administration* means the Government of a State whose flag the ship is entitled to fly.

(1378) *Gross tonnage* means tonnage as defined under the International Convention on Tonnage Measurement of Ships, 1969 (Incorporated by reference, see §169.15).

(1379) *Gross tons* means vessel tonnage measured in accordance with the method utilized by the flag state administration of that vessel.

(1380) *High speed craft* means a craft that is operable on or above the water and is capable of a maximum speed equal to or exceeding V=3.7xdispl.1667, where "V" is the maximum speed and "displ" is the vessel displacement corresponding to the design waterline in cubic meters.

(1381) *High speed passenger craft* means a high speed craft carrying more than 12 passengers.

(1382) *International voyage* means a voyage from a country to which the present International Convention for the Safety of Life at Sea (SOLAS), 1974 applies to a port outside such country, or conversely. For U.S. ships, such voyages will be considered to originate at a port in the United States, regardless of when the voyage actually began. Such voyages for U.S. ships will continue until the ship returns to the United States from its last foreign port.

(1383) *Long range identification and tracking (LRIT) information or position report* means report containing the following information:

(1384) (1) The identity of the ship;

(1385) (2) The position of the ship (latitude and longitude); and

(1386) (3) The date and time of the position provided.

(1387) *LRIT Data Center* means a center established by a SOLAS Contracting Government or a group of Contracting Governments, or in the case of International Data Center, by IMO, to request, receive, process, and archive LRIT information. An LRIT Data Center may be National, Regional, Co-operative or International.

(1388) *Mandatory ship reporting system* means a ship reporting system that requires the participation of specified vessels or classes of vessels, and that is established by a government or governments after adoption of a proposed system by the International Maritime Organization (IMO) as complying with all requirements of regulation V/8–1 of the International Convention for the Safety of Life at Sea, 1974, as amended (SOLAS), except paragraph (e) thereof.

(1389) *Mobile offshore drilling unit* means a self-propelled vessel capable of engaging in drilling operations for the exploration or exploitation of subsea resources.

(1390) *Passenger ship* means a ship that carries more than 12 passengers.

(1391) *Self-propelled ships* means ships propelled by mechanical means.

(1392) *Shore-based authority* means the government appointed office or offices that will receive the reports made by ships entering each of the mandatary ship reporting systems. The office or offices will be responsible for the management and coordination of the system, interaction with participating ships, and the safe and effective operation of the system. Such an authority may or may not be an authority in charge of a vessel traffic service.

(1393) *United States* means the States of the United States, the District of Columbia, Guam, Puerto Rico, the Virgin Islands, American Samoa, the Northern Mariana Islands, and any other territory or possession of the United States.

(1394)

### §169.10 What geographic coordinates are used?

(1395) Geographic coordinates expressed in terms of latitude or longitude, or both, are not intended for plotting on maps or charts where the referenced horizontal datum is the North American Datum of 1983 (NAD 83), unless such geographic coordinates are expressly labeled NAD 83. Geographic coordinates without the NAD 83 reference may be plotted on maps or charts referenced to NAD 83 only after application of the appropriate corrections that are published on the particular map or chart being used.

(1396)

### §169.15 Incorporation by reference: Where can I get a copy of the publications mentioned in this part?

(1397) (a) Certain material is incorporated by reference into this part with the approval of the Director of the Federal Register under 5 U.S.C. 552(a) and 1 CFR part 51. To enforce any edition other than that specified in this section, the Coast Guard must publish notice of change in the Federal Register and the material must be available to the public. All approved material is available for inspection at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030 or go to *http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html*. Also, it is available for inspection at the Coast Guard Headquarters. Contact Commandant (CG-NAV), Attn: Office of Navigation Systems, 2703 Martin Luther King Jr. Avenue SE., Stop 7418, Washington, DC 20593-7418, and is available from the sources indicated in this section.

(1398) (b) *International Electrotechnical Commission (IEC) Bureau Central de la Commission Electrotechnique Internationale*, 3 rue de Varembé, P.O. Box 131, 1211 Geneva 20, Switzerland.

(1399) (1) IEC 60945, Fourth edition 2002-08, Maritime navigation and radiocommunication equipment and systems–General requirements–Methods of testing and required test results, incorporation by reference approved for §169.215.

(1400) (2) [Reserved]

(1401) (c) *International Maritime Organization (IMO)*, 4 Albert Embankment, London SE1 7SR, U.K.

(1402) (1) IMO Resolution MSC.202(81), adopted on May 19, 2006, Adoption of Amendments to the International Convention for the Safety of Life at Sea, 1974, as Amended, incorporation by reference approved for §160.240.

(1403) (2) IMO Resolution MSC.210(81), adopted on May 19, 2006, Performance Standards and Functional Requirements for the Long-Range Identification and Tracking of Ships, incorporation by reference approved for §§169.215 and 169.240.

(1404) (3) IMO Resolution MSC.254(83), adopted on October 12, 2007, Adoption of Amendments to the Performance Standards and Functional Requirements for the Long-Range Identification and Tracking of Ships, incorporation by reference approved for §§169.215 and 169.240.

(1405) (4) IMO Resolution A.694(17), adopted on November 6, 1991, General Requirements for Shipborne Radio Equipment Forming Part of the Global Maritime Distress and Safety System (GMDSS) and for Electronic Navigational Aids, incorporation by reference approved for §165.215.

(1406) (5) International Convention on Tonnage Measurement of Ships, 1969, incorporation by reference approved for §169.5.

(1407)

## Subpart C-Transmission of Long Range Identification and Tracking Information

(1408)

### §169.200 What is the purpose of this subpart?

(1409) This subpart implements Regulation 19-1 of SOLAS chapter V (SOLAS V/19-1) and requires certain ships engaged on an international voyage to transmit vessel identification and position information electronically.

This requirement enables the Coast Guard to obtain long range identification and tracking (LRIT) information and thus heightens our overall maritime domain awareness, enhances our search and rescue operations, and increases our ability to detect anomalies and deter transportation security incidents.

(1410)

### §169.205 What types of ships are required to transmit LRIT information (position reports)?

(1411) The following ships, while engaged on an international voyage, are required to transmit position reports:

(1412) (a) A passenger ship, including high speed passenger craft.

(1413) (b) A cargo ship, including high speed craft, of 300 gross tonnage or more.

(1414) (c) A mobile offshore drilling unit while underway and not engaged in drilling operations.

(1415)

### §169.210 Where during its international voyage must a ship transmit position reports?

(1416) The requirements for the transmission of position reports, imposed by the United States, vary depending on the relationship of the United States to a ship identified in §169.205.

(1417) (a) *Flag State relationship*. A U.S. flag ship engaged on an international voyage must transmit position reports wherever they are located.

(1418) (b) *Port State relationship*. A foreign flag ship engaged on an international voyage must transmit position reports after the ship has announced its intention to enter a U.S. port or place under requirements in 33 CFR part 160, subpart C.

(1419) (c) *Coastal State relationship*. A foreign flag ship engaged on an international voyage must transmit position reports when the ship is within 1,000 nautical miles of the baseline of the United States, unless their Flag Administration, under authority of SOLAS V/19-1.9.1, has directed them not to do so.

(1420)

### §169.215 How must a ship transmit position reports?

(1421) A ship must transmit position reports using Long Range Identification and Tracking (LRIT) equipment that has been type-approved by their Administration. To be type-approved by the Coast Guard, LRIT equipment must meet the requirements of IMO Resolutions A.694(17), MSC.210(81), and MSC.254(83), and IEC standard IEC 60945 (Incorporated by reference, see §169.15).

(1422)

### §169.220 When must a ship be fitted with LRIT equipment?

(1423) A ship identified in §169.205 must be equipped with LRIT equipment–

(1424) (a) Before getting underway, if the ship is constructed on or after December 31, 2008.

(1425) (b) By the first survey of the radio installation after December 31, 2008, if the ship is–

(1426) (1) Constructed before December 31, 2008, and

(1427) (2) Operates within–

(1428) (i) One hundred (100) nautical miles of the United States baseline, or

(1429) (ii) Range of an Inmarsat geostationary satellite, or other Application Service Provider recognized by the Administration, with which continuous alerting is available.

(1430) (c) By the first survey of the radio installation after July 1, 2009, if the ship is–

(1431) (1) Constructed before December 31, 2008, and

(1432) (2) Operates within the area or range specified in paragraph (b)(2) of this section as well as outside the range of an Inmarsat geostationary satellite with which continuous alerting is available. While operating in the area or range specified in paragraph (b)(2) of this section, however, a ship must install LRIT equipment by the first survey of the radio installation after December 31, 2008.

(1433)

### §169.225 Which Application Service Providers may a ship use?

(1434) A ship may use an application Service Provider (ASP) recognized by its administration. Some Communication Service Providers may also serve as an ASP.

(1435)

### §169.230 How often must a ship transmit position reports?

(1436) A ship's LRIT equipment must transmit position reports at 6-hour intervals unless a more frequent interval is requested remotely by an LRIT Data Center.

(1437)

### §169.235 What exemptions are there from reporting?

(1438) A ship is exempt from this subpart if it is–

(1439) (a) Fitted with an operating automatic identification system (AIS), under 33 CFR 164.46, and operates only within 20 nautical miles of the United States baseline,

(1440) (b) A warship, naval auxiliaries or other ship owned or operated by a SOLAS Contracting Government and used only on Government non-commercial service, or

(1441) (c) A ship solely navigating the Great Lakes of North America and their connecting and tributary waters as far east as the lower exit of the St. Lambert Lock at Montreal in the Province of Quebec, Canada.

(1442)

### §169.240 When may LRIT equipment be switched off?

(1443) A ship engaged on an international voyage may switch off its LRIT equipment only when it is permitted by its Flag Administration, in circumstances detailed in SOLAS V/19–1.7, or in paragraph 4.4.1, of resolution MSC.210(81), as amended by resolution MSC.254(83) (Incorporated by reference, see §169.15).

(1444)

**§169.245 What must a ship master do if LRIT equipment is switched off or fails to operate?**

(1445) (a) If a ship's LRIT equipment is switched off or fails to operate, the ship's master must inform his or her Flag Administration without undue delay.

(1446) (b) The master must also make an entry in the ship's logbook that states–

(1447) (1) His or her reason for switching the LRIT equipment off, or an entry that the equipment has failed to operate, and

(1448) (2) The period during which the LRIT equipment was switched off or non-operational.

(1449) Note to §169.245: for U.S. vessels, the U.S. Coast Guard serves as the Flag Administration for purposes of this section. All LRIT notifications for the U.S. Flag administration, in addition to requests or questions about LRIT, should be communicated to the U.S. Coast Guard by e-mail addressed to LRIT@uscg.mil.

(1450)

## Part 207–Navigation Regulations

(1451)

**§207.800 Collection of navigation statistics.**

(1452) (a) *Definitions*. For the purpose of this regulation the following terms are defined:

(1453) (1) *Navigable waters of the United States* means those waters of the United States that are subject to the ebb and flow of the tide shoreward to the mean high water mark, and/or are presently used, or have been used in the past, or may be susceptible to use to transport interstate or foreign commerce. (See 33 CFR part 329 for a more complete definition of this term.)

(1454) (2) *Offenses and Violations* mean:

(1455) (i) Failure to submit a required report.

(1456) (ii) Failure to provide a timely, accurate, and complete report.

(1457) (iii) Failure to submit monthly listings of idle vessels or vessels in transit.

(1458) (iv) Failure to submit a report required by the lockmaster or canal operator.

(1459) (3) *Leased or chartered vessel* means a vessel that is leased or chartered when the owner relinquishes control of the vessel through a contractual agreement with a second party for a specified period of time and/or for a specified remuneration from the lessee. Commercial movements on an affreightment basis are not considered a lease or charter of a particular vessel.

(1460) (4) *Person or entity* means an individual, corporation, partnership, or company.

(1461) (5) *Timely* means vessel and commodity movement data must be received by the Waterborne Commerce Statistics Center within 30 days after the close of the month in which the vessel movement or nonmovement takes place.

(1462) (6) *Commercial vessel* means a vessel used in transporting by water, either merchandise or passengers for compensation or hire, or in the course of business of the owner, lessee, or operator of the vessel.

(1463) (7) *Reporting situation* means a vessel movement by an operator that is required to be reported. Typical examples are listed in the instructions on the various ENG Forms. Five typical movements that are required to be reported by vessel operating companies include the following examples: Company A is the barge owner, and the barge transports corn from Minneapolis, MN to New Orleans, LA, with fleeting at Cairo, IL.

(1464) (i) *Lease/Charter:* If Company A leases or charters the barge to Company B, then Company B is responsible for reporting the movements of the barge until the lease/charter expires.

(1465) (ii) *Interline movement:* A barge is towed from Minneapolis to Cairo by Company A, and from Cairo to New Orleans by Company B. Since Company A is the barge owner, and the barge is not leased. Company A reports the entire movement of the barge with an origin of Minneapolis and a destination of New Orleans.

(1466) (iii) *Vessel swap/trade:* Company A swaps barge with Company B to allow Company B to meet a delivery commitment to New Orleans. Since Company A has not leased/chartered the barge, Company A is responsible for filing the report. Company B is responsible for filing the report on the barge which is traded to Company A. The swap or trade will not affect the primary responsibility for reporting the individual vessel movements.

(1467) (iv) *Re-Consignment:* Barge is reconsigned to Mobile, AL. Company A reports the movements as originating in Minneapolis and terminating in Mobile. The point from which barge is reconsigned is not reported, only points of loading and unloading.

(1468) (v) *Fleeting:* Barge is deposited at a New Orleans fleeting area by Company A and towed by Company B from fleeting area to New Orleans area dock for unloading. Company A, as barge owner, reports entire movements from Minneapolis to the unloading dock in New Orleans. Company B does not report any barge movement.

(1469) (b) Implementation of the waterborne commerce statistics provisions of the River and Harbor Act of 1922, as amended by the Water Resources Development Act of 1986 (Pub. L. 99-662), mandates the following.

(1470) (1) *Filing requirements*. Except as provided in paragraph (b)(2) of this section, the person or entity receiving remuneration for the movement of vessels or for the transportation of goods or passengers on the navigable waters is responsible for assuring that the activity report of commercial vessels is timely filed.

(1471) (i) For vessels under lease/charter agreements, the lessee or charterer of any commercial vessel engaged in commercial transportation will be responsible for the filing of said reports until the lease/charter expires.

(1472) (ii) The vessel owner, or his designated agent, is always the responsible party for ensuring that all commercial activity of the vessel is timely reported.

(1473) (2) The following Vessel Information Reports are to be filed with the Army Corps of Engineers, at the address specified on the ENG Form, and are to include:

(1474) (i) *Monthly reports*. These reports shall be made on ENG Forms furnished upon written request of the vessel operating companies to the Army Corps of Engineers. The forms are available at the following address: U.S. Army Corps of Engineers, Waterborne Commerce Statistics Center, Post Office Box 61280, New Orleans, Louisiana 70161-1280.

(1475) (A) All movements of domestic waterborne commercial vessels shall be reported, including but not limited to: Dry cargo ship and tanker moves, loaded and empty barge moves, towboat moves, with or without barges in tow, fishing vessels, movements of crew boats and supply boats to offshore locations, tugboat moves and movements of newly constructed vessels from the shipyard to the point of delivery.

(1476) (B) Vessels idle during the month must also be reported.

(1477) (C) Notwithstanding the above requirements, the following waterborne vessel movements need not be reported:

(1478) (*1*) Movements of recreational vessels.

(1479) (*2*) Movements of fire, police, and patrol vessels.

(1480) (*3*) Movements of vessels exclusively engaged in construction (e.g., piledrivers and crane barges). Note: however, that movements of supplies, materials, and crews to or from the construction site must be timely reported.

(1481) (*4*) Movements of dredges to or from the dredging site. However, vessel movements of dredged material from the dredging site to the disposal site must be reported.

(1482) (*5*) Specific movements granted exemption in writing by the Waterborne Commerce Statistics Center.

(1483) (D) ENG Forms 3925 and 3925b shall be completed and filed by vessel operating companies each month for all voyages or vessel movements completed during the month. Vessels that did not complete a move during the month shall be reported as idle or in transit.

(1484) (E) The vessel operating company may request a waiver from the Army Corps of Engineers, and upon written approval by the Waterborne Commerce Center, the company may be allowed to provide the requisite information of the above paragraph (D), on computer printouts, magnetic tape, diskettes, or alternate medium approved by the Center.

(1485) (F) Harbor Maintenance Tax information is required on ENG Form 3925 for cargo movements into or out of ports that are subject to the provisions of section 1402 of the Water Resources Development Act of 1986 (Pub. L. 99-662).

(1486) (*1*) The name of the shipper of the commodity, and the shipper's Internal Revenue Service number or Social Security number, must be reported on the form.

(1487) (*2*) If a specific exemption applies to the shipper, the shipper should list the appropriate exemption code. The specific exemption codes are listed in the directions for ENG Form 3925.

(1488) (*3*) Refer to 19 CFR part 24 for detailed information on exemptions and ports subject to the Harbor Maintenance Tax.

(1489) (ii) *Annual reports*. Annually an inventory of vessels available for commercial carriage of domestic commerce and vessel characteristics must be filed on ENG Forms 3931 and 3932.

(1490) (iii) *Transaction reports*. The sale, charter, or lease of vessels to other companies must also be reported to assure that proper decisions are made regarding each company's duty for reporting vessel movements during the year. In the absence of notification of the transaction, the former company of record remains responsible until proper notice is received by the Corps.

(1491) (iv) *Reports to lockmasters and canal operators*. Masters of self-propelled non-recreational vessels which pass through locks and canals operated by the Army Corps of Engineers will provide the data specified on ENG Forms 3102b, 3102c, and/or 3102d to the lockmaster, canal operator, or his designated representative in the manner and detail dictated.

(1492) (c) *Penalties for noncompliance*. The following penalties for noncompliance can be assessed for offenses and violations.

(1493) (1) *Criminal penalties*. Every person or persons violating the provisions of this regulation shall, for each and every offenses, be liable to a fine of not more than $5,000, or imprisonment not exceeding two months, to be enforced in any district court in the United States within whose territorial jurisdiction such offense may have been committed.

(1494) (2) In addition, any person or entity that fails to provide timely, accurate, and complete statements or reports required to be submitted by the regulation in this section may also be assessed a civil penalty of up to $7,156 per violation under 33 U.S.C. 555, as amended.

(1495) (3) *Denial of passage*. In addition to these fines, penalties, and imprisonments, the lockmaster or canal operator can refuse to allow vessel passage.

(1496) (d) *Enforcement policy*. Every means at the disposal of the Army Corps of Engineers will be utilized to monitor and enforce these regulations.

(1497) (1) To identify vessel operating companies that should be reporting waterborne commerce data, The Corps will make use of, but is not limited to, the following sources.

(1498) (i) Data on purchase and sale of vessels.

(1499) (ii) U.S. Coast Guard vessel documentation and reports.

(1500) (iii) Data collected at Locks, Canals, and other facilities operated by the Corps.

(1501) (iv) Data provided by terminals on ENG Form 3926.

(1502) (v) Data provided by the other Federal agencies including the Internal Revenue Service, Customs Service, Maritime Administration, Department of Transportation, and Department of Commerce.

(1503) (vi) Data provided by ports, local facilities, and State or local governments.

(1504) (vii) Data from trade journals and publications.

(1505) (viii) Site visits and inspections.

(1506) (2) *Notice of violation*. Once a reporting violation is determined to have occurred, the Chief of the Waterborne Commerce Statistics Center will notify the responsible party and allow 30 days for the reports to be filed after the fact. If the reports are not filed within this 30-day notice period, then appropriate civil or criminal actions will be undertaken by the Army Corps of Engineers, including the proposal of civil or criminal penalties for noncompliance. Typical cases for criminal or civil action include, but are not limited to, those violations which are willful, repeated, or have a substantial impact in the opinion of the Chief of the Waterborne Commerce Statistics Center.

(1507) (3) *Administrative assessment of civil penalties*. Civil penalties may be assessed in the following manner.

(1508) (i) *Authorization*. If the Chief of the Waterborne Commerce Statistics Center finds that a person or entity has failed to comply with any of the provisions specified herein, he is authorized to assess a civil penalty in accordance with the Class I penalty provisions of 33 CFR part 326. Provided, however, that the procedures in 33 CFR part 326 specifically implementing the Clean Water Act (33 U.S.C. 1319(g)(4)), public notice, comment period, and state coordination, shall not apply.

(1509) (ii) *Initiation*. The Chief of the Waterborne Commerce Statistics Center will prepare and process a proposed civil penalty order which shall state the amount of the penalty to be assessed, describe by reasonable specificity the nature of the violation, and indicate the applicable provisions of 33 CFR part 326.

(1510) (iii) *Hearing requests*. Recipients of a proposed civil penalty order may file a written request for a hearing or other proceeding. This request shall be as specified in 33 CFR part 326 and shall be addressed to the Director of the Water Resources Support Center, Casey Building, Fort Belvoir, Virginia 22060-5586, who will provide the requesting person or entity with a reasonable opportunity to present evidence regarding the issuance, modification, or revocation of the proposed order. Thereafter, the Director of the Water Resources Center shall issue a final order.

(1511) (4) *Additional remedies*. Appropriate cases may also be referred to the local U.S. Attorney for prosecution, penalty collection, injunctive, and other relief by the Chief of the Waterborne Commerce Statistics Center.

(1512)

## Part 334–Danger Zones and Restricted Area Regulations

(1513)

### §334.1 Purpose.

(1514) The purpose of this part is to:

(1515) (a) Prescribe procedures for establishing, amending and disestablishing danger zones and restricted areas;

(1516) (b) List the specific danger zones and restricted areas and their boundaries; and

(1517) (c) Prescribe specific requirements, access limitations and controlled activities within the danger zones and restricted areas.

(1518)

### §334.2 Definitions.

(1519) (a) *Danger zone*. A defined water area (or areas) used for target practice, bombing, rocket firing or other especially hazardous operations, normally for the armed forces. The danger zones may be closed to the public on a full-time or intermittent basis, as stated in the regulations.

(1520) (b) *Restricted area*. A defined water area for the purpose of prohibiting or limiting public access to the area. Restricted areas generally provide security for Government property and/or protection to the public from the risks of damage or injury arising from the Government's use of that area.

(1521)

### §334.3 Special policies.

(1522) (a) *General*. The general regulatory policies stated in 33 CFR part 320 will be followed as appropriate. In addition, danger zone and restricted area regulations shall provide for public access to the area to the maximum extent practicable.

(1523) (b) *Food fishing industry*. The authority to prescribe danger zone and restricted area regulations must be exercised so as not to unreasonably interfere with or restrict the food fishing industry. Whenever the proposed establishment of a danger zone or restricted area may affect fishing operations, the District Engineer will consult with the Regional Director, U.S. Fish and Wildlife Service, Department of the Interior and the Regional Director, National Marine Fisheries Service, National Oceanic & Atmospheric Administration (NOAA),

(1524) (c) *Temporary, occasional or intermittent use*. If the use of the water area is desired for a short period of time, not to exceed thirty days in duration, and that planned operations can be conducted safely without imposing unreasonable restrictions on navigation, and without promulgating restricted area regulations in accordance with the regulations in this section, applicants may be informed that formal regulations are not required. Activities of this type shall not reoccur more often than biennially (every other year), unless danger zone/restricted area rules are promulgated under this Part. Proper notices for mariners requesting that vessels avoid the area will be issued by the Agency requesting such use of the water area, or if appropriate, by the District Engineer, to all known interested persons. Copies will also be sent to appropriate State agencies, the Commandant, U.S. Coast Guard, Washington, DC 20590, and Director, National Geospatial-Intelligence Agency, Hydrographic Center, Washington, DC 20390, ATTN: Code NS 12. Notification to all parties and Agencies shall be made at

least two weeks prior to the planned event, or earlier, if required for distribution of Local Notice to Mariners by the Coast Guard.

(1525)

**§334.4 Establishment and amendment procedures.**

(1526) (a) *Application*. Any request for the establishment, amendment or revocation of a danger zone or restricted area must contain sufficient information for the District Engineer to issue a public notice, and as a minimum must contain the following:

(1527) (1) Name, address and telephone number of requestor including the identity of the command and DoD facility and the identity of a point of contact with phone number.

(1528) (2) Name of waterway and if a small tributary, the name of a larger connecting waterbody.

(1529) (3) Name of closest city or town, county/parish and state.

(1530) (4) Location of proposed or existing danger zone or restricted area with a map showing the location, if possible.

(1531) (5) A brief statement of the need for the area, its intended use and detailed description of the times, dates and extent of restriction.

(1532) (b) *Public notice*. (1) The Corps will normally publish public notices and **Federal Register** documents concurrently. Upon receipt of a request for the establishment, amendment or revocation of a danger zone or restricted area, the District Engineer should forward a copy of the request with his/her recommendation, a copy of the draft public notice and a draft **Federal Register** document to the Office of the Chief of Engineers, ATTN: CECW-OR. The Chief of Engineers will publish the proposal in the **Federal Register** concurrent with the public notice issued by the District Engineer.

(1533) (2) *Content*. The public notice and **Federal Register** documents must include sufficient information to give a clear understanding of the proposed action and should include the following items of information:

(1534) (i) Applicable statutory authority or authorities; (40 Stat. 266; 33 U.S.C. 1) and (40 Stat. 892; 33 U.S.C. 3).

(1535) (ii) A reasonable comment period. The public notice should fix a limiting date within which comments will be received, normally a period not less than 30 days after publication of the notice.

(1536) (iii) The address of the District Engineer as the recipient of any comments received.

(1537) (iv) The identity of the applicant/proponent;

(1538) (v) The name or title, address and telephone number of the Corps employee from whom additional information concerning the proposal may be obtained;

(1539) (vi) The location of the proposed activity accompanied by a map of sufficient detail to show the boundaries of the area(s) and its relationship to the surrounding area.

(1540) (3) *Distribution*. Public notice will be distributed in accordance with 33 CFR 325.3(d)(1). In addition to this general distribution, public notices will be sent to the following Agencies:

(1541) (i) The Federal Aviation Administration (FAA) where the use of airspace is involved.

(1542) (ii) The Commander, Service Force, U.S. Atlantic Fleet, if a proposed action involves a danger zone off the U.S. Atlantic coast.

(1543) (iii) Proposed danger zones on the U.S. Pacific coast must be coordinated with the applicable commands as follows:

(1544) Alaska, Oregon and Washington:

(1545) Commander, Naval Base, Seattle

(1546) California:

(1547) Commander, Naval Base, San Diego

(1548) Hawaii and Trust Territories:

(1549) Commander, Naval Base, Pearl Harbor

(1550) (c) *Public hearing*. The District Engineer may conduct a public hearing in accordance with 33 CFR part 327.

(1551) (d) *Environmental documentation*. The District Engineer shall prepare environmental documentation in accordance with appendix B to 33 CFR part 325.

(1552) (e) *District Engineer's recommendation*. After closure of the comment period, and upon completion of the District Engineer's review he/she shall forward the case through channels to the Office of the Chief of Engineers, ATTN: CECW-OR with a recommendation of whether or not the danger zone or restricted area regulation should be promulgated. The District Engineer shall include a copy of environmental documentation prepared in accordance with appendix B to 33 CFR part 325, the record of any public hearings, if held, a summary of any comments received and a response thereto, and a draft of the regulation as it is to appear in the **Federal Register**.

(1553) (f) *Final decision*. The Chief of Engineers will notify the District Engineer of the final decision to either approve or disapprove the regulations. The District Engineer will notify the applicant/proponent and publish a public notice of the final decision. Concurrent with issuance of the public notice the Office of the Chief of Engineers will publish the final decision in the **Federal Register** and either withdraw the proposed regulation or issue the final regulation, as appropriate. The final rule shall become effective no sooner than 30 days after publication in the **Federal Register** unless the Chief of Engineers finds that sufficient cause exists and publishes that rationale with the regulations.

(1554)

**§334.5 Disestablishment of a danger zone.**

(1555) (a) Upon receipt of a request from any agency for the disestablishment of a danger zone, the District Engineer shall notify that agency of its responsibility for returning the area to a condition suitable for use by the public. The agency must either certify that it has not used the area for a purpose that requires cleanup or that it has removed all hazardous materials and munitions, before the Corps will disestablish the area. The agency will remain responsible for the enforcement of the danger zone regulations to

prevent unauthorized entry into the area until the area is deemed safe for use by the public and the area is disestablished by the Corps.

(1556) (b) Upon receipt of the certification required in paragraph (a) of this section, the District shall forward the request for disestablishment of the danger zone through channels to CECW-OR, with its recommendations. Notice of proposed rulemaking and public procedures as outlined in §334.4 are not normally required before publication of the final rule revoking a restricted area or danger zone regulation. The disestablishment/revocation of the danger zone or restricted area regulation removes a restriction on a waterway.

(1557)

**§334.6 Datum.**

(1558) (a) Geographic coordinates expressed in terms of latitude or longitude, or both, are not intended for plotting on maps or charts whose reference horizontal datum is the North American Datum of 1983 (NAD 83), unless such geographic coordinates are expressly labeled NAD 83. Geographic coordinates without the NAD 83 reference may be plotted on maps or charts referenced to NAD 83 only after application of the appropriate corrections that are published on the particular map or chart being used.

(1559) (b) For further information on NAD 83 and National Service nautical charts please contact:

(1560) Director, Coast Survey (N/CG2)

(1561) National Ocean Service, NOAA

(1562) 1315 East-West Highway, Station 6147

(1563) Silver Spring, MD 20910-3282.

(1564)

**§334.1275 West Arm Behm Canal, Ketchikan, Alaska, restricted areas.**

(1565) (a) *The area*–(1) *Area No.1*. The waters of Behm Canal bounded by a circle 2,000 yards in diameter, centered on 55°36' N. latitude, 131°49.2' W. longitude.

(1566) (2) *Area No. 2*. The waters of Behm Canal bounded by a circle 2,000 yards in diameter, centered at 55°34' N. latitude,131°48' W. longitude.

(1567) (3) *Area No. 3*. The waters of Behm Canal excluding those areas designated as areas Nos. 1 and 2 above, bounded by an irregular polygon beginning at the shoreline on Back Island near 55°32.63′ N latitude, 131°45.18′ W longitude, then bearing about 350° T to 55°38.06′ N. latitude, 131°46.75′ W. longitude then bearing about 300° T to 55°38.52′ N. latitude, 131°48.15′ W. longitude, then bearing about 203° T to 55°33.59′ N. latitude, 131°51.54′ W. longitude, then bearing about 112° T to the intersection of the shoreline at Back Island near 55°32.53′ N. latitude, 131°45.77′ W. longitude, then northeast along the shoreline to the point of beginning.

(1568) *Area No. 4*. The waters of Clover Passage bounded by an irregular polygon beginning at the shoreline on Back Island near 55 32.63′ N latitude, 131°45.18′ W longitude, then bearing 150° T. to the intersection of the shoreline on Revillagegedo Island near 55°30.64′ N latitude, 131°43.64′ W longitude, then southwest along the shoreline to near 55°30.51′ N latitude, 131°43.88′W longitude, then bearing 330° T to the intersection of the shoreline on Back Island near 55°32.16′ N. latitude, 131°45.20′ W longitude, and from there northeast along the shoreline to the point of beginning.

(1569) (5) *Area No. 5*. The waters of Behm Canal bounded to the north by a line starting from Point Francis on the Cleveland Peninsula to Escape Point on Revillagigedo Island then S along the shoreline to Indian Point, thence S to the Grant Island Light at 55°33.3'N. latitude, 131°43.62'W. longitude, thence bearing 218°T to the S end of Black Island and continuing to the intersection of the shoreline on Betton Island at about 55°31.52'N. latitude, 131°45.98'W. longitude, thence N along the shoreline of Betton Island to the western side below Betton Head at about 55°30.83'N. latitude, 131°50'W. longitude, thence bearing 283° across Behm Canal to the intersection of shoreline near the point which forms the SE entrance of Bond Bay at about 55°31.60'N. latitude, 131°56.58'W. longitude, thence NE to Helm Point on the Cleveland Peninsula, thence NE along the shoreline to the point of beginning at Point Francis.

(1570) (b) *The regulations*-(1) *Area No. 1*. Vessels are allowed to transit the area at any time. No vessel may anchor within the restricted area or tow a drag of any kind, deploy a net or dump any material within the area.

(1571) (2) *Area No. 2*. Vessels are allowed to transit the area at any time. No vessel may anchor within the restricted area or tow a drag of any kind, deploy a net or dump any material within the area. Vessels are also prohibited from mooring or tying up to, loitering alongside or in the immediate vicinity of naval equipment and barges in the restricted area.

(1572) (3) *Area No. 3*. Vessels are allowed to transit the area at any time. Due to the presence of underwater cables and instrumentation, anchoring is prohibited and the towing of a drag or any object within 100 feet of the bottom is also prohibited. Anchoring is allowed within 100 yards of the shore of Back Island except within 100 yards of each side of the area where electrical and other cables are brought ashore. The termination location of the cables on the land is marked with a warning sign that is visible from the water.

(1573) (4) *Area No. 4*. Due to the presence of communication and power cables crossing from Revillagigedo Island to Back Island no anchoring or towing of a drag is allowed. Anchoring is allowed within 100 yards of the shore of Back Island except within 100 yards of each side of the area where the cables are brought ashore. The termination location of the cables on the land is marked with a warning sign that is visible from the water.

(1574) (5) *Area No. 5*. (i) The area will be open unless the Navy is actually conducting operations. To ensure safe and timely passage through the restricted area vessel operators are required to notify the Facility Control Officer of their expected time of arrival, speed and intentions. For vessels not equipped with radio equipment, the Navy shall signal with flashing beacon lights whether passage

is prohibited and when it is safe to pass through the area. A flashing amber beacon means that the area is closed to all vessels and to await a clear signal. The flashing amber beacon not lighted is the clear signal and indicates that vessels may proceed through the area. Each closure of the area by the Navy will normally not exceed 20 minutes.

(1575) (ii) When Area No. 5 restrictions are in place, vessels may operate within 1000 yards of the shoreline at speeds no greater than 5 knots in accordance with the restriction in effect in Area No. 3.

(1576) (c) Vessels will be allowed to transit Area No. 5 within 20 minutes of marine radio or telephone notification to the Navy Facility Control Officer.

(1577) (d) *Enforcement*. The regulations in this section shall be enforced by the Commander, Naval Surface Warfare Center, Carderock Division, and such agencies he/she may designate.

(1578)

**§334.1310 Lutak Inlet, Alaska; restricted areas.**

(1579) (a) *The areas*–(1) *Army POL dock restricted area*.

(1580) (i) The waters of Lutak Inlet bounded as follows: Beginning at the water's edge 900 feet northwest of the centerline of the landward end of the POL dock; thence 800 feet, 51° true; thence, 1400 feet, 113° true; thence 450 feet, 211° true to the water's edge at a point approximately 720 feet from the most southwest corner of the seaward end of the POL dock; thence along the water's edge to the point of beginning.

(1581) (ii) The area will be marked at points approximately 200 feet apart along the shore by white signs containing the word "Warning." The signs will not be lighted.

(1582) (2) *Dry Cargo dock mooring area*. (i) The waters within 60 feet off the face of the dock.

(1583) (b) *The regulations*. (1) No person, vessel or other watercraft shall enter or remain in the Army POL dock restricted area when tankers are engaged in discharging oil at the dock.

(1584) (2) The dropping and dragging of anchors, weights, or other ground tackle within the Dry Cargo dock mooring area is prohibited.

(1585) (3) The regulations in this section shall be enforced by the District Engineer, U.S. Army Engineer District, Anchorage, Alaska, and such agencies as he may designate.

(1586)

# TITLE 36–PARKS, FORESTS, AND PUBLIC PROPERTY

(1587)

## Part 13–National Park System Units in Alaska

(1588)

### Subpart A–Administrative Provisions

(1589)

**§13.1 Definitions.**

(1590) The following definitions shall apply to all regulations contained in this part:

(1591) *Aircraft* means a machine or device that is used or intended to be used to carry persons or objects in flight through the air, including, but not limited to airplanes, helicopters and gliders.

(1592) *Airstrip* means visible, marked, or known aircraft landing areas in park areas. Airstrips may be marked with cones, lights, flagging, or windsocks, or be unmarked but recognizable because they have been cleared of vegetation or other obstructions.

(1593) *ANILCA* means the Alaska National Interest Lands Conservation Act (94 Stat. 2371; Pub. L. 96-487 (December 2, 1980)).

(1594) *Bait* means, for purposes of taking wildlife other than fish, any material used to attract wildlife by sense of smell or taste except:

(1595) (1) Parts of legally taken wildlife or fish that are not required to be salvaged if the parts are not moved from the kill site; or

(1596) (2) Wildlife or fish that died of natural causes, if not moved from the location where it was found.

(1597) *Carry* means to wear, bear or carry on or about the person and additionally, in the case of firearms, within or upon a device or animal used for transportation.

(1598) *Downed aircraft* means an aircraft that as a result of mechanical failure or accident cannot take off.

(1599) *Facility* means buildings, structures, park roads as defined by §1.4, parking lots, campgrounds, picnic areas, paved trails, and maintenance support yards.

(1600) *Federally owned lands* means lands, waters, and interests therein the title to which is in the United States, and does not include those land interests tentatively approved to the State of Alaska; or conveyed by an interim conveyance to a Native corporation.

(1601) *Firearm* means any loaded or unloaded pistol, revolver, rifle, shotgun or other weapon which will or is designated to or may readily be converted to expel a projectile by the action of expanded gases, except that it does not include a pistol or rifle powered by compressed gas. The term "firearm" also includes irritant gas devises.

(1602) *Fish and wildlife* means any member of the animal kingdom, including without limitation any mammal, fish, bird (including any migratory, nonmigratory or

endangered bird for which protection is also afforded by treaty or other international agreement), amphibian, reptile, mollusk, crustacean, arthropod, or other invertebrate, and includes any part, produce, egg, or offspring thereof, or the dead body or part thereof.

(1603) *Fossil* means any remains, impression, or trace of any animal or plant of past geological ages that has been preserved, by natural processes, in the earth's crust.

(1604) *Gemstone* means a silica or igneous mineral including, but not limited to:

(1605) (1) Geodes;

(1606) (2) Petrified wood; and

(1607) (3) Jade, agate, opal, garnet, or other mineral that when cut and polished is customarily used as jewelry or other ornament.

(1608) *Motorboat* refers to motorized vessel other than a personal watercraft.

(1609) *National Preserve* shall include the following areas of the National Park System:

(1610) Alagnak National Wild River, Aniakchak National Preserve, Bering Land Bridge National Preserve, Denali National Preserve, Gates of the Arctic National Preserve, Glacier Bay National Preserve, Katmai National Preserve, Lake Clark National Preserve, Noatak National Preserve, Wrangell-St. Elias National Preserve, and Yukon-Charley National Preserve.

(1611) *Net* means a seine, weir, net wire, fish trap, or other implement designed to entrap fish, except a landing net.

(1612) *Off-road vehicle* means any motor vehicle designed for or capable of cross-country travel on or immediately over land, water, sand, snow, ice, marsh, wetland or other natural terrain, except snowmachines or snowmobiles as defined in this chapter.

(1613) *Park areas* means federally owned lands administered by the National Park Service in Alaska.

(1614) *Person* means any individual, firm, corporation, society, association, partnership, or any private or public body.

(1615) *Possession* means exercising dominion or control, with or without ownership, over weapons, traps, nets or other property.

(1616) *Public lands* means lands situated in Alaska which are federally owned lands, except–

(1617) (1) Land selections of the State of Alaska which have been tentatively approved or validly selected under the Alaska Statehood Act (72 Stat. 339) and lands which have been confirmed to, validly selected by, or granted to the Territory of Alaska or the State under any other provision of Federal law;

(1618) (2) Land selections of a Native Corporation made under the Alaska Native Claims Settlement Act (85 Stat. 688) which have not been conveyed to a Native Corporation, unless any such selection is determined to be invalid or is relinquished; and

(1619) (3) Lands referred to in section 19(b) of the Alaska Native Claims Settlement Act.

(1620) *Snowmachine or snowmobile* means a self-propelled vehicle intended for off-road travel primarily on snow having a curb weight of not more than 1,000 pounds (450 kg), driven by a track or tracks in contact with the snow and steered by a ski or skis on contact with the snow.

(1621) *Take or taking* as used with respect to fish and wildlife, means to pursue, hunt, shoot, trap, net, capture, collect, kill, harm, or attempt to engage in any such conduct.

(1622) *Temporary* means a continuous period of time not to exceed 12 months, except as specifically provided otherwise.

(1623) *Trap* means a snare, trap, mesh, or other implement designed to entrap animals other than fish.

(1624) *Trapping* means taking furbearers under a trapping license.

(1625) *Unload* means there is no unexpended shell or cartridge in the chamber or magazine of a firearm; bows, crossbows and spearguns are stored in such a manner as to prevent their ready use; muzzle-loading weapons do not contain a powder charge; and any other implement capable of discharging a missile into the air or under the water does not contain a missile or similar device within the loading or discharging mechanism.

(1626) *Weapon* means a firearm, compressed gas or spring powered pistol or rifle, bow and arrow, crossbow, blow gun, speargun, hand thrown spear, slingshot, explosive device, or any other implement designed to discharge missiles into the air or under the water.

(1627)

### §13.2 Applicability and scope.

(1628) (a) The regulations contained in part 13 are prescribed for the proper use and management of park areas in Alaska and supersede any inconsistent provisions of the general regulations of this chapter, which apply only on federally owned lands within the boundaries of any park area in Alaska.

(1629) (b) Subparts A through F contain regulations applicable to park areas. Such regulations amend in part the general regulations contained in this chapter. The regulations in subparts A through F govern use and management, including subsistence activities, within the park areas, except as modified by special park regulations in subparts H through V.

(1630) (c) Subpart F contains regulations applicable to subsistence uses. Such regulations apply on federally owned lands and interests therein within park areas where subsistence is authorized. Subsistence uses are not allowed in Kenai Fjords National Park, Katmai National Park, Glacier Bay National Park, Klondike Gold Rush National Historical Park, Sitka National Historical Park, the former Mt. McKinley National Park. The regulations in subpart F amend in part the general regulations contained in this chapter and the regulations contained in subparts A through C of part 13.

(1631) (d) Subparts H through V contain special regulations for specific park areas. Such regulations amend in part the general regulations contained in this chapter and the regulations contained in subparts A through F of part 13.

(1632) (e) Subpart E of this part 13 contains regulations applicable to authorized visitor service providers operating within certain park areas. The regulations in subpart D of this part amend in part the general regulations contained in this chapter.

(1633) (f) For purposes of this chapter, "federally owned lands" does not include those land interests:

(1634) (1) Tentatively approved to the State of Alaska; or

(1635) (2) Conveyed by an interim conveyance to a Native corporation.

(1636)

**§13.4 Information collection.**

(1637) The information collection requirements contained in subparts C and G, and §§13.55, 13.440, 13.450, 13.485, and 13.495 are necessary for park Superintendents to issue concession contracts and special use permits, and have been approved by the Office of Management and Budget under 44 U.S.C. 3507. Information collections associated with the award of concession contracts are covered under OMB control number 1024-0125; the information collections associated with the issuance of special use permits are covered under OMB control number 1024-0026.

(1638)

**Subpart B-General Provisions**

(1639)

**§13.20 Obstruction of airstrips.**

(1640) (a) A person may not place an object on the surface of an airstrip that, because of its nature or location, might cause injury or damage to an aircraft or person riding in the aircraft.

(1641) (b) A person may not dig a hole or make any kind of excavation, or drive a sled, tractor, truck, or any kind of vehicle upon an airstrip that might make ruts, or tracks, or add to an accumulation of tracks so as to endanger aircraft using the airstrip or persons riding in the aircraft.

(1642)

**§13.25 Camping.**

(1643) (a) Camping is authorized in park areas except where such use is prohibited or otherwise restricted by the Superintendent in accordance with this section, the provisions of §13.50, or as set forth for specific park areas in subparts H through V of this part.

(1644) (b) *Site time-limits*. Camping is authorized for 14 consecutive days in one location. Camping is prohibited after 14 consecutive days in one location unless the camp is moved at least 2 miles or unless authorized by the Superintendent. A camp and associated equipment must be relocated immediately if determined by the Superintendent to be interfering with public access or other public interests or adversely impacting park resources.

(1645) (c) *Designated campgrounds*. Except at designated campgrounds, camping is prohibited on NPS facilities. The Superintendent may establish restrictions, terms, and conditions for camping in designated campgrounds. Violating restrictions, terms, and conditions is prohibited.

(1646)

**§13.26 Picnicking.**

(1647) Picnicking is authorized in park areas except where such activity is prohibited or otherwise restricted by the Superintendent. The public will be notified by one or more of the following methods–

(1648) (a) Signs posted at conspicuous locations, such as normal points of entry or reasonable intervals along the boundary of the affected park locale;

(1649) (b) Maps available in the office of the Superintendent and other places convenient to the public;

(1650) (c) Publication in a newspaper of general circulation in the affected area; or

(1651) (d) Other appropriate methods, including park Web sites, brochures, maps, and handouts.

(1652)

**§13.30 Weapons, traps and nets.**

(1653) (a) Irritant chemical devices, including bear spray, may be carried, possessed, and used in accordance with applicable Federal and non-conflicting State laws, except when prohibited or restricted under §13.50.

(1654) (b) Paragraphs (d) through (g) of this section apply to all park areas in Alaska except Klondike Gold Rush National Historical Park, Sitka National Historical Park and the former Mt. McKinley National Park, Glacier Bay National Monument and Katmai National Monument.

(1655) (c) Except as provided in this section and §2.4 of this chapter, the following are prohibited–

(1656) (1) Possessing a weapon, trap, or net;

(1657) (2) Carrying a weapon, trap, or net;

(1658) (3) Using a weapon, trap, or net.

(1659) (d) Firearms may be carried, possessed, and used within park areas in accordance with applicable State and Federal laws, except where such carrying, possession, or use is prohibited or otherwise restricted under §13.30.

(1660) (e) Traps, bows and other implements (other than firearms) authorized by applicable State and Federal law for the taking of fish and wildlife may be carried, possessed, and used within park areas only during those times when the taking of fish and wildlife is authorized by applicable law or regulation.

(1661) (f) In addition to the authorities provided in paragraphs (d) and (e) of this section, weapons (other than firearms), traps, and nets may be possessed within park areas provided such weapons, traps, or nets are within or upon a device or animal used for transportation and are unloaded and cased or otherwise packed in such a manner as to prevent their ready use while in a park area.

(1662) (g) Notwithstanding the provisions of this section, local rural residents who are authorized to engage in subsistence uses, including the taking of wildlife under §13.48, may use, possess, or carry traps, nets and other weapons in accordance with applicable State and Federal laws.

(1700)

| Prohibited Acts | Any Exceptions? |
|---|---|
| (1) Shooting from, on, or across a park road or highway. | None |
| (2) Using any poison or other substance that kills or temporarily incapacitates wildlife. | None |
| (3) Taking wildlife from an aircraft, off-road vehicle, motorboat, motor vehicle, or snowmachine. | If the motor has been completely shut off and progress from the motor's power has ceased. |
| (4) Using an aircraft, snowmachine, off-road vehicle, motorboat, or other motor vehicle to harass wildlife, including chasing, driving, herding, molesting, or otherwise disturbing wildlife. | None. |
| (5) Taking big game while the animal is swimming. | None. |
| (6) Using a machine gun, a set gun, or a shotgun larger than 10 gauge. | None. |
| (7) Using the aid of a pit, fire, artificial salt lick, explosive, expanding gas arrow, bomb, smoke, chemical, or a conventional steel trap with an inside jaw spread over nine inches. | Killer style traps with an inside jaw spread less than 13 inches may be used for trapping, except to take any species of bear or ungulate. |
| (8) Using any electronic device to take, harass, chase, drive, herd, or molest wildlife, including but not limited to: artificial light; laser sights; electronically enhanced night vision scope; any device that has been airborne, controlled remotely, and used to spot or locate game with the use of a camera, video, or other sensing device; radio or satellite communication; cellular or satellite telephone; or motion detector. | (i) Rangefinders may be used.<br>(ii) Electronic calls may be used for game animals except moose.<br>(iii) Artificial light may be used for the purpose of taking furbearers under a trapping license during an open season from Nov. 1 through March 31 where authorized by the State.<br>(iv) Artificial light may be used by a tracking dog handler with one leashed dog to aid in tracking and dispatching a wounded big game animal.<br>(v) Electronic devices approved in writing by the Regional Director. |
| (9) Using snares, nets, or traps to take any species of bear or ungulate. | None. |
| (10) Using bait. | Using bait to trap furbearers. |
| (11) Taking big game with the aid or use of a dog. | Leashed dog for tracking wounded big game. |
| (12) Taking wolves and coyotes from May 1 through August 9. | None. |
| (13) Taking cub bears or female bears with cubs. | None. |
| (14) Taking a fur animal or furbearer by disturbing or destroying a den. | Muskrat pushups or feeding houses. |

(1663)

### §13.35 Preservation of natural features.

(1664) (a) This section applies to all park areas in Alaska except Klondike Gold Rush National Historical Park, Sitka National Historical Park, the former Mt. McKinley National Park, and the former Katmai National Monument.

(1665) (b) Gathering or collecting natural products is prohibited except as allowed by this section, §2.1 of this chapter, or part 13, subparts F through V. For purposes of this paragraph, "natural products" includes living or dead fish and wildlife or parts or products thereof, plants or parts or products thereof, live or dead wood, fungi, seashells, rocks, and minerals.

(1666) (c) Gathering or collecting, by hand and for personal use only, of the following renewable resources is permitted–

(1667) (1) Natural plant food items, including fruits, berries and mushrooms, but not including threatened or endangered species;

(1668) (2) Driftwood and uninhabited seashells;

(1669) (3) Such plant materials and minerals as are essential to the conduct of traditional ceremonies by Native Americans; and

(1670) (4) Dead wood on the ground for use as fuel for campfires within the park area.

(1671) (d) The Superintendent may authorize, with or without conditions, the collection of dead standing wood in all or a portion of a park area. Collecting dead or downed wood in violation of terms and conditions is prohibited.

(1672) (e) Surface collection, by hand (including hand-held gold pans) and for personal recreational use only, of rocks and minerals is permitted, with the following exceptions:

(1673) (1) Collection of silver, platinum, gemstones and fossils is prohibited; and

(1674) (2) Collection methods that may result in disturbance of the ground surface, such as the use of shovels, pickaxes, sluice boxes, and dredges, are prohibited.

(1675) (f) The Superintendent may limit the size and quantity of the natural products that may be gathered or possessed.

(1676) (1) Under conditions where it is found that significant adverse impact on park resources, wildlife populations, subsistence uses, or visitor enjoyment of resources will result, the Superintendent will prohibit the gathering or otherwise restrict the collecting of natural products.

(1677) (2) The Superintendent will notify the public of portions of a park area in which closures or restrictions apply by:

(1678) (i) Publishing a notice in at least one newspaper of general circulation in the State and providing a map available for public inspection in the office of the Superintendent; or

(1679) (ii) Posting appropriate signs.

(1680) (g) Subsistence. Nothing in this section shall apply to local rural residents authorized to take renewable resources.

(1681)

**§13.40 Taking of fish.**

(1682) (a) [Reserved]

(1683) (b) *Fishing*. Fishing is permitted in all park areas in accordance with applicable State and Federal law, and such laws are hereby adopted and made a part of these regulations to the extent they are not inconsistent with §2.3 of this chapter.

(1684) (c) *Commercial fishing*. The exercise of valid commercial fishing rights or privileges obtained prior to December 2, 1980, pursuant to existing law in Cape Krusenstern National Monument, the Malaspina Glacier Forelands area of the Wrangell-St. Elias National Preserve, and the Dry Bay area of Glacier Bay National Preserve, including the use of these park areas for existing campsites, cabins and other structures, motorized vehicles, and aircraft landings on existing airstrips, may continue provided that all such use is directly incident to the exercise of those rights or privileges.

(1685) (1) *Restrictions*. The Superintendent may restrict or revoke the exercise of a valid commercial fishing right or privilege based upon specific findings, following public notice and an opportunity for response, that continuation of such use of a park area constitutes a direct threat to or significant impairment of the values and purposes for which the park area was established.

(1686) (2) *Expansion of uses*. (i) A person holding a valid commercial fishing right or privilege may expand his or her level of use of a park area beyond the level of such use in 1979 only pursuant to the terms of a permit issued by the Superintendent.

(1687) (ii) The Superintendent may deny a permit or otherwise restrict the expanded use of a park area directly incident to the exercise of such rights or privileges, if the Superintendent determines, after conducting a public hearing in the affected locality, that the expanded use constitutes either:

(1688) (A) A significant expansion of the use of a park area beyond the level of such use during 1979 (taking into consideration the relative levels of use in the general vicinity, as well as the applicant's levels of use); or

(1689) (B) A direct threat to, or significant impairment of, the values and purposes for which the park area was established.

(1690) (d) *Use of native species as bait*. Use of species native to Alaska as bait for fishing is allowed in accordance with non-conflicting State law and regulations.

(1691) (e) *Closures and restrictions*. The Superintendent may prohibit or restrict the non-subsistence taking of fish in accordance with the provisions of §13.50.

(1692)

**§13.42 Taking of wildlife in national preserves.**

(1693) (a) Hunting and trapping are allowed in national preserves in accordance with applicable Federal and non-conflicting State law and regulation.

(1694) (b) Violating a provision of either Federal or non-conflicting State law or regulation is prohibited.

(1695) (c) Engaging in trapping activities as the employee of another person is prohibited.

(1696) (d) It shall be unlawful for a person having been airborne to use a firearm or any other weapon to take or assist in taking any species of bear, caribou, Sitka black-tailed deer, elk, coyote, arctic and red fox, mountain goat, moose, Dall sheep, lynx, bison, musk ox, wolf and wolverine until after 3 a.m. on the day following the day in which the flying occurred. This prohibition does not apply to flights on regularly scheduled commercial airlines between regularly maintained public airports.

(1697) (e) Persons transporting wildlife through park areas must identify themselves and the location where the wildlife was taken when requested by NPS law enforcement personnel.

(1698) (f) [Reserved.]

(1699) (g) [Reserved.]

(1701) (h) The Superintendent may prohibit or restrict the non-subsistence taking of wildlife in accordance with the provisions of §13.50.

(1702) (i) A person may not intentionally obstruct or hinder another person's lawful hunting or trapping by:

(1703) (1) Placing oneself in a location in which human presence may alter the behavior of the game that another person is attempting to take or the imminent feasibility of taking game by another person; or

(1704) (2) Creating a visual, aural, olfactory, or physical stimulus in order to alter the behavior of the game that another person is attempting to take.

(1705) (j) Collecting, capturing, or processing, living wildlife is prohibited unless expressly authorized by federal statute or pursuant to §2.5 of this chapter. A falconry permit or other permit issued by the State of Alaska does not provide the required authorization. These collecting activities are not hunting or trapping activities and therefore are not allowed in national preserves under paragraph (a) of this section. This regulation does not prohibit the use of trained raptors for hunting activities where authorized by applicable federal and state law.

(1706)

**§13.45 Unattended or abandoned property.**

(1707) (a) This section applies to all park areas in Alaska except Klondike Gold Rush National Historical Park and Sitka National Historical Park, or as further restricted for specific park areas in Subparts H through V of this part.

(1708) (b) *Personal property*. (1) Leaving personal property longer than 4 months is prohibited. The Superintendent may authorize property to be left in place for more than 4 months.

(1709) (2) Identification information is required for all personal property left in park areas. Identification information consists of the owner's name, home address, telephone number, date that the property was left, and the type of fuel if the property contains fuel. This information must be–

(1710) (i) Labeled on the property; or

(1711) (ii) Provided to the Superintendent.

(1712) (3) All property must be stored in such a manner that wildlife is unable to access the contents. Storing property in a manner that wildlife can access contents is prohibited.

(1713) (4) Leaving fuel in more than one location in a park area or leaving more than 30 gallons of fuel is prohibited unless authorized by the Superintendent.

(1714) (5) Storing fuel within 100 feet of a water source, high water mark of a body of water, or mean high tide is prohibited unless stored in a spill proof overpack container or authorized by the Superintendent. Fuel must be contained in an undamaged and closed fuel container designed for fuel storage. Fueling from containers must occur in such a manner that any spillage would be prevented from coming into contact with water, soil, or vegetation. Failure to properly contain or prevent spillage is prohibited.

(1715) (6) Leaving property unattended for longer than 24 hours on facilities is prohibited unless authorized by the Superintendent.

(1716) (7) Property left in violation of this section is prohibited and subject to impoundment and, if abandoned, disposal or forfeiture.

(1717) (c) The Superintendent may designate areas where personal property may not be left unattended for any time period, establish limits on the amount, and type of personal property that may be left unattended, prescribe the manner in which personal property may be left unattended, or established limits on the length of time personal property may be left unattended. Such designations and restrictions shall be published in at least one newspaper of general circulation within the State, posted at community post offices within the vicinity affected, made available for broadcast on local radio stations in a manner reasonably calculated to inform residents in the affected community, and designated on a map which shall be available for public inspection at the office of the Superintendent, or designated by the posting of appropriate signs, or both.

(1718) (d) In the event unattended property interferes with the safe and orderly management of a park area or is causing damage to the resources of the area, it may be impounded by the Superintendent at any time.

(1719)

### §13.50 Closure and restriction procedures.

(1720) (a) *Applicability and authority*. The Superintendent will follow the provisions of this section to close an area or restrict an activity, or terminate or relax a closure or restriction, in NPS areas in Alaska.

(1721) (b) *Factors*. In determining whether to close an area or restrict an activity, or whether to terminate or relax a closure or restriction, the Superintendent must ensure that the activity or area is managed in a manner compatible with the purposes for which the park area was established. The Superintendent's decision under this paragraph must therefore be guided by factors such as public health and safety, resource protection, protection of cultural or scientific values, subsistence uses, conservation of endangered or threatened species, and other management considerations.

(1722) (c) *Rulemaking requirements*. This paragraph applies only to a closure or restriction, or the termination or relaxation of such, which is of a nature, magnitude and duration that will result in a significant alteration in the public use pattern of the area; adversely affect the area's natural, aesthetic, scenic, or cultural values; or require a long-term modification in the resource management objectives of the area. Except in emergency situations, the closure or restriction, or the termination or relaxation of such, must be published as a rulemaking in the **Federal Register**.

(1723) (d) *Written determination*. Except in emergency situations, prior to implementing or terminating a closure or restriction, the superintendent shall prepare a written determination justifying the action. That determination shall set forth the reasons the closure or restriction authorized by paragraph (a) of this section has been established. This determination will be posted on the NPS Web site at *www.nps.gov*.

(1724) (e) *Restrictions on taking fish or wildlife*. (1) Except in emergencies, the NPS will consult with the State agency having responsibility over fishing, hunting, or trapping and provide an opportunity for public comment, including one or more public meetings near the affected NPS unit, prior to implementing a closure or restriction on taking fish or wildlife.

(1725) (2) Emergency closures or restrictions may not exceed a period of 60 days and may not be extended without following the nonemergency procedures of this section.

(1726) (f) *Notice*. A list of closures and restrictions will be compiled in writing and updated annually. The list will be posted on the NPS Web site at *www.nps.gov* and made available at park headquarters. Additional means of notice reasonably likely to inform residents in the affected vicinity will also be provided where available, such as:

(1727) (1) Publication in a newspaper of general circulation in the State or in local newspapers;

(1728) (2) Use of electronic media, such as the internet and email lists;

(1729) (3) Radio broadcast; or

(1730) (4) Posting of signs in the local vicinity.

(1731) (g) Violating a closure or restriction is prohibited.

(1732)

### §13.55 Permits.

(1733) (a) *Application*. (1) Application for a permit required by any section of this part shall be submitted to the Superintendent having jurisdiction over the affected park area, or in the absence of the Superintendent, the Regional Director. If the applicant is unable or does not wish to submit the application in written form, the Superintendent shall provide the applicant an opportunity to present the application orally and shall keep a record of such oral application.

(1734) (2) The Superintendent shall grant or deny the application in writing within 45 days. If this deadline cannot be met for good cause, the Superintendent shall so notify the applicant in writing. If the permit application is denied, the Superintendent shall specify in writing the reasons for the denial.

(1735) (b) *Denial and appeal procedures*. (1) An applicant whose application for a permit, required pursuant to this part, has been denied by the Superintendent has the right to have the application reconsidered by the Regional Director by contacting him/her within 180 days of the issuance of the denial. For purposes of reconsideration, the permit applicant shall present the following information:

(1736) (i) Any statement or documentation, in addition to that included in the initial application, which demonstrates that the applicant satisfies the criteria set forth in the section under which the permit application is made.

(1737) (ii) The basis for the permit applicant's disagreement with the Superintendent's findings and conclusions; and

(1738) (iii) Whether or not the permit applicant requests an informal hearing before the Regional Director.

(1739) (2) The Regional Director shall provide a hearing if requested by the applicant. After consideration of the written materials and oral hearing, if any, and within a reasonable period of time, the Regional Director shall affirm, reverse, or modify the denial of the Superintendent and shall set forth in writing the basis for the decision. A copy of the decision shall be forwarded promptly to the applicant and shall constitute final agency action.

(1740)

## Subpart N–Special Regulations–Glacier Bay National Park and Preserve

(1741)

### Administrative Provisions

(1742)

### §13.1102 Definitions.

(1743) As used in this subpart:

(1744) *Bartlett Cove Developed Area* means all NPS-administered lands and waters within 1 mile of any Bartlett Cove facility. A map showing the Bartlett Cove Developed Area is available at the park visitor center.

(1745) *Charter vessel* means any motor vessel under 100 tons gross (U.S. System) or 2,000 tons gross (International Convention System) engaged in transport of passengers for hire and certified to carry no more than 12 passengers overnight and no more than 49 passengers for daytime use. Charter vessels also include any uninspected motor vessel measuring less than 200 tons gross (U.S. Tonnage ''Simplified Measurement System'') and not more than 24 meters (79 feet) in length engaged in transport of passengers for hire.

(1746) *Commercial fishing* means conducting fishing activities under the appropriate commercial fishing permits and licenses as required and defined by the State of Alaska.

(1747) *Commercial fishing vessel* means any motor vessel conducting fishing activities under the appropriate commercial fishing licenses as authorized under this subpart.

(1748) *Cruise ship* means any motor vessel of at least 100 tons gross (U.S. System) or 2,000 tons gross (International Convention System) certificated to carry more than 12 passengers for hire.

(1749) *Daily vessel quota* means the maximum number of vessels allowed, by vessel category, on any one calendar day.

(1750) *Glacier Bay* means all waters inside a line drawn between Point Gustavus at 135°54.93'W. longitude; 58°22.75'N. latitude and Point Carolus at 136°02.54'W. longitude; 58°22.69'N. latitude.

(1751) *Motor vessel* means any vessel, other than a seaplane, propelled or capable of being propelled by machinery (including steam), whether or not such machinery is the principal source of power, except a skiff or tender under tow or carried on board another vessel.

(1752) *Outer waters* means all of the non-wilderness marine waters of the park located outside of Glacier Bay.

(1753) *Passenger ferry* means a motor vessel authorized by the Superintendent to engage in the transport of passengers for hire to Bartlett Cove.

(1754) *Private vessel* means any motor vessel that is not engaged in business (business includes, but is not limited to, transportation of passengers for hire or commercial fishing).

(1755) *Seasonal vessel quota* means the maximum number of vessels allowed, by vessel category, during a specific seasonal period.

(1756) *Speed through the water* means the speed at which a vessel moves through the water (which itself may be moving); as distinguished from "speed over the ground" (speed measured in relation to a fixed point on the earth).

(1757) *Tour vessel* means any motor vessel of less than 100 tons gross (U.S. System) or 2,000 tons gross (International Convention System) engaged in transport of passengers for hire and certificated to carry more than 12 passengers overnight or more than 49 passengers for daytime use.

(1758) *Transit* means to operate a motor vessel under power and continuously so as to accomplish ½ nautical mile of littoral (i.e., along the shore) travel.

(1759) *Vessel* includes every type or description of craft used as a means of transportation on the water, including a buoyant device permitting or capable of free flotation and a seaplane while operating on the water.

(1760) *Whale* means any humpback whale (Megaptera novaeangliae).

(1761) *Whale waters* means any portion of Glacier Bay, designated by the superintendent, having a high probability of whale occupancy, based upon recent sighting and/or past patterns of occurrence.

(1762)

### §13.1104 Coordinates.

(1763) All coordinates referenced in this subpart use horizontal datum World Geodetic System of 1984 (WGS 84).

(1764)

## Bartlett Cove

(1765)

### §13.1120 Bartlett Cove Developed Area closures and restrictions.

(1766) The Superintendent may prohibit or otherwise restrict activities in the Bartlett Cove Developed Area to protect public health, safety, or park resources, or to provide for the equitable and orderly use of park facilities. Information on closures and restrictions will be available at the park visitor information center. Violating Bartlett Cove Developed Area closures or restrictions is prohibited.

(1767)

### §13.1122 Bartlett Cove Public Use Dock.

(1768) (a) Docking, tying down, or securing aircraft is prohibited except at the designated aircraft float at the Bartlett Cove Public Use Dock. Docking, tying down, or securing aircraft to the Bartlett Cove Public Use Dock for longer than 3 hours in a 24-hour period is prohibited. Pilots must remain with the aircraft or provide notice of their location to a park ranger. Failure to remain with the aircraft or provide notice to a park ranger is prohibited.

(1769) (b) Vehicles exceeding 30,000 pounds gross vehicle weight are prohibited on the dock, unless authorized by the Superintendent.

(1770) (c) Leaving personal property (other than vessels) unattended on, or attached to, the floats or pier without prior permission from the Superintendent is prohibited.

(1771) (d) Processing commercially caught fish on the Public Use Dock is prohibited.

(1772) (e) The Superintendent may authorize the buying or selling of fish or fish products on or at the Public Use Dock. Buying or selling of fish or fish products is prohibited on or at the Public Use Dock without written permission from the Superintendent.

(1773) (f) Utilizing the fuel dock for activities other than fueling and waste pump-out is prohibited. Other uses may be authorized by the Superintendent to protect park resources or public safety.

(1774) (g) Leaving a vessel unattended on the fuel dock for any length of time is prohibited.

(1775) (h) Using electrical shore power for vessels is prohibited unless otherwise authorized by the Superintendent.

(1776)

## Commercial Fishing

(1777)

### §13.1130 Is commercial fishing authorized in the marine waters of Glacier Bay National Park?

(1778) Yes–Commercial fishing is authorized within the outer waters of the park and within the non-wilderness waters of Glacier Bay, subject to the provisions of this chapter.

(1779) (a) Commercial fishing shall be administered pursuant to a cooperatively developed State/federal park fisheries management plan, international conservation and management treaties, and existing federal and non-conflicting State law. The management plan shall provide for the protection of park values and purposes, the prohibition on any new or expanded fisheries, and the opportunity to study marine resources.

(1780) (b) Commercial fishing or conducting an associated buying or processing operation in wilderness waters is prohibited.

(1781) (c) A new or expanded fishery is prohibited. The Superintendent shall compile a list of the existing fisheries and gear types used in the outer waters and follow the procedures in §§1.5 and 1.7 of this chapter to inform the public.

(1782) (d) Maps and charts showing which marine areas of Glacier Bay are closed to commercial fishing are available from the Superintendent.

(1783)

### §13.1132 What types of commercial fishing are authorized in Glacier Bay?

(1784) Three types of commercial fishing are authorized in Glacier Bay nonwilderness waters: Longline fishing for halibut; pot and ring fishing for Tanner crab; and trolling for salmon.

(1785) (a) All other commercial fishing, or a buying or a processing operation not related to an authorized fishery is prohibited in Glacier Bay.

(1786) (b) On October 1, 2000, each fishery will be limited to fishermen who qualify for a non-transferable commercial fishing lifetime access permit (see §13.1134). Commercial fishing without a permit issued by the superintendent, or other than in accordance with the terms and conditions of the permit, is prohibited.

(1787) (c) The Superintendent shall include in a permit the terms and conditions that the superintendent deems necessary to protect park resources. Violating a term or condition of the permit is prohibited.

(1788)

### §13.1134 Who is eligible for a Glacier Bay commercial fishing lifetime access permit?

(1789) A Glacier Bay commercial fishing lifetime access permit will be issued by the superintendent to fishermen who have submitted documentation to the superintendent, on or before October 1, 2000, which demonstrates to the satisfaction of the superintendent that:

(1790) (a) They possess valid State limited entry commercial fishing permits for the district or statistical area encompassing Glacier Bay for each fishery for which a lifetime access permit is being sought; and,

(1791) (b) They have participated as a limited entry permit holder or crewmember in the district or statistical area encompassing Glacier Bay for each fishery for which a lifetime access permit is being sought.

(1792) (1) For the Glacier Bay commercial halibut fishery, the applicant must have participated as a permit holder or crewmember for at least 2 years during the period 1992–1998.

(1793) (2) For the Glacier Bay salmon or Tanner crab commercial fisheries, the applicant must have participated as a permit holder or crewmember for at least 3 years during the period 1989–1998.

(1794)

### §13.1136 How can an individual apply for a commercial fishing lifetime access permit?

(1795) An applicant for a lifetime access permit must provide information sufficient to establish eligibility as follows:

(1796) (a) The applicant's full name, date of birth, mailing address and phone number;

(1797) (b) A notarized affidavit (required), sworn by the applicant, attesting to his or her history of participation as a limited entry permit holder or crewmember in Glacier Bay during the qualifying period for each fishery for which a lifetime access permit is being sought;

(1798) (c) A copy of the applicant's current State of Alaska limited entry permit or, in the case of halibut, an international Pacific Halibut Commission quota share (required), that is valid for the area that includes Glacier Bay, for each fishery for which a lifetime access permit is sought;

(1799) (d) For qualifying years as a limited entry permit holder, available corroborating documentation of the applicant's permit and quota share history for the Glacier Bay fishery during the qualifying period, and/or for qualifying years as a crewmember, other available corroborating documentation of crewmember status. This may include a copy of the applicant's commercial crewmember license for each qualifying year, a notarized affidavit from their employer (generally a limited entry permit holder, or boat owner hired or contracted by a limited entry permit holder) stating the years worked by the applicant in a qualifying fishery in Glacier Bay, copies of tax forms W–2 or 1099, pay stubs, or other documentation; and

(1800) (e) For applicants qualifying as a limited entry permit holder, available corroborating documentation of commercial landings for the Glacier Bay fishery during the qualifying periods–i.e., within the statistical unit or area that includes Glacier Bay. For halibut, this includes regulatory sub-area 184. For Tanner crab, this includes statistical areas 114–70 through 114–77. For salmon, the Superintendent may need additional documentation that supports the applicant's declaration of Glacier Bay salmon landings. For halibut and Tanner crab, the Superintendent may consider documented commercial landings from the unit or area immediately adjacent to Glacier Bay (in Icy Strait) if additional documentation supports the applicant's declaration that landings occurred in Glacier Bay.

(1801) (f) Any additional corroborating documentation that might assist the superintendent in a timely determination of eligibility for the access permits.

(1802)

### §13.1138 Where should the documentation for a lifetime access permit be sent?

(1803) Before October 1, 2000, all required information (as listed in §13.1136) should be sent to: Superintendent, Attn: Access Permit Program, Glacier Bay National Park and Preserve, P.O. Box 140, Gustavus, Alaska 99826.

(1804)

### §13.1140 Who determines eligibility?

(1805) The superintendent will make a written determination of an applicant's eligibility for the lifetime access permit based on information provided. A copy of the determination will be mailed to the applicant. If additional information is required to make an eligibility determination, the applicant will be notified in writing of that need and be given an opportunity to provide it.

(1806)

### §13.1142 Can I appeal denial of my commercial fishing lifetime access permit application?

(1807) Yes–If an applicant's request for a commercial fishing lifetime access permit is denied, the superintendent will provide the applicant with the reasons for the denial in writing within 15 days of the decision. The applicant may appeal to the Regional Director, Alaska Region, within 180 days. The appeal must substantiate the basis of the applicant's disagreement with the Superintendent's determination. The Regional Director (or his representative) will meet with the applicant to discuss the appeal within 30 days of receiving the appeal. Within 15 days of receipt of written materials and the meeting, if requested, the Regional Director will affirm, reverse, or modify the Superintendent's determination and explain the reasons for the decision in writing. A copy of the decision will be forwarded promptly to the applicant and will be the final agency action.

(1808)

### §13.1144 How often will commercial fishing lifetime access permit be renewed?

(1809) The superintendent will renew lifetime access permit at 5-year intervals for the lifetime of a permittee who continues to hold a valid State limited entry commercial fishing permit, and for halibut an International Pacific Halibut Commission quota share, and is otherwise eligible to participate in the fishery under Federal and State law.

(1844)

| Type of Vessel | Daily Vessel Quotas (DVQ) | Period Covered by DVQ | Seasonal Vessel Quota (SVQ) | Period Covered by SVQ |
|---|---|---|---|---|
| Cruise Ship | 2 | Year-round | Up to 184<br>Up to 122 | June 1 - August 31.<br>May and September. |
| Tour Vessel | 3 | Year-round | N/A | N/A |
| Charter Vessel | 6 | June 1 – August 31 | N/A | N/A |
| Private Vessel | 25 | June 1 – August 31 | N/A | N/A |
| Passenger Ferry | 1 | Year-round | N/A | N/A |

(1810)

### §13.1146 What other closures and restrictions apply to commercial fishermen and commercial fishing vessels?

(1811) The following are prohibited:

(1812) (a) Commercial fishing in the waters of Geikie, Tarr, Johns Hopkins and Reid Inlets.

(1813) (b) Commercial fishing in the waters of the west arm of Glacier Bay north of 58°50.0'N. latitude, except commercial fishermen who have been authorized by the superintendent to troll for salmon may troll for king salmon during the period October 1 through April 30, in compliance with state commercial fishing regulations.

(1814) (c) Commercial fishing in the east arm of Glacier Bay, north of an imaginary line running from Point Caroline through the southern point of Garforth Island and extending to the east side of Muir Inlet, except commercial fishermen who have been authorized by the superintendent to troll for salmon may troll for king salmon south of 58°50.0'N latitude during the period October 1 through April 30, in compliance with state commercial fishing regulations.

(1815)

## Vessel Permits

(1816)

### §13.1150 Is a permit required for a vessel in Glacier Bay?

(1817) A permit from the superintendent is required for motor vessels in accordance with this subpart and applicable regulations in this part.

(1818)

### §13.1152 Private vessel permits and conditions.

(1819) In Glacier Bay from June 1 through August 31 an individual must have a permit from the NPS issued for a specific vessel for a specific period of time.

(1820) (a) From June 1 through August 31, when the operator of a private vessel enters Glacier Bay for the first time that calendar year, the operator must go directly to the Bartlett Cove Ranger Station for orientation.

(1821) (b) From May 1 through September 30, the operator of a private vessel must immediately notify the Bartlett Cove Ranger Station of the vessel's entry to or exit from Glacier Bay.

(1822)

### §13.1154 Commercial vessel permits and conditions.

(1823) Each commercially operated motor vessel must have a permit to operate in Glacier Bay National Park and Preserve in accordance with §5.3 of this chapter.

(1824) (a) A cruise ship must have a concession contract to operate in Glacier Bay.

(1825) (b) A tour vessel, charter vessel, and passenger ferry must have a commercial authorization to operate in Glacier Bay.

(1826) (c) The operator of a cruise ship, tour vessel, charter vessel, and passenger ferry must notify the Bartlett Cove Ranger Station of the vessel's entry into Glacier Bay within 48 hours in advance of entering Glacier Bay or immediately upon entry.

(1827) (d) Cruise ships and tour vessels are prohibited from operating in the Beardslee Entrance and at the entrance to Adams Inlet, as defined as waters within the Wilderness boundaries in those respective areas.

(1828) (e) Off-boat activity from a cruise ship, tour vessel, or charter vessel is prohibited, unless authorized by the superintendent.

(1829) (f) Off-boat activity from a passenger ferry is prohibited, except for passenger access at the Bartlett Cove docks.

(1830) (g) A passenger ferry must travel a direct course between the mouth of Glacier Bay and Bartlett Cove, except when the vessel is granted safe harbor by the Superintendent as stated in §13.1156(e).

(1831)

### §13.1156 Exceptions from vessel permit requirement.

(1832) A vessel permit is not required in Glacier Bay when:

(1833) (a) A motor vessel is engaged in official, non-commercial business of the State or Federal Government;

(1834) (b) A motor vessel is operating in Bartlett Cove waters east of a line extending from the long axis of the fuel dock to the wilderness boundary of Lester Island;

(1835) (c) One motor vessel is launched from a motor vessel that has a permit and only while the authorized motor vessel remains at anchor or operated in accordance with a concession agreement from a permitted motor vessel while that vessel is not underway;

(1836) (d) A commercial fishing vessel authorized under this subpart is actually engaged in commercial fishing; or

(1837) (e) A vessel is granted safe harbor by the superintendent.

(1838)

### §13.1158 Prohibitions.

(1839) (a) Operating a motor vessel in Glacier Bay without a required permit is prohibited.

(1840) (b) Violating a term or condition of a permit or an operating condition or restriction issued or imposed pursuant to this chapter is prohibited.

(1841) (c) The superintendent may immediately suspend or revoke a permit or deny a future permit request as a result of a violation of a provision of this chapter.

(1842)

### §13.1160 Restrictions on vessel entry.

(1843) The superintendent will allow vessel entry in accordance with the following table:

(1845) **Note:** Cruise ships and tour vessels are limited to the daily vessel quota year-round. Charter and private vessels are not subject to quotas from September through May.

(1846) (a) The Director will reduce the vessel quota levels for any or all categories of vessels in this subpart as required to protect the values and purposes of Glacier Bay National Park and Preserve. The director will make these reductions based on the controlling biological opinion issued by the National Oceanic and Atmospheric Administration Fisheries Service under section 7 of the Endangered Species Act, applicable authority, and any other relevant information.

(1847) (b) The superintendent will annually determine the cruise ship quota. This determination will be based upon applicable authorities, appropriate public comment and available scientific and other information. The number will be subject to the maximum daily vessel quota of two vessels.

(1848) (c) From June 1 through August 31, the superintendent will designate one private vessel permit from the daily quota of 25 as a transit permit. This transit permit may be used only to directly exit Glacier Bay from Bartlett Cove and return directly to Bartlett Cove. The superintendent may establish application procedures and operating conditions. Violating operating conditions is prohibited. This paragraph will cease to have effect on November 30, 2011.

(1849) (d) Nothing in this section will be construed to prevent the superintendent from taking any action at any time to protect the values and purposes of Glacier Bay National Park and Preserve.

(1850)

## Vessel Operating Restrictions

(1851)

### §13.1170 What are the rules for operating vessels?

(1852) (a) Operating a vessel within ¼ nautical mile of a whale is prohibited, except for a commercial fishing vessel authorized under this subpart that is actively trolling, setting, or pulling long lines, or setting or pulling crab pots.

(1853) (b) The operator of a vessel inadvertently positioned within ¼ nautical mile of a whale must immediately slow the vessel to ten knots or less, without shifting into reverse unless impact is likely. The operator must direct or maintain the vessel on as steady a course as possible away from the whale until at least ¼ nautical mile of separation is established. Failure to take such action is prohibited.

(1854) (c) The operator of a vessel or seaplane positioned within ½ nautical mile of a whale is prohibited from altering course or speed in a manner that results in decreasing the distance between the whale and the vessel or seaplane.

(1855)

### §13.1172 When general operating restrictions do not apply.

(1856) Section 13.1170 does not apply to a vessel being used in connection with federally permitted whale research or monitoring; other closures and restrictions in "Vessel Operating Restrictions,"§§13.1170 through 13.1180, do not apply to authorized persons conducting emergency or law enforcement operations, research or resource management, park administration/supply, or other necessary patrols.

(1857)

### §13.1174 Whale water restrictions.

(1858) (a) May 15 through September 30, the following waters are designated as whale waters.

(1859) (1) Waters north of a line drawn from Point Carolus to Point Gustavus; and south of a line drawn from the northernmost point of Lars Island across the northernmost point of Strawberry Island to the point where it intersects the line that defines the Beardslee Island group, as described in §13.1180(a)(4), and following that line south and west to the Bartlett Cove shore (so as to include the Beardslee Entrance and Bartlett Cove); and

(1860) (2) Other waters designated by the superintendent as temporary whale waters.

(1861) (b) The public will be notified of other waters designated as temporary whale waters in accordance with §1.7 of this chapter.

(1862) (c) Violation of a whale water restriction is prohibited. The following restrictions apply in whale waters unless otherwise provided by the superintendent in the designation:

(1863) (1) Operating a motor vessel less than one nautical mile from shore (where the width of the water permits), or in narrower areas navigating outside of mid-channel is prohibited. This restriction does not apply to motor vessels less than 18 feet in length, or vessels actively engaged in fishing activities or operating solely under sail.

(1864) (2) Unless other restrictions apply, operators may perpendicularly approach or land on shore (i.e., by the

most direct line to shore) through designated whale waters, but they may not transit along the shore.

(1865) (3) Operators must follow motor vessel speed limits in §13.1176(a).

(1866)

**§13.1176 Speed restrictions.**

(1867) (a) From May 15 through September 30, in designated whale waters the following are prohibited:

(1868) (1) Operating a motor vessel at more than 20 knots speed through the water; or

(1869) (2) Operating a motor vessel at more than 13 knots speed through the water, when the superintendent has designated a maximum speed of 13 knots, or at a maximum speed designated by the superintendent based on NOAA guidelines or new scientific information.

(1870) (b) From July 1 through August 31, operating a motor vessel on Johns Hopkins Inlet waters south of 58°54.2'N. latitude (a line running due west from Jaw Point) at more than 10 knots speed through the water is prohibited.

(1871)

**§13.1178 Closed waters, islands and other areas.**

(1872) The following are prohibited:

(1873) (a) Operating a vessel or otherwise approaching within 100 yards of South Marble Island; or Flapjack Island; or any of the three small unnamed islets approximately one nautical mile southeast of Flapjack Island; or Eider Island; or Boulder Island; or Geikie Rock; or Lone Island; or the northern three-fourths of Leland Island (north of 58°39.1'N latitude); or any of the four small unnamed islands located approximately one nautical mile north (one island), and 1.5 nautical miles east (three islands) of the easternmost point of Russell Island; or Graves Rocks (on the outer coast); or Cormorant Rock, or any adjacent rock, including all of the near-shore rocks located along the outer coast, for a distance of 1½ nautical miles, southeast from the mouth of Lituya Bay; or the surf line along the outer coast, for a distance of 1½ nautical miles northwest of the mouth of the glacial river at Cape Fairweather.

(1874) (b) Operating a vessel or otherwise approaching within 100 yards of a Steller (northern) sea lion (Eumetopias jubatus) hauled-out on land or a rock or a nesting seabird colony: Provided, however, that vessels may approach within 50 yards of that part of South Marble Island lying south of 58°38.6'N latitude (approximately the southern one-half of South Marble Island) to view seabirds.

(1875) (c) May 1 through August 31, operating a vessel, or otherwise approaching within ¼ nautical mile of, Spider Island or any of the four small islets lying immediately west of Spider Island.

(1876) (d) May 1 through August 31, operating a cruise ship on Johns Hopkins Inlet waters south of 58°54.2'N latitude. (an imaginary line running approximately due west from Jaw Point).

(1877) (e) May 1 through June 30, operating a vessel or a seaplane on Johns Hopkins Inlet waters south of 58°54.2'N latitude. (an imaginary line running approximately due west from Jaw Point).

(1878) (f) July 1 through August 31, operating a vessel or a seaplane on Johns Hopkins Inlet waters south of 58 54.2'N latitude (an imaginary line running approximately due west from Jaw Point), within ¼ nautical mile of a seal hauled out on ice; except when safe navigation requires, and then with due care to maintain the ¼ nautical mile distance from concentrations of seals.

(1879) (g) Restrictions imposed in this section are minimum distances. Park visitors are advised that protection of park wildlife may require that visitors maintain greater distances from wildlife. See, 36 CFR 2.2 (Wildlife protection).

(1880)

**§13.1180 Closed waters, motor vessels and seaplanes.**

(1881) (a) May 1 through September 15, operating a motor vessel or a seaplane on the following water is prohibited:

(1882) (1) Adams Inlet, east of 135°59.2'W longitude (an imaginary line running approximately due north and south through the charted (5) obstruction located approximately 2¼ nautical miles east of Pt. George).

(1883) (2) Rendu Inlet, north of the wilderness boundary at the mouth of the inlet.

(1884) (3) Hugh Miller complex, including Scidmore Bay and Charpentier Inlet, west of the wilderness boundary at the mouth of the Hugh Miller Inlet.

(1885) (4) Waters within the Beardslee Island group (except the Beardslee Entrance), that is defined by an imaginary line running due west from shore to the easternmost point of Lester Island, then along the south shore of Lester Island to its western end, then to the southernmost point of Young Island, then north along the west shore and east along the north shore of Young Island to its northernmost point, then at a bearing of 15 true to an imaginary point located one nautical mile due east of the easternmost point of Strawberry Island, then at a bearing of 345 true to the northernmost point of Flapjack Island, then at a bearing of 81 true to the northernmost point of the unnamed island immediately to the east of Flapjack Island, then southeasterly to the northernmost point of the next unnamed island, then southeasterly along the (Beartrack Cove) shore of that island to its easternmost point, then due east to shore.

(1886) (b) June 1 through July 15, operating a motor vessel or a seaplane on the waters of Muir Inlet north of 59°02.7'N latitude (an imaginary line running approximately due west from the point of land on the east shore approximately 1 nautical mile north of the McBride Glacier) is prohibited.

(1887) (c) July 16 through August 31, operating a motor vessel or a seaplane on the waters of Wachusett Inlet west of 136°12.0'W longitude (an imaginary line running approximately due north from the point of land on the south shore of Wachusett Inlet approximately 2¼ nautical miles west of Rowlee Point) is prohibited.

(1888)

### §13.1182 Noise restrictions.

(1889) June 1 through August 31, except on vessels in transit or as otherwise authorized by the superintendent, the use of generators or other non-propulsive motors (except a windlass) is prohibited from 10 p.m. until 6 a.m. in Reid Inlet, Blue Mouse Cove and North Sandy Cove.

(1890)

### §13.1184 Other restrictions on vessels.

(1891) The superintendent will make rules for the safe and equitable use of Bartlett Cove waters and for park docks. The superintendent will notify the public of these rules by posting of a sign or a copy of them at the dock. Failure to obey a sign or posted rule is prohibited.

(1892)

### §13.1186 What are the emission standards for vessels?

(1893) (a) The State of Alaska statutes and regulations applicable to marine vessel emission standards are adopted as a part of these regulations.

(1894) (b) Violating a State of Alaska statute or regulation applicable to marine vessel visible emission standards is prohibited.

(1895)

## TITLE 40–PROTECTION OF ENVIRONMENT

(1896)

## Part 140–Marine Sanitation Device Standard

(1897)

### §140.1 Definitions

(1898) For the purpose of these standards the following definitions shall apply:

(1899) (a) *Sewage* means human body wastes and the wastes from toilets and other receptacles intended to receive or retain body wastes;

(1900) (b) *Discharge* includes, but is not limited to, any spilling, leaking, pumping, pouring, emitting, emptying, or dumping;

(1901) (c) *Marine sanitation device* includes any equipment for installation onboard a vessel and which is designed to receive, retain, treat, or discharge sewage and any process to treat such sewage;

(1902) (d) *Vessel* includes every description of watercraft or other artificial contrivance used, or capable of being used, as a means of transportation on waters of the United States;

(1903) (e) *New vessel* refers to any vessel on which construction was initiated on or after January 30, 1975;

(1904) (f) *Existing vessel* refers to any vessel on which construction was initiated before January 30, 1975;

(1905) (g) *Fecal coliform bacteria* are those organisms associated with the intestines of warm-blooded animals that are commonly used to indicate the presence of fecal material and the potential presence of organisms capable of causing human disease.

(1906)

### §140.2 Scope of standard.

(1907) The standard adopted herein applies only to vessels on which a marine sanitation device has been installed. The standard does not require the installation of a marine sanitation device on any vessel that is not so equipped. The standard applies to vessels owned and operated by the United States unless the Secretary of Defense finds that compliance would not be in the interest of national security.

(1908)

### §140.3 Standard.

(1909) (a) (1) In freshwater lakes, freshwater reservoirs or other freshwater impoundments whose inlets or outlets are such as to prevent the ingress or egress by vessel traffic subject to this regulation, or in rivers not capable of navigation by interstate vessel traffic subject to this regulation, marine sanitation devices certified by the U.S. Coast Guard (see 33 CFR part 159, published in 40 FR 4622, January 30, 1975), installed on all vessels shall be designed and operated to prevent the overboard discharge of sewage, treated or untreated, or of any waste derived from sewage. This shall not be construed to prohibit the carriage of Coast Guard-certified flow-through treatment devices which have been secured so as to prevent such discharges.

(1910) (2) In all other waters, Coast Guard-certified marine sanitation devices installed on all vessels shall be designed and operated to either retain, dispose of, or discharge sewage. If the device has a discharge, subject to paragraph (d) of this section, the effluent shall not have a fecal coliform bacterial count of greater than 1,000 per 100 milliliters nor visible floating solids. Waters where a Coast Guard-certified marine sanitation device permitting discharge is allowed include coastal waters and estuaries, the Great Lakes and inter-connected waterways, freshwater lakes and impoundments accessible through locks, and other flowing waters that are navigable interstate by vessels subject to this regulation.

(1911) (b) This standard shall become effective on January 30, 1977 for new vessels and on January 30, 1980 for existing vessels (or, in the case of vessels owned and operated by the Department of Defense, two years and five years, for new and existing vessels, respectively, after promulgation of implementing regulations by the Secretary of Defense under section 312(d) of the Act).

(1912) (c) Any vessel which is equipped as of the date of promulgation of this regulation with a Coast Guard-certified flow-through marine sanitation device meeting the requirements of paragraph (a)(2) of this section, shall not be required to comply with the provisions designed to prevent the overboard discharge of sewage, treated or untreated, in paragraph (a)(1) of this section, for the operable life of that device.

(1913) (d) After January 30, 1980, subject to paragraphs (e) and (f) of this section, marine sanitation devices on all vessels on waters that are not subject to a prohibition of

the overboard discharge of sewage, treated or untreated, as specified in paragraph (a)(1) of this section, shall be designed and operated to either retain, dispose of, or discharge sewage, and shall be certified by the U.S. Coast Guard. If the device has a discharge, the effluent shall not have a fecal coliform bacterial count of greater than 200 per 100 milliliters, nor suspended solids greater than 150 mg/1.

(1914) (e) Any existing vessel on waters not subject to a prohibition of the overboard discharge of sewage in paragraph (a)(1) of this section, and which is equipped with a certified device on or before January 30, 1978, shall not be required to comply with paragraph (d) of this section, for the operable life of that device.

(1915) (f) Any new vessel on waters not subject to the prohibition of the overboard discharge of sewage in paragraph (a)(1) of this section, and on which construction is initiated before January 31, 1980, which is equipped with a marine sanitation device before January 31, 1980, certified under paragraph (a)(2) of this section, shall not be required to comply with paragraph (d) of this section, for the operable life of that device.

(1916) (g) The degrees of treatment described in paragraphs (a) and (d) of this section are "appropriate standards" for purposes of Coast Guard and Department of Defense certification pursuant to section 312(g)(2) of the Act.

(1917)

**§140.4 Complete prohibition.**

(1918) (a) Prohibition pursuant to CWA section 312(f)(3): a State may completely prohibit the discharge from all vessels of any sewage, whether treated or not, into some or all of the waters within such State by making a written application to the Administrator, Environmental Protection Agency, and by receiving the Administrator's affirmative determination pursuant to section 312(f)(3) of the Act. Upon receipt of an application under section 312(f)(3) of the Act, the Administrator will determine within 90 days whether adequate facilities for the safe and sanitary removal and treatment of sewage from all vessels using such waters are reasonably available. Applications made by States pursuant to section 312(f)(3) of the Act shall include:

(1919) (1)A certification that the protection and enhancement of the waters described in the petition require greater environmental protection than the applicable Federal standard;

(1920) (2) A map showing the location of commercial and recreational pump-out facilities;

(1921) (3) A description of the location of pump-out facilities within waters designated for no discharge;

(1922) (4) The general schedule of operating hours of the pump-out facilities;

(1923) (5) The draught requirements on vessels that may be excluded because of insufficient water depth adjacent to the facility;

(1924) (6) Information indicating that treatment of wastes from such pump-out facilities is in conformance with Federal law; and

(1925) (7) Information on vessel population and vessel usage of the subject waters.

(1926) (b) Prohibition pursuant to CWA section 312(f)(4)(A): a State may make a written application to the Administrator, Environmental Protection Agency, under section 312(f)(4)(A) of the Act, for the issuance of a regulation completely prohibiting discharge from a vessel of any sewage, whether treated or not, into particular waters of the United States or specified portions thereof, which waters are located within the boundaries of such State. Such application shall specify with particularly the waters, or portions thereof, for which a complete prohibition is desired. The application shall include identification of water recreational areas, drinking water intakes, aquatic sanctuaries, identifiable fish-spawning and nursery areas, and areas of intensive boating activities. If, on the basis of the State's application and any other information available to him, the Administrator is unable to make a finding that the waters listed in the application require a complete prohibition of any discharge in the waters or portions thereof covered by the application, he shall state the reasons why he cannot make such a finding, and shall deny the application. If the Administrator makes a finding that the waters listed in the application require a complete prohibition of any discharge in all or any part of the waters or portions thereof covered by the State's application, he shall publish notice of such findings together with a notice of proposed rule making, and then shall proceed in accordance with 5 U.S.C. 553. If the Administrator's finding is that applicable water quality standards require a complete prohibition covering a more restricted or more expanded area than that applied for by the State, he shall state the reasons why his finding differs in scope from that requested in the State's application.

(1927) (1) For the following waters the discharge from a vessel of any sewage (whether treated or not) is completely prohibited pursuant to CWA section 312(f)(4)(A):

(1928) (i) Boundary Waters Canoe Area, formerly designated as the Superior, Little Indian Sioux, and Caribou Roadless Areas, in the Superior National Forest, Minnesota, as described in 16 U.S.C. 577–577d1.

(1929) (ii) Waters of the State of Florida within the boundaries of the Florida Keys National Marine Sanctuary as delineated on a map of the Sanctuary at *http://www.fknms.nos.noaa.gov /*.

(1930) (2)(i) For the marine waters of the State of California, the following vessels are completely prohibited from discharging any sewage (whether treated or not):

(1931) (A) A large passenger vessel;

(1932) (B) A large oceangoing vessel equipped with a holding tank which has not fully used the holding tank's capacity, or which contains more than de minimis amounts of sewage generated while the vessel was outside of the marine waters of the State of California.

(1933) (ii) For purposes of paragraph (b)(2) of this section:

(1934) (A) "Marine waters of the State of California" means the territorial sea measured from the baseline as determined in accordance with the Convention on the Territorial Sea and the Contiguous Zone and extending seaward a distance of three miles, and all enclosed bays and estuaries subject to tidal influences from the Oregon border (41.999325 North Latitude, 124.212110 West Longitude, decimal degrees, NAD 1983) to the Mexican border (32.471231 North Latitude, 117.137814 West Longitude, decimal degrees, NAD 1983). A map illustrating these waters can be obtained from EPA or viewed at *http://www.epa.gov/region9/water/no-discharge/overview.html*.

(1935) (B) A "large passenger vessel" means a passenger vessel, as defined in section 2101(22) of title 46, United States Code, of 300 gross tons or more, as measured under the International Convention on Tonnage Measurement of Ships, 1969, measurement system in 46 U.S.C. 14302, or the regulatory measurement system of 46 U.S.C. 14502 for vessels not measured under 46 U.S.C. 14302, that has berths or overnight accommodations for passengers.

(1936) (C) A "large oceangoing vessel" means a private, commercial, government, or military vessel of 300 gross tons or more, as measured under the International Convention on Tonnage Measurement of Ships, 1969, measurement system in 46 U.S.C. 14302, or the regulatory measurement system of 46 U.S.C. 14502 for vessels not measured under 46 U.S.C.14302, that is not a large passenger vessel.

(1937) (D) A "holding tank" means a tank specifically designed, constructed, and fitted for the retention of treated or untreated sewage, that has been designated and approved by the ship's flag Administration on the ship's stability plan; a designated ballast tank is not a holding tank for this purpose.

(1938) (c)(1) *Prohibition pursuant* to CWA section 312(f)(4)(B): A State may make written application to the Administrator of the Environmental Protection Agency under section 312(f)(4)(B) of the Act for the issuance of a regulation establishing a drinking water intake no discharge zone which completely prohibits discharge from a vessel of any sewage, whether treated or untreated, into that zone in particular waters, or portions thereof, within such State. Such application shall:

(1939) (i) Identify and describe exactly and in detail the location of the drinking water supply intake(s) and the community served by the intake(s), including average and maximum expected amounts of inflow;

(1940) (ii) Specify and describe exactly and in detail, the waters, or portions thereof, for which a complete prohibition is desired, and where appropriate, average, maximum and low flows in million gallons per day (MGD) or the metric equivalent;

(1941) (iii) Include a map, either a USGS topographic quadrant map or a NOAA nautical chart, as applicable, clearly marking by latitude and longitude the waters or portions thereof to be designated a drinking water intake zone; and

(1942) (iv) Include a statement of basis justifying the size of the requested drinking water intake zone, for example, identifying areas of intensive boating activities.

(1943) (2) If the Administrator finds that a complete prohibition is appropriate under this paragraph, he or she shall publish notice of such finding together with a notice of proposed rulemaking, and then shall proceed in accordance with 5 U.S.C. 553. If the Administrator's finding is that a complete prohibition covering a more restricted or more expanded area than that applied for by the State is appropriate, he or she shall also include a statement of the reasons why the finding differs in scope from that requested in the State's application.

(1944) (3) If the Administrator finds that a complete prohibition is inappropriate under this paragraph, he or she shall deny the application and state the reasons for such denial.

(1945) (4) For the following waters the discharge from a vessel of any sewage, whether treated or not, is completely prohibited pursuant to CWA section 312(f)(4)(B):

(1946) (i) Two portions of the Hudson River in New York State, the first is bounded by an east-west line through the most northern confluence of the Mohawk River which will be designated by the Troy-Waterford Bridge (126th Street Bridge) on the south and Lock 2 on the north, and the second of which is bounded on the north by the southern end of Houghtaling Island and on the south by a line between the Village of Roseton on the western shore and Low Point on the eastern shore in the vicinity of Chelsea, as described in Items 2 and 3 of 6 NYCRR Part 858.4.

(1947) (ii) [Reserved]

(1948)

### §140.5 Analytical procedures.

(1949) In determining the composition and quality of effluent discharge from marine sanitation devices, the procedures contained in 40 CFR part 136, "Guidelines Establishing Test Procedures for the Analysis of Pollutants," or subsequent revisions or amendments thereto, shall be employed.

(1950)

## TITLE 50-WILDLIFE AND FISHERIES

(1951)

## Part 224–Endangered Marine and Anadromous Species

(1952)

### §224.103 Special prohibitions for endangered marine mammals.

(1953) (a) [Reserved]

(1954) (b) *Approaching humpback whales in Alaska*–(1) *Prohibitions*. Except as provided under paragraph (b)(2) of this section, it is unlawful for any person subject to the jurisdiction of the United States to commit, to attempt to commit, to solicit another to commit, or cause

to be committed, within 200 nautical miles (370.4 km) of Alaska, or within inland waters of the state, any of the acts in paragraphs (b)(1)(i) through (b)(1)(iii) of this section with respect to humpback whales (*Megaptera novaeangliae*):

(1955) (i) Approach, by any means, including by interception (*i.e.,* placing a vessel in the path of an oncoming humpback whale so that the whale surfaces within 100 yards (91.4 m) of the vessel), within 100 yards (91.4 m) of any humpback whale;

(1956) (ii) Cause a vessel or other object to approach within 100 yards (91.4 m) of a humpback whale; or

(1957) (iii) Disrupt the normal behavior or prior activity of a whale by any other act or omission. A disruption of normal behavior may be manifested by, among other actions on the part of the whale, a rapid change in direction or speed; escape tactics such as prolonged diving, underwater course changes, underwater exhalation, or evasive swimming patterns; interruptions of breeding, nursing, or resting activities, attempts by a whale to shield a calf from a vessel or human observer by tail swishing or by other protective movement; or the abandonment of a previously frequented area.

(1958) (2) *Exceptions*. The following exceptions apply to this paragraph (b), but any person who claims the applicability of an exception has the burden of proving that the exception applies:

(1959) (i) Paragraph (b)(1) of this section does not apply if an approach is authorized by the National Marine Fisheries Service through a permit issued under part 222, subpart C, of this chapter (General Permit Procedures) or through a similar authorization.

(1960) (ii) Paragraph (b)(1) of this section does not apply to the extent that a vessel is restricted in her ability to maneuver and, because of the restriction, cannot comply with paragraph (b)(1) of this section.

(1961) (iii) Paragraph (b)(1) of this section does not apply to commercial fishing vessels lawfully engaged in actively setting, retrieving or closely tending commercial fishing gear. For purposes of this paragraph (b), commercial fishing means taking or harvesting fish or fishery resources to sell, barter, or trade. Commercial fishing does not include commercial passenger fishing operations (i.e. charter operations or sport fishing activities).

(1962) (iv) Paragraph (b)(1) of this section does not apply to state, local, or Federal government vessels operating in the course of official duty.

(1963) (v) Paragraph (b)(1) of this section does not affect the rights of Alaska Natives under 16 U.S.C. 1539(e).

(1964) (vi) Paragraph (b) of this section shall not take precedence over any more restrictive conflicting Federal regulation pertaining to humpback whales, including the regulations at 36 CFR 13.1102-13.1188 that pertain specifically to the waters of Glacier Bay National Park and Preserve.

(1965) (3) *General measures*. Notwithstanding the prohibitions and exceptions in paragraphs (b)(1) and (2) of this section, to avoid collisions with humpback whales, vessels must operate at a slow, safe speed when near a humpback whale. “Safe speed” has the same meaning as the term is defined in 33 CFR 83.06 and the International Regulations for Preventing Collisions at Sea 1972 (see 33 U.S.C. 1602), with respect to avoiding collisions with humpback whales.

# Alaska-Dixon Entrance to Cape Spencer

(1) **Alaska**, the largest state of the United States, occupies the northwestern part of the North American continent. The state is bordered on the east and south by Canada and on the west and north by the Pacific and Arctic Oceans. The northernmost point of Alaska is Point Barrow (71°23'N., 156°28'W.); the westernmost point is Cape Wrangell (52°55'N., 172°26'E.) on Attu Island; and the southernmost point is Nitrof Point (51°13.0'N., 179°07.7'W.), on Amatignak Island. Cape Muzon (54°40'N., 132°41'W.) is on the historic parallel that is the coastal boundary between Alaska and Canada's British Columbia. Cape Muzon is on the north side of Dixon Entrance and is 480 miles northwest of Cape Flattery, Washington; between the two United States capes is the coastal area of British Columbia.

(2) Alaska was purchased from Russia in 1867 and became an organized territory of the United States in 1912. By Presidential proclamation of January 3, 1959, Alaska officially became the 49th of the United States. The population of the state was 710,231 in 2010. Principal resources are oil, timber, fish and coal. Alaska has a general ocean coastline of 5,770 nautical miles and a tidal shoreline of 29,462 miles. The state is so huge that its description requires two complete volumes of the NOAA's nine-volume series of United States Coast Pilots.

(3) Coast Pilot 8 deals with the panhandle section of Alaska between the south boundary and Cape Spencer: general ocean coastline is only 250 nautical miles but tidal shoreline totals 11,085 miles.

(4) The subject area, most of which is part of the **Tongass National Forest**, consists of a 30-mile-wide strip of mainland bordered by an 80-mile-wide compact chain of islands. About 72,000 people live here, but when compared with the population of the other 49 states, southeastern Alaska and the Tongass National Forest are underpopulated areas. This population is found in 16 organized communities that have been withdrawn from national forest land.

(5) Most of the islands are mountainous, rough and broken and are covered with dense growths of spruce, hemlock and cedar except on the higher summits. The mountains on the mainland are higher, less wooded, and usually snowcapped.

(6) In midsummer the snowline is at altitudes of 2,000 to 3,000 feet (610 to 915 m) on the mainland mountains. Glaciers form in the narrow gorges of the coastal ranges and sometimes attain sufficient size to reach the water. On the islands the land usually does not reach sufficient altitude to retain snow throughout the year.

(7) Seabottom features are similar to those of the adjacent land. The steep inclines and narrow gorges of the land continue below sea level and form a system of narrow deepwater straits that extends from Puget Sound to Cape Spencer. The rugged ridges and peaks of the land area, and the absence of plains or extensive plateaus, are matched by the numerous rocks and reefs, surrounded by deep water, and the general absence of extensive shoals except at the mouths of glacier-fed streams or rivers.

(8)

### Disposal Sites and Dumping Grounds

(9) These areas are rarely mentioned in the Coast Pilot, but are shown on the nautical charts. (See Disposal Sites and Dumping Grounds, chapter 1, and charts for limits.)

(10)

### Aids to navigation

(11) Lights, daybeacons and buoys mark the coast and inside passages of southeastern Alaska. The principal light stations are equipped with sound signals. (See the Light List for a complete description of navigational aids.)

(12)

### Electronic navigation

(13) Radar, GPS/DGPS and the radio direction finder have given the navigator means of determining his position in any weather. The mariner should, however, appreciate the limitations and sources of error of the various systems. Radar should be properly calibrated and tuned. Radio direction finders must be calibrated, and the operator should become experienced in the use of the equipment. Radar, radio direction finder and GPS/DGPS shipboard equipment are subject to malfunctions that may not be immediately apparent to the operator, and there are conditions when radio signals may be subject to error when the shipboard receiver is operating properly. Soundings should always be taken in critical places, and the position should be checked by visual bearings when possible.

(14) Navigation by **radar** is facilitated along the coast of Alaska and in the inland passage by the generally high relief of the coastline. The rugged coast provides many points, headlands, small islands and islets and large offshore rocks that give accurate radar ranges and bearings. In general mountain peaks give the best ranges along the waterways of and the approaches to southeastern Alaska; tangents of islands, points and headlands are usually unreliable. Radar ranges are more accurate than radar bearings. When two or more suitable targets can be positively identified, a better fix is obtained

by radar ranges alone than by radar ranges and bearings. When visibility permits, visual bearings should always be taken. When positioning by a bearing and a radar range of a single object, the identification of the target must be positive. Floating aids should be used with caution as targets and only when no adequate fixed objects are available.

(15) Radio direction finder equipment is subject to several kinds of errors. Bearings obtained at twilight or at night, or bearings that are almost parallel to the coast should be accepted with reservations, due to "night effect" and to the distortion of the radio waves if traveling over land. Other sources of error in the system may be avoided by the proper calibration of the shipboard receiver.

(16)

### COLREGS Demarcation Lines

(17) The International Regulations for Preventing Collisions at Sea, 1972 (72 COLREGS) apply on all the sounds, bays, harbors and inlets of Alaska. (See **33 CFR Part 80**, chapter 2.)

(18)

### Ports and Waterways Safety

(19) (See **33 CFR 160**, chapter 2, for regulations governing vessel operations and requirements for notification of arrivals, departures, hazardous conditions and certain dangerous cargoes to the Captain of the Port.)

(20)

### Anchorages

(21) The seabottom features in southeastern Alaska are similar to the adjacent land; steep inclines and narrow rocky gorges are not suitable for anchorages. However, many places in the inside passages are suitable for temporary anchorage during the summer months. In fall and winter the navigator must be much more cautious in selecting shelter and good holding ground.

(22)

### Marine Protected Areas (MPAs)

(23) The chapters that follow may contain references to federally designated Marine Protected Areas (MPAs) occurring in navigable coastal waters in southeast Alaska. The critical environmental information is intended to inform readers about the location, purpose and legal restrictions of coastal MPAs, with an emphasis on activities of interest to the maritime community.

(24) **Alaska Maritime National Wildlife Refuge**, spread along most of Alaska's 47,300 mile coastline, is the most extensive MPA in Alaska.

(25)

### Dangers

(26) Southeastern Alaska has many unmarked rocky ledges around its islands and in the approaches to inlets, straits and sounds. Kelp grows on most rocky bottoms and will be seen on the surface of the water during the summer and autumn months and should always be considered a sign of danger. Dead, detached kelp floats on the water in masses, while live kelp attached to rocks streams away level with the surface. A heavy surge will occasionally tear kelp away from rocks, and a moderate current will ride it under water where it will not be seen. **Live kelp is almost always an indication of depths less than 10 fathoms**.

(27) **Floating logs, deadheads or sinkers** are present throughout the year in all the inland waters, channels, passes and inlets in southeastern Alaska and are dangerous to navigation both day and night. Floating logs are especially prevalent at the entrance to inlets after high tides and storms.

(28)

### Pipelaying barges

(29) With the increased number of pipeline laying operations, operators of all types of vessels should be aware of the dangers of passing close aboard, close ahead or close astern of a jetbarge or pipelaying barge. Pipelaying barges and jetbarges usually move at 0.5 knot or less and have anchors that extend out about 3,500 to 5,000 feet in all directions and that may be marked by lighted anchor buoys. The exposed pipeline behind the pipelaying barge and the area in the vicinity of anchors are hazardous to navigation and should be avoided. The pipeline and anchor cables also represent a submerged hazard to navigation. It is suggested, if safe navigation permits, for all types of vessels to pass well ahead of the pipelaying barge or well astern of the jetbarge. The pipelaying barge, jetbarge and attending vessels may be contacted on VHF-FM channel 16 for passage instructions.

(30) **Restricted areas** are in the west arm of Behm Canal and in Lutak Inlet, off Lynn Canal. (See **33 CFR 334.1275** and **334.1310**, respectively, chapter 2, for limits and regulations.)

(31)

### Echoes

(32) In foggy weather, the distance offshore frequently can be estimated by noting the elapsed time between a sounding of a ship's whistle or siren and the resultant echo from the sides of hills or mountains. The distance in nautical miles from hill or mountain is about one-tenth the number of seconds between sound and echo. In narrow channels with steep shores a vessel can be kept in midchannel by navigating so that echoes from both shores return at the same instant.

(33)

### Tides

(34) Throughout southeastern Alaska there are considerable inequalities in the heights of the two high waters and the two low waters of each day; these differences average about 2 feet between successive high waters and 3 feet between successive low waters. Because of such differences, the mean of the lower low waters (rather than the mean of all low waters) has been adopted as the plane of reference for NOS nautical charts of the area. Tidal information, including real-time water

levels, tide predictions and tidal current predictions is available at *tidesandcurrents.noaa.gov*.

(35) The average daily (diurnal) range of tide is 10 to 17 feet in this part of Alaska; the greater ranges occur in the inside passages. See the Tidal Current prediction service at *tidesandcurrents.noaa.gov* for specific information about times, directions, and velocities of the current at numerous locations throughout the area. Links to a user guide for this service can be found in chapter 1 of this book.

(36)

### Currents

(37) The prevailing current that sets northwest along the coasts of British Columbia and southeastern Alaska may reach velocities (estimated) of 1.5 knots; it is greatest with strong south winds but may be completely canceled by strong northwest winds. The offshore extent of this current is not known but it is believed to be strongest between the 100-fathom curve and the coast. Velocities of 4 to 6 knots are not uncommon in some of the inside passages of southeastern Alaska. See the Tidal Current prediction service at *tidesandcurrents.noaa.gov* for specific information about times, directions, and velocities of the current at numerous locations throughout the area. Links to a user guide for this service can be found in chapter 1 of this book.

(38)

### Tsunamis (seismic sea waves)

(39) Several large earthquakes have occurred in or near southeastern Alaska during the past century. However, any tsunamis generated have been damaging only near the epicentral area. The 10-meter tsunami observed in 1899 from the Yakutat Bay earthquake was restricted to the area near the bay. Likewise, in 1958, although Lituya Bay experienced high waves, only waves of less than half a meter were reported at other points in southeastern Alaska. In 1949, a magnitude 8.1 earthquake near Queen Charlotte Islands generated a tsunami of 0.3 meter at Ketchikan. The tsunami generated by the Prince William Sound earthquake of 1964 caused great destruction in southern Alaska but little damage in southeastern Alaska. In 1967 the West Coast & Alaska Tsunami Warning Center (WC&ATWC) was established in Palmer to mitigate the tsunami hazard. The primary mission of the WC&ATWC is to provide tsunami warnings for Alaska, California, Oregon, Washington and British Columbia in Canada. When a warning is received, persons should vacate waterfront areas and seek high ground. The safest procedure for ships will depend on their location and the amount of time available to take action. See chapter 1 for further Tsunami information.

(40)

### Local magnetic disturbance

(41) Local magnetic disturbance is prevalent in southeastern Alaska, as shown by magnetic observations at a great many places. The magnetic variations shown on a chart are intended to represent average conditions. In regions where there is marked local disturbance, great care should be exercised, as there may be places where the variation differs several degrees from the average. Even if the local disturbance has been investigated in considerable detail by shore observations, the navigator should not rely entirely on his compass in such areas. Such investigations can give only values at specified points but do not give the extent over which each observed value applies.

(42) Significant local disturbance has been observed at East Island, Duke Island, Nakat Inlet, Grindall Island, Tolstoi Point, Ernest Sound, Shakan Strait, Keku Strait, Port Snettisham, Taku Harbor, Gastineau Channel, Lynn Canal, Peril Strait and Granite Cove and in North Passage (Icy Strait). It has been investigated in considerable detail by shore observations in the vicinity of Gastineau Channel, Port Snettisham and Chilkoot Inlet. In the vicinity of Chilkoot Inlet, the variation observed at several points ranges from about 20°W of normal to 15°E of the normal variation.

(43)

### Weather

(44) This section is a general description of the climate and related features of southeastern Alaska. All weather articles in this volume are the product of the **National Oceanographic Data Center (NODC)** and the **National Climatic Data Center (NCDC)**. The meteorological and climatological tables are the product of the NCDC. Both centers are entities of the **National Environmental Satellite, Data, and Information Service (NESDIS)** of the National Oceanic and Atmospheric Administration (NOAA). If further information is needed in relation to the content of the weather articles, meteorological tables or climatological tables, contact the National Climatic Data Center, Attn: Customer Service Division, Federal Building, 151 Patton Avenue, Room 120, Asheville, NC 28801-5001. You may also contact the CSD at 704–271–4994, or fax your request to 704–271–4876.

(45) Climatological tables and meteorological tables for coastal locations relevant to discussions within this volume are located in this chapter (chapter 3) and in following chapters within the appropriate port text description. The climatological tables are a special extraction from the International Station Meteorological Climate Summary (ISMCS). The ISMCS is a CDROM jointly produced by the National Climatic Data Center (NCDC), Fleet Numerical Meteorology and Oceanography Detachment-Asheville, and the U.S. Air Force Environmental Technical Applications Center, Operating Location-A. The meteorological tables for the ocean areas are compiled from observations made by ships in passage and extracted from the National Climatic Data Center's Tape Deck-1129, Surface Marine Observations. Listed in Appendix A are National Weather Service offices and radio stations that transmit weather information.

(46) The following is a seasonal overview of climatic features that are of concern to mariners, along with a

(47)

**Mean Surface Water Temperatures (°C) and Densities** (Alaska)

| | Years | | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ketchikan | 44 | Temp | 5.2 | 5.1 | 5.4 | 6.4 | 8.9 | 12.2 | 13.8 | 14.0 | 12.0 | 9.5 | 7.2 | 5.8 | 8.8 |
| | | Density | 21.0 | 21.6 | 21.8 | 21.7 | 20.6 | 19.1 | 18.5 | 18.3 | 18.7 | 18.5 | 18.5 | 19.9 | 19.8 |
| Sitka | 24 | Temp | 4.5 | 4.2 | 4.4 | 5.9 | 8.8 | 11.3 | 13.4 | 13.9 | 12.1 | 9.3 | 7.1 | 5.6 | 8.4 |
| | | Density | 22.1 | 22.4 | 22.2 | 21.8 | 20.0 | 18.8 | 18.5 | 19.0 | 19.1 | 19.9 | 21.0 | 21.6 | 20.5 |
| Juneau | 29 | Temp | 2.2 | 2.1 | 2.8 | 4.5 | 7.6 | 10.3 | 11.0 | 10.6 | 9.1 | 6.6 | 4.6 | 3.2 | 6.2 |
| | | Density | 21.2 | 21.8 | 21.9 | 20.9 | 15.2 | 10.7 | 9.3 | 10.0 | 11.7 | 14.4 | 18.0 | 20.4 | 16.3 |
| Skagway | 22 | Temp | 2.5 | 2.2 | 2.3 | 3.4 | 6.7 | 9.9 | 10.6 | 10.2 | 8.8 | 6.5 | 4.4 | 3.3 | 5.9 |
| | | Density | 23.2 | 23.3 | 23.2 | 23.0 | 17.9 | 8.0 | 3.5 | 3.4 | 9.1 | 16.2 | 20.3 | 22.4 | 16.1 |
| Yakutat | 26 | Temp | 3.8 | 3.5 | 3.8 | 5.3 | 7.7 | 10.8 | 12.8 | 12.9 | 11.4 | 9.0 | 6.7 | 4.9 | 7.7 |
| | | Density | 22.3 | 22.4 | 22.4 | 22.0 | 21.2 | 19.7 | 17.6 | 17.7 | 19.1 | 20.6 | 21.5 | 22.1 | 20.7 |
| Cordova | 14 | Temp | 2.9 | 2.7 | 2.6 | 4.0 | 6.0 | 8.3 | 10.2 | 11.2 | 10.0 | 7.8 | 6.2 | 4.7 | 6.4 |
| | | Density | 23.3 | 23.3 | 23.4 | 23.3 | 22.8 | 21.7 | 20.5 | 19.4 | 19.8 | 21.0 | 22.5 | 22.8 | 22.0 |
| Seward | 35 | Temp | 3.4 | 3.1 | 3.2 | 4.5 | 7.3 | 10.5 | 12.2 | 12.2 | 10.7 | 8.1 | 5.9 | 4.5 | 7.1 |
| | | Density | 22.2 | 22.1 | 22.1 | 21.3 | 16.5 | 9.8 | 6.5 | 9.2 | 13.3 | 17.5 | 19.9 | 21.5 | 16.8 |
| Womens Bay | 17 | Temp | 0.7 | 0.9 | 1.5 | 3.6 | 6.4 | 8.7 | 11.3 | 11.7 | 10.0 | 6.9 | 4.0 | 1.8 | 5.6 |
| | | Density | 21.1 | 21.6 | 22.5 | 22.4 | 19.0 | 16.1 | 17.0 | 20.2 | 19.8 | 20.9 | 20.7 | 21.6 | 20.2 |
| Anchorage | 9 | Temp | -0.9 | -0.9 | -0.4 | 0.9 | 6.1 | 11.4 | 14.2 | 13.6 | 11.2 | 5.9 | 0.8 | -0.6 | 5.1 |
| | | Density | 14.3 | 16.2 | 16.6 | 16.3 | 15.4 | 11.4 | 6.2 | 4.9 | 5.9 | 7.8 | 9.9 | 12.3 | 11.4 |
| Massacre Bay | 15 | Temp | 2.3 | 2.1 | 2.2 | 3.2 | 4.6 | 6.5 | 8.3 | 9.5 | 8.8 | 6.8 | 4.4 | 2.7 | 5.1 |
| | | Density | 24.3 | 24.4 | 24.6 | 24.3 | 23.5 | 23.0 | 22.8 | 23.2 | 23.8 | 23.9 | 23.6 | 24.3 | 23.9 |
| Unalaska | 12 | Temp | 2.5 | 2.0 | 2.4 | 3.6 | 5.2 | 7.3 | 8.9 | 9.5 | 8.3 | 6.1 | 4.5 | 3.1 | 5.3 |
| | | Density | 21.5 | 21.7 | 22.2 | 21.5 | 20.2 | 19.9 | 21.1 | 22.0 | 21.1 | 20.8 | 21.5 | 21.6 | 21.2 |
| Sweeper Cove | 23 | Temp | 2.8 | 2.6 | 3.1 | 3.5 | 4.6 | 6.2 | 7.2 | 7.6 | 7.4 | 5.9 | 4.6 | 3.4 | 4.9 |
| | | Density | 23.2 | 22.9 | 22.5 | 22.1 | 22.4 | 23.2 | 23.5 | 23.7 | 23.4 | 23.4 | 23.4 | 23.4 | 23.1 |

Temperature (Celsius): F (Fahrenheit) = 1.8C (Celsius) + 32

Density as used in this table is the specific gravity of the sea water or the ratio between the weight of a sea-water sample and the weight of an equal volume of distilled water at 15°C (59°F). These figures representing density at 15° C ( $\rho_{15}$ ) are expressed in terms of sigma-t ( $\sigma_t$ ) where t = 15°C and $\sigma_{15}$ = ( $\rho_{15}$ - 1 ) 1000. Thus, for $\rho_{15}$ = 1.02238, $\sigma_{15}$ = 23.8.

description of some weather-related problems. While weather along both outside routes and inside passages is described, details of local navigational weather hazards may be found in the appropriate chapters—temperatures are in degrees Fahrenheit.

(48) Piloting this coast in winter is made perilous by the many, often intense, extratropical low pressure systems that find their way to the Gulf of Alaska. These storms, originating over central and west Pacific waters, converge in the Gulf, which acts as a catch basin since it is rimmed by high coastal mountain ranges. They are accompanied by fronts, strong and shifting winds, frequent precipitation and extensive cloudiness. While occurring year round, they are usually most numerous and intense from late fall through midwinter. They often arrive on a northeast heading at speeds of 15 to 25 knots, but many slow or stall as they become trapped in the Gulf. Early winter storms are often younger and in a more vigorous stage of development than those later in the season. Some stall and beat themselves out against the mountains while others intensify and control the weather from Dixon Entrance to Cape Spencer for several days. Often the storms come in families of four or five that can dominate the weather pattern for 2 weeks or more.

(49) As a low approaches, winds back to the southeast quadrant and strengthen. Following the passage of the low's center, winds generally shift to the northwest, although they may blow out of the southwest for a time. Waves generated by these nearby storms are known as sea swells and usually follow the wind direction. Swell, generated by distant storms, is mainly out of the west and northwest. In the statistics when both are reported, the higher of the two is used. Swell will be mentioned specifically when it is operationally significant.

(50) Along the sea routes north of Dixon Entrance, gales (windspeeds of 34 knots or more) can be expected about 10 percent of the time, most often from southeast or south. Windspeeds average 20 to 22 knots while wave heights of 12 feet or more are encountered about 25 percent of the time. In severe conditions, 40-foot seas have been reported. Head or beam waves 12 feet or higher or following seas of 20 feet or more may cause violent ship motions. These motions can be alleviated by a reduction in ships' speed. In these waters, speed reductions in winter are required about 5 to 10 percent of the time on most headings.

(51) Along the inside routes, because of the rugged terrain, winds and waves may vary widely in direction

and intensity. The sheltering effect helps keep average windspeeds around 12 knots; gales are rare. Some narrow channels may cause a local increase in windspeed. Descriptions of these effects may be found in the local chapters. Most of the inside routes are somewhat exposed to southerlies and southeasterlies, and these winds often average 13 to 15 knots. Seas are often calmer on the inside, and observations indicate that wave heights of 5 feet or less are encountered up to 50 percent of the time compared with 15 percent at sea. Swell penetrates these straits only when its direction is in line with the entrance, and then it is rapidly dampened by refraction, reflection and shoaling in the relatively shallow waters. Swell usually has a long period and can be dangerous in the nearshore areas where shoaling may cause an increase in wave height.

(52) Occasionally, downslope winds from the mountainous interior create problems along the inside routes. Known as "williwaws," these are violent, short-lived squalls with strong, gusty winds that result when cold air builds up in the mountains and then drains down the slopes attaining great force in narrow inlets. They can come up suddenly, and successive strong gusts of winds from varying directions may cause vessels at anchor to yaw badly and possibly drag anchor. Sometimes williwaws are accompanied by blinding snowstorms. Even when piloting an outside route close to the coast, williwaws may be encountered near the mouths of inlets.

(53) The seemingly endless procession of winter storms is responsible for the dreary, gray skies and frequent rain and snow. Precipitation can be steady or showery. Showers vary in intensity and are concentrated along cold or occluded fronts, in spiral bands east and northeast of the storm's center, and in cumulus clouds within the cold air southwest of the center. Steady precipitation usually covers an extensive area northeast and north of the center. When storms approach, southeasterlies usually mean rain while east and northeast winds often bring snow. Precipitation occurs about 33 percent of the time in winter; about 20 to 30 percent of this falls as snow. Overcast conditions are present about 50 percent of the time. The low pressure systems alternate with migratory high pressure systems which bring brief spells of clear weather. Occasionally, a cold high pressure system will move in from the north or east and become entrenched, enabling bright, clear skies to prevail for several days. These limited cold air outbreaks usually modify rapidly over the relatively warm waters. The prevailing west and southwest atmospheric steering currents and the high coastal mountain barriers prevent these continental outbreaks from being a regular feature.

(54) Precipitation can restrict visibility to below 2 miles but, except in a heavy rain or snowstorm, it does not fall below ½ mile. Sometimes precipitation will cool the air, causing clouds to lower and fog to form. In general, visibilities of 5 miles or more are encountered 80 to 85 percent of the time. Fog often forms when the air is much warmer than the water, not a common occurrence in winter. Warmest temperatures, both air and sea, run about 50° (10°C) in winter. On occasion, air temperatures drop into the midteens (-10°C) while water temperatures range down to the mid 30's (2°C) in open water.

(55) The average monthly sea level pressure charts for spring resemble a battle for control of the Pacific basin between the advancing summer high and the retreating Aleutian Low. The Low makes a stand in the Gulf of Alaska, through which migratory low pressure systems continue to roam with some regularity. While an average of three to five lows per month pass close to the southeast Alaskan coast, they are usually less intense than their winter counterparts. This is subtly reflected in the rise in atmospheric pressure, but more dramatically observed at sea in fewer gales and calmer seas. Maximum observed wave heights are now in the 20- to 25-foot range. High seas cause a reduction in ships' speed only about 1 percent of the time or less on most headings. Changes that become noticeable in March accelerate during April and May. In open waters, gales are encountered about 5 percent of the time in March; during April and May they occur less than 5 percent everywhere. Average windspeeds drop below 10 knots in most inner passages by May and even over open waters fall to 13 knots, compared with 18 knots in March. Although winds remain variable, they are most likely to blow out of the southeast and south. The parade of lows is responsible for frequent precipitation (20 to 30 percent of the time). Snow becomes less likely as spring progresses and by May it is no longer a threat. Fog becomes more of a problem by May (reported 10 percent of the time). Still, throughout the spring, visibilities of 5 miles or more can be expected 85 to 90 percent of the time, while visibilities of less than 2 miles occur about 5 percent of the time.

(56) Increased daylight means rising air temperatures. By May, subfreezing readings are unlikely in these waters. Mean air temperatures gradually catch up to the more slowly climbing sea surface temperatures during spring. By May, both average in the mid 40s (7°C) with a range from the mid 30s (2°C) to the mid 50s (13°C) (sea water) and mid 60s (18°C) (air).

(57) The summer weather charts are usually dominated by the large, semi-permanent North Pacific high centered over the central East North Pacific Ocean. The waters of southeast Alaska lie on the north edge of that circulation. Just south of the area, winds blow mainly out of the west due to the clockwise circulation. Winds mainly from the southeast through northwest blow over this region because of the intrusion of migratory low pressure systems. These storm systems are least frequent, smallest, least intense, and farthest north in summer but still exert considerable influence on the weather. The counterclockwise flow forces warm tropical air over heavier polar maritime air resulting in stratified high and middle clouds with occasional light rain or drizzle. About two or three low centers pass through the area each month. Occasionally, a system will generate strong winds and rough seas, however, gales and waves of 12

(63)

**METEOROLOGICAL TABLE – COASTAL AREA OFF VANCOUVER ISLAND** (Between 50°N to 53°N and 127°W to 134°W)

| WEATHER ELEMENTS | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC | ANNUAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Wind > 33 knots [1] | 9.1 | 6.2 | 4.3 | 3.0 | 1.6 | 0.8 | 0.5 | 0.6 | 1.3 | 3.8 | 6.6 | 7.2 | 3.5 |
| Wave Height > 9 feet [1] | 28.1 | 31.2 | 25.1 | 26.9 | 8.0 | 8.7 | 3.0 | 3.5 | 10.8 | 35.8 | 39.1 | 48.6 | 22.4 |
| Visibility < 2 nautical miles [1] | 11.1 | 9.8 | 7.2 | 5.8 | 6.9 | 6.8 | 8.2 | 9.4 | 10.5 | 10.3 | 7.4 | 8.9 | 8.5 |
| Precipitation [1] | 25.7 | 24.1 | 21.4 | 19.0 | 15.8 | 15.4 | 12.8 | 11.7 | 14.3 | 21.3 | 25.6 | 25.2 | 18.9 |
| Temperature > 69° F | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.6 | 0.5 | 0.2 | 0.0 | 0.0 | 0.0 | 0.1 |
| Mean Temperature (°F) | 44.5 | 43.9 | 44.2 | 46.4 | 49.7 | 53.3 | 57.0 | 58.3 | 57.5 | 52.9 | 47.7 | 44.9 | 50.4 |
| Temperature < 33° F [1] | 2.2 | 1.7 | 0.6 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.4 | 2.0 | 0.5 |
| Mean RH (%) | 84.0 | 83.0 | 82.0 | 82.0 | 82.0 | 83.0 | 85.0 | 86.0 | 85.0 | 84.0 | 82.0 | 83.0 | 84.0 |
| Overcast or Obscured [1] | 56.6 | 52.3 | 46.1 | 42.4 | 46.0 | 50.9 | 51.7 | 45.3 | 40.5 | 43.7 | 47.3 | 51.2 | 47.6 |
| Mean Cloud Cover (8$^{ths}$) | 6.6 | 6.4 | 6.1 | 5.9 | 6.2 | 6.4 | 6.4 | 6.0 | 5.6 | 6.1 | 6.3 | 6.4 | 6.2 |
| Mean SLP (mbs) | 1010 | 1012 | 1011 | 1014 | 1017 | 1017 | 1019 | 1017 | 1016 | 1013 | 1009 | 1009 | 1014 |
| Ext. Max. SLP (mbs) | 1057 | 1051 | 1040 | 1045 | 1046 | 1041 | 1035 | 1036 | 1038 | 1050 | 1040 | 1048 | 1057 |
| Ext. Min. SLP (mbs) | 956 | 959 | 955 | 962 | 984 | 979 | 983 | 983 | 972 | 951 | 954 | 956 | 951 |
| Prevailing Wind Direction | SE | S | SE | S | NW | NW | NW | NW | NW | S | SE | SE | NW |
| Thunder and Lightning [1] | 0.3 | 0.3 | 0.3 | 0.3 | 0.1 | 0.1 | 0.0 | 0.1 | 0.2 | 0.2 | 0.5 | 0.3 | 0.2 |

**METEOROLOGICAL TABLE – COASTAL AREA OFF QUEEN CHARLOTTE** (Between 53°N to 56°N and 128° to 135°W)

| WEATHER ELEMENTS | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC | ANNUAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Wind > 33 knots [1] | 5.3 | 3.0 | 2.5 | 1.6 | 1.1 | 0.4 | 0.2 | 0.4 | 1.1 | 3.1 | 4.1 | 3.8 | 2.0 |
| Wave Height > 9 feet [1] | 16.3 | 17.2 | 17.7 | 18.5 | 5.1 | 3.9 | 1.0 | 0.8 | 3.5 | 28.2 | 15.9 | 19.7 | 11.9 |
| Visibility < 2 nautical miles [1] | 10.4 | 9.2 | 7.1 | 5.2 | 7.8 | 8.5 | 12.4 | 14.2 | 12.8 | 12.4 | 10.0 | 9.2 | 10.2 |
| Precipitation [1] | 33.3 | 29.8 | 23.5 | 24.8 | 21.9 | 17.8 | 16.8 | 19.6 | 22.9 | 30.5 | 32.5 | 29.4 | 24.2 |
| Temperature > 69° F | 0.0 | 0.0 | 0.0 | 0.0 | 0.2 | 0.6 | 1.3 | 0.5 | 0.1 | 0.0 | 0.0 | 0.0 | 0.3 |
| Mean Temperature (°F) | 40.3 | 40.2 | 41.0 | 45.1 | 49.5 | 53.0 | 56.5 | 56.8 | 55.8 | 50.0 | 43.9 | 39.9 | 48.8 |
| Temperature < 33° F [1] | 11.0 | 9.0 | 4.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 2.8 | 10.9 | 2.6 |
| Mean RH (%) | 86.0 | 84.0 | 82.0 | 81.0 | 83.0 | 84.0 | 86.0 | 86.0 | 86.0 | 85.0 | 84.0 | 85.0 | 85.0 |
| Overcast or Obscured [1] | 56.0 | 54.7 | 44.8 | 42.6 | 44.1 | 44.1 | 49.8 | 41.3 | 43.2 | 44.8 | 52.1 | 51.2 | 46.8 |
| Mean Cloud Cover (8$^{ths}$) | 6.3 | 6.4 | 6.0 | 5.9 | 6.1 | 6.2 | 6.4 | 5.9 | 5.9 | 6.3 | 6.5 | 6.2 | 6.2 |
| Mean SLP (mbs) | 1009 | 1013 | 1010 | 1013 | 1017 | 1017 | 1018 | 1015 | 1015 | 1010 | 1007 | 1008 | 1013 |
| Ext. Max. SLP (mbs) | 1047 | 1044 | 1041 | 1036 | 1040 | 1036 | 1039 | 1033 | 1036 | 1037 | 1051 | 1047 | 1051 |
| Ext. Min. SLP (mbs) | 969 | 968 | 965 | 978 | 977 | 984 | 986 | 988 | 974 | 968 | 964 | 959 | 959 |
| Prevailing Wind Direction | SE | SE | SE | SE | NW | SE | NW | NW | SE | SE | SE | SE | SE |
| Thunder and Lightning [1] | 0.3 | 0.3 | 0.5 | 0.3 | 0.1 | 0.1 | 0.2 | 0.2 | 0.3 | 0.2 | 0.7 | 0.2 | 0.3 |

**METEOROLOGICAL TABLE – COASTAL AREA OFF SITKA, ALASKA** (Between 56°N to 60°N and 131°W to 140°W)

| WEATHER ELEMENTS | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC | ANNUAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Wind > 33 knots [1] | 8.9 | 7.6 | 5.4 | 2.9 | 1.1 | 0.4 | 0.3 | 0.7 | 2.1 | 4.6 | 7.1 | 9.1 | 3.5 |
| Wave Height > 9 feet [1] | 14.0 | 10.0 | 7.9 | 4.2 | 2.8 | 1.8 | 1.0 | 1.8 | 3.5 | 7.1 | 8.3 | 13.2 | 5.4 |
| Visibility < 2 nautical miles [1] | 8.8 | 8.3 | 7.7 | 2.8 | 2.8 | 6.3 | 7.7 | 8.3 | 6.8 | 6.4 | 5.7 | 6.8 | 6.4 |
| Precipitation [1] | 26.4 | 20.3 | 22.6 | 21.0 | 18.8 | 19.8 | 18.4 | 18.3 | 20.8 | 28.9 | 28.5 | 25.6 | 22.1 |
| Temperature > 69° F | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.3 | 0.2 | 0.0 | 0.1 | 0.0 | 0.1 |
| Mean Temperature (°F) | 37.9 | 38.3 | 39.1 | 42.5 | 46.8 | 51.3 | 54.9 | 56.0 | 53.2 | 46.9 | 40.7 | 39.7 | 47.0 |
| Temperature < 33° F [1] | 15.7 | 14.3 | 7.6 | 0.5 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | 0.3 | 9.9 | 7.9 | 3.5 |
| Mean RH (%) | 85.0 | 84.0 | 82.0 | 82.0 | 83.0 | 84.0 | 85.0 | 86.0 | 85.0 | 84.0 | 83.0 | 84.0 | 84.0 |
| Overcast or Obscured [1] | 54.4 | 51.8 | 48.7 | 49.6 | 52.0 | 56.1 | 59.1 | 51.9 | 48.2 | 57.9 | 50.9 | 56.2 | 53.2 |
| Mean Cloud Cover (8$^{ths}$) | 6.3 | 6.2 | 6.0 | 6.1 | 6.3 | 6.6 | 6.7 | 6.2 | 6.0 | 6.6 | 6.3 | 6.5 | 6.3 |
| Mean SLP (mbs) | 1010 | 1008 | 1010 | 1012 | 1015 | 1015 | 1017 | 1016 | 1013 | 1007 | 1007 | 1006 | 1012 |
| Ext. Max. SLP (mbs) | 1050 | 1047 | 1045 | 1050 | 1043 | 1036 | 1040 | 1040 | 1039 | 1034 | 1041 | 1046 | 1050 |
| Ext. Min. SLP (mbs) | 962 | 961 | 959 | 968 | 973 | 976 | 994 | 987 | 967 | 953 | 958 | 955 | 953 |
| Prevailing Wind Direction | SE | SE | SE | SE | SE | SE | SE | SE | SE | SE | SE | SE | SE |
| Thunder and Lightning [1] | 0.8 | 0.2 | 0.7 | 0.1 | 0.6 | 0.2 | 0.2 | 0.1 | 0.5 | 0.4 | 0.7 | 0.3 | 0.4 |

[1] Percentage Frequency

feet or more are encountered less than 5 percent of the time. Along the inside passages, windspeeds of 10 knots or less and seas of 5 feet or less are the rule. Even on the outside routes, maximum seas of just 12 to 15 feet have been reported. Ships' speed is reduced by high seas less than 1 percent of the time on all headings.

(58) When high pressure extends over the region, winds, particularly in the inside passages, are determined or influenced by local conditions. Along the passages, nights may be calm with breezes picking up around daybreak, increasing during the day and moderating around sunset. Directions and speed are often determined by topography.

(59) The south and southeast winds associated with the low pressure systems produce frequently cloudy skies while rain occurs 20 to 25 percent of the time. Occasionally these winds, along with westerlies, are responsible for fog that causes visibilities to fall below two miles about 15 percent of the time and below ½ mile up to 3 percent of the time. Advection fog, which forms when warm air blows across cooler water, occurs along some of the inside passages where water from melting glaciers helps keep sea surface temperatures in the 48° to 57°F (9° to 14°C) range. In these straits, visibilities fall below 5 miles up to 30 percent of the time. Along the outside routes, the warm Alaska Current helps keep water temperatures in the low 50s to mid 60s (10° to 20°C). Air temperatures are usually warmest during August when they range from about 50° to 68°F (10° to 20°C).

(60) Autumn is a season of change. The North Pacific subtropical high begins to shrink as the Aleutian Low gradually reasserts itself as the dominant climatic feature. The relatively light breezes of summer are replaced by stronger winds generated by a rapidly increasing number of intense extratropical storms. The seas become rougher, precipitation more frequent, temperatures colder and nights longer.

(61) An average of about three to five low pressure centers each month move through the area, while many more pass close enough to influence the weather. These systems come mainly from the west and southwest as two major storm tracks terminate in the Gulf of Alaska. Storms often move into this region at speeds of 15 to 25 knots, although many decelerate and stall. In the open waters, gales are encountered about 10 percent of the time by November; twice that of September. Seas of 12 feet or more are encountered 10 percent of the time in September and 30 percent by October. Maximum wave heights of 25 to 35 feet have been observed. On most headings, a reduction in ships' speed, due to high seas, is required about 1 to 5 percent of the time; west headings are most vulnerable. Along the inside passages, conditions are usually quieter, although winds and waves from the south through west can create rough conditions at entrances from the sea. Topography can create locally hazardous wind and wave conditions.

(62) Precipitation occurs 25 to 30 percent of the time. In September, this falls as rain, except for a slight chance of snow in the northernmost inland passages where the land has a marked influence on temperatures. By November, about 10 to 20 percent of the precipitation falls as snow. Snow falls most frequently in the northeasternmost inland passages. Precipitation and fog, which is observed 5 to 10 percent of the time, restrict visibilities to below 2 miles about 10 percent of the time. Cloudy conditions blanket the region nearly 50 percent of the time. This extensive cloud cover, along with slowly cooling waters, helps keep the air temperatures in a confined range. In September, both air and sea temperatures range from the mid 40s to mid 60s (7° to 18°C). By November, minimum air temperatures drop to around 25°F (-3.9°C) compared with the low 40s (6°C) for sea water; both reach maximums in the mid 50s (13°C).

(64)

### Superstructure Icing

(65) Ice accretion is a complex process that depends on sea conditions, atmospheric conditions and the ship's size and behavior. Icing can be caused by heavy sea spray, freezing rain or fog. On large merchant vessels that pass quickly through icing conditions and that experience less wave wash in rough seas because of their high freeboard, it can mean no more than slippery decks. At other times, even large vessels may experience problems. Smaller ships with relatively lower freeboard, such as fishing vessels, small merchant ships and Coast Guard cutters, are susceptible to wave wash in rough seas. Icing can greatly increase a vessel's weight and elevate the center of gravity, making it top heavy. When ice accretion increases the sail area of the vessel, wind action may result in an increased heeling moment. Nonuniform ice distribution can change a vessel's trim. Icing also hampers steerability and lowers speed. Similar potentially dangerous stresses can occur on oil-drilling and other stationary platforms.

(66) Freezing spray is the most common and dangerous form of icing. It can occur when the air temperature falls below the freezing temperature of sea water (usually about 28.6°F (-1.9°C)) and when sea surface temperatures are below about 41°F (5°C). The lower the temperature and the stronger the wind, the more rapidly ice accumulates. Freezing spray may deposit thick layers of ice on rigging or on deck areas, rapidly increasing the vessel's weight, which can cause it to sink.

(67) The routes through this region, both inside and out, are susceptible to superstructure icing in winter. Wind and temperature conditions are right for some degree of icing about 5 to 10 percent of the time in midwinter. Along the more exposed outside routes, very heavy to severe icing (accumulations of 1.0 inch to 1.5 inches in 3 hours) have been reported.

(68) The National Weather Service's regional offices at Anchorage and Fairbanks routinely issue structural icing forecasts as part of their marine forecasting program.

(69)

### Immersion hypothermia

(70) Immersion hypothermia is the loss of heat when a body is immersed in water. With few exceptions, humans

die if their normal rectal temperature of approximately 99.7°F (37.6°C) drops below 78.6°F (25.8°C). Cardiac arrest is the most common direct cause of death. The main threat to life during prolonged immersion is cold or cold and drowning combined.

(71) Cold lowers body temperature, which in turn slows the heart beat, lowers the rate of metabolism, and increases the amount of carbon dioxide in the blood. Resulting impaired mental capacity is a major factor in death by hypothermia. Numerous reports from shipwrecks and accidents in cold water indicate that people can become confused and even delirious, further decreasing their chances of survival.

(72) The length of time that a human survives in water depends on the water surface temperature and, to a lesser extent, on the person's behavior. Body type can cause deviations. For example, thin people become hypothermic more rapidly than fat people. Extremely fat people may survive almost indefinitely in water near 32°F (0°C) if they are warmly clothed.

(73) The cooling rate can be slowed by the person's behavior and insulated gear. A study was made of more than 500 immersions in the waters around Victoria BC with temperatures ranging from 39° to 61°F (3.9° to 16.1°C). It was learned that if the critical heat loss areas could be protected, survival time would increase. The Heat Escape Lessening Posture (HELP) was developed for those in the water alone and the Huddle for small groups. Both require a life preserver. HELP involves holding the upper arms firmly against the side of the chest, keeping the thighs together, and raising the knees to protect the groin area. In the Huddle, people face each other and keep their bodies as close together as possible. These positions improve survival time in 48°F (8.9°C) water to four hours, approximately two times that of a swimmer and one and one-half times that of a person in the passive position.

(74)

### Wind Chill

(75) Human and animal bodies, or any physical bodies warmer than their surroundings, lose heat. The rate of loss depends on the barriers to heat loss, such as clothing and insulation, the speed of air movement, and the air temperature. Heat loss in humans increases dramatically in moving air that is colder than skin temperature taken as 91°F (32.8°C). Even a light wind increases heat loss, while a strong wind can actually lower body temperature if the rate of loss is greater than the body's heat replacement rate.

(76) Loss of body heat can also occur by breathing cold air into the lungs and touching or leaning against cold objects. Heat loss is not as great in bright sunlight where there is some radiant heat gain. Convective cooling is the major source of body heat loss in shady areas and on cloudy days or nights.

(77)

### Ice

(78) Sea ice affects only a small part of this area and then only during severe winters. Glacial ice, while more prevalent, is usually limited to certain inner passages.

(79) Glacial ice usually appears in the form of icebergs, growlers and ice flows and is hazardous to navigation, particularly during periods of darkness and low visibility. Much of this glacial ice is covered with mud and stones and resembles reefs or rocks awash. Glacial ice is usually limited to Frederick Sound, Stephens Passage, Cross Sound and Icy Strait. These areas can be clogged with ice while west of Cape Spencer glacial ice is rare. Occasionally, a berg will emerge from Cross Sound and be spotted 10 to 25 miles seaward from Cape Spencer.

(80) Sea ice forms when air temperatures cool sea water below its freezing point (about 28.6°F (-1.9°C)). Because water of low salinity and in shallow areas freezes quickest, first ice generally appears near river mouths and close to shore. As the season progresses, the belt of shore ice can spread and form an extension of the land. However, because of the large tidal range there is generally very little fast ice. Most of the sea ice that forms in severe winters is in the form of drift ice, which moves under the influence of winds, tides and currents, and is constantly breaking up and consolidating. During severe winters, sea ice may form in sheltered bays and inlets north of 56°N during January; it usually melts by April.

(81) Ice conditions are neither monitored nor forecast for Southeast Alaska waters. The presence of glacier ice in shipping lanes is known to the U.S. Coast Guard only through sighting reports from mariners. Reports of glacier ice will not normally be announced in the Coast Guard Broadcast Notice to Mariners unless the reported bergs or ice concentrations present an especially hazardous situation.

(82) Monthly estimates of wind chill, hypothermia, iceberg and superstructure icing hazards are published in the Pilot Charts.

(83)

### Optical Phenomena

(84) The two basic types of optical phenomena are those associated with electromagnetic displays and those associated with the refraction or diffraction of light. The aurora and Saint Elmo's fire are electromagnetic displays. Halos, coronas, parhelia, sun pillars and related effects are optical phenomena associated with the refraction and diffraction of light through suspended cloud particles; mirages, looming and twilight phenomena such as the "green flash" are optical phenomena associated with the refraction of light through air of varying density. Occasionally, sunlight is refracted simultaneously by cloud suspensions and by dense layers of air producing complex symmetric patterns of light around the sun.

(85) A **mirage** is caused by refraction of light rays in a layer of air having rapidly increasing or decreasing density near the surface. A marked decrease in the density of the

air with increasing altitude is the cause of phenomena known as looming, towering and superior mirages. **Looming** is said to occur when objects appear to rise above their true elevation. Objects below the horizon may actually be brought into view. **Towering** has the effect of elongating visible objects in the vertical direction. A **superior mirage** is so named because of the appearance of an image above the actual object. Ships have been seen with an inverted image above and an upright image floating above that.

(86) Such mirages, especially looming and towering, are fairly common in the area, with frequency increasing toward the higher latitudes. They are most common in summer when the necessary temperature conditions are most likely. Another type, the **inferior mirage**, occurs principally over heated land surfaces such as deserts but may be observed occasionally in shallow coastal waters, where objects are sometimes distorted beyond recognition. In contrast to the superior mirage, the condition necessary for the inferior mirage is an increasing air density with height. Atmospheric zones of varying densities and thicknesses may combine the effects of the various types of mirages to form a complicated mirage system known as **Fata Morgana**.

(87) The **green flash** is caused by refractive separation of the sun's rays into its spectral components. This may occur at sunrise or sunset when only a small rim of the sun is visible. When refractive conditions are suitable, red, orange and yellow waves of sunlight are not refracted sufficiently to reach the eye, whereas green waves are. The visual result is a green flash in the surrounding sky.

(88) The refraction of light by ice crystals may result in many varieties of **halos and arcs**. Because red light is refracted the least, the inner ring of the halo is always red with the other colors of the spectrum following outward. Halos with radii of 22° and 46° have been observed with the refraction angle within the ice spicules determining which type may occur.

(89) **Solar and lunar coronas** consist of a series of rainbow-colored rings around the sun or moon. Such coronas resemble halos but differ in having a reverse sequence of the spectrum colors, red being the color of the outer ring, and in having smaller and variable radii. This reversed sequence of the spectrum occurs because coronas result from diffraction of light whereas the halo is a refraction phenomenon. The radius varies inversely as the size of the water droplets. Another type of diffraction phenomenon is the **Brocken bow** (also known as **glory**), which consists of colored rings around shadows projected against fog or cloud droplets.

(90) Ice blink, land blink, and water and land skies are reflection phenomena observed on the underside of cloud surfaces. **Ice blink** is a white or yellowish-white glare on the clouds above accumulations of ice. **Land blink** is a yellowish glare observed on the underside of clouds over snow-covered land. Over open water and bared land, the underside of the cloud cover when observed to be relatively dark is known as **water sky** and **land sky**. The pattern formed by these reflections on the lower side of the cloud surfaces is known as "**sky map**."

(91) **Auroral displays** are prevalent throughout the year, but are observed most frequently in the winter. Records show that the periods of maximum auroral activity coincide in general with the periods of maximum sunspot activity.

(92) The cloudlike, luminous glow is the most common of the auroral forms. The arc generally has a faint, nebulous, whitish appearance and is the most persistent of the auroras. Ray auroras are more spectacular but less persistent phenomena. They are usually characterized by colored streaks of light that vary in color and intensity, depending on altitude. Green is the most commonly observed hue, although red and violet may occur in the same display. In the Northern Hemisphere this phenomenon is known as the aurora borealis (northern lights).

(93) **Saint Elmo's fire** is observed more rarely than the aurora and may occur anywhere in the troposphere. It occurs when static electricity collects in sufficiently large charges around the tips of pointed objects to ionize the air in its vicinity and leak off in faintly luminescent discharges. Saint Elmo's fire is observed occasionally on ship masts and on airplane wings in the vicinity of severe storms. It is described either as a weird, greenish glow or as thousands of tiny, electrical sparks flickering along the sharp edges of discharging surfaces.

(94)

## Routes

(95) The Inside Route from Seattle, Washington, to southeastern Alaska is by way of passages through British Columbia. (See British Columbia Sailing Directions, Volumes I and II, published by the Canadian Hydrographic Service, and Pub. No. 154, Sailing Directions (Enroute) British Columbia, published by National Geospatial-Intelligence Agency Hydrographic/Topographic Center.)

(96) The best route through British Columbia for deep-draft vessels bound from Seattle to Alaska is by usual courses out of Puget Sound, thence across Strait of Juan de Fuca northeast of Hein Bank, 56 miles from Seattle, into the main channel of Haro Strait, thence into Strait of Georgia through Boundary Pass.

(97) The route through Strait of Georgia passes 1 mile north of Ballenas Islands, 150 miles from Seattle. Continuing northwest, the vessel enters Discovery Passage and encounters Seymour Narrows, 216 miles from Seattle, where the current velocity is over 15 knots. See the Tidal Current prediction service at *tidesandcurrents.noaa.gov* for specific information about times, directions, and velocities of the current at numerous locations throughout the area, including Seymour Narrows. Links to a user guide for this service can be found in chapter 1 of this book.

(98) From Discovery Passage the route is through Johnstone Strait, Race Passage, Broughton Strait, Queen Charlotte Strait, Goletas Channel, Christie Passage and

Gordon Channel into Queen Charlotte Sound 1.5 miles west of Egg Island Light, 347 miles from Seattle. From Queen Charlotte Sound the route continues north through Fitz Hugh Sound, Milbanke Sound, Grenville Channel and Chatham Sound to the Canada-Alaska boundary, which crosses the inner part of Dixon Entrance 610 miles from Seattle.

(99) The **Inside Route northward of Dixon Entrance is through Alaska waters**. Revillagigedo Channel and part of Tongass Narrows lead to Ketchikan, 659 miles from Seattle. The route through Tongass Narrows joins Clarence Strait at Guard Island and continues northwest to Stikine Strait, which leads north to Wrangell, 749 miles from Seattle, or to Wrangell Narrows, 756 miles from Seattle.

(100) Vessels that wish to avoid Wrangell Narrows can go through Snow Passage, at the head of Clarence Strait, and continue through Sumner Strait and Decision Passage to sea or up Chatham Strait, Frederick Sound, Stephens Passage and Gastineau Channel to Juneau. Vessels bound for Skagway continue up Chatham Strait and Lynn Canal.

(101) The route through Wrangell Narrows enters Frederick Sound near Petersburg, 771 miles from Seattle, and continues north through Stephens Passage and Gastineau Channel to Juneau, 879 miles from Seattle. Vessels using Wrangell Narrows proceed from Stephens Passage through Favorite Channel and Lynn Canal to Skagway, 962 miles from Seattle.

(102) Vessels bound for Sitka, 883 miles from Seattle, sometimes proceed to sea at Dixon Entrance or Cape Decision and make an outside approach through Sitka Sound. Those desiring shelter use the Inside Route through Wrangell Narrows and enter Peril Strait from Chatham Strait; thence their courses are through Sergius Narrows, Salisbury Sound, Neva Strait and Olga Strait to Sitka.

(103) The Inside Route is often used by vessels bound for Yakutat and other ports to the northwest. From Juneau the route is south in the Gastineau Channel, thence through the north part of Stephens Passage, thence through Saginaw Channel and part of Lynn Canal to the north end of Chatham Strait, and thence through Icy Strait and Cross Sound to the sea. The principal ports in southeastern Alaska may also be reached from seaward through the many deep entrance channels.

(104)

### Offshore Vessel Traffic Management Recommendations

(105) Based on the **West Coast Offshore Vessel Traffic Risk Management Project**, which was co-sponsored by the **Pacific States/British Columbia Oil Spill Task Force** and **U.S. Coast Guard Pacific Area**, it is recommended that, where no other traffic management areas exist such as Traffic Separation Schemes, Vessel Traffic Services (VTS) or recommended routes, vessels 300 gross tons or larger transiting along the coast anywhere between Cook Inlet and San Diego should voluntarily stay a minimum distance of 25 nautical miles offshore. It is also recommended that tank ships laden with persistent petroleum products and transiting along the coast between Cook Inlet and San Diego should voluntarily stay a minimum distance of 50 nautical miles offshore. Vessels transiting short distances between adjacent ports should seek routing guidance as needed from the local Captain of the Port or VTS authority for that area. This recommendation is intended to reduce the potential for vessel groundings and resulting oil spills in the event of a vessel casualty.

(106)

### Principal ports

(107) The principal ports in southeastern Alaska are Ketchikan, including Ward Cove; Sitka, including Silver Bay; and Wrangell, Skagway and Juneau, the State capital.

(108) Regular calls are made by deep-draft vessels at Metlakatla, Ketchikan, Ward Cove, Wrangell, Juneau, Lutak Inlet, Skagway and Sitka (Silver Bay) and by container-laden barges from Puget Sound ports at Metlakatla, Saxman, Ketchikan, Wrangell, Petersburg, Juneau, Port Chilkoot and Sitka.

(109) The principal marine traffic in this part of Alaska, however, consists of fishing vessels operating from canneries and cold storage plants and log rafts being towed from lumber camps to sawmills and pulpmills.

(110)

### Pilotage, General

(111) State requirements for pilotage, except for certain exempted vessels, are compulsory for all vessels navigating the waters of the State of Alaska. Exempted from state requirements are:

(112)

#### §08.62.180. Exemptions

(113) (1) vessels subject to federal pilot requirements under 46 U.S.C. 8502 except as provided in AS 08.62.185 [included in this topic];

(114) (2) fishing vessels, including fish processing and fish tender vessels, registered in the United States or in British Columbia, Canada;

(115) (3) vessels propelled by machinery and not more than 65 feet in length over deck, except tugboats and towboats propelled by steam;

(116) (4) vessels of United States registry of less than 300 gross tons and towboats of United States registry and vessels owned by the State of Alaska, engaged exclusively

(117) (A) on the rivers of Alaska; or

(118) (B) in the coastwise trade on the west or north coast of the United States including Alaska and Hawaii, and including British Columbia, Yukon Territory, and Northwest Territories, Canada;

(119) (5) vessels of Canada, built in Canada and manned by Canadian citizens, engaged in frequent trade between

(120) (A) British Columbia and Southeastern Alaska on the inside water of Southeastern Alaska south of 59 degrees, 29 minutes North latitude, if reciprocal exemptions are

granted by Canada to vessels owned by the State of Alaska and those of United States registry; or

(121) (B) northern Alaska north of 68 degrees, 7 minutes North latitude and Yukon Territory or Northwest Territories;

(122) (6) pleasure craft of United States registry;

(123) (7) pleasure craft of foreign registry of 65 feet or less in overall length; and

(124) (8) vessels of the Canadian Navy or Canadian Coast Guard that have a home port in British Columbia, Canada, while navigating the inside water of Southeast Alaska.

(125) (b) The operator of a pleasure craft of foreign registry of more than 65 feet overall length but less than 175 feet overall length may apply for an exemption from the pilotage requirement of this chapter. If an exemption is applied for and the fee prescribed under AS 08.62.140(b) [not in this text] is paid, the board may issue the exemption to the operator of the vessel. The exemption is valid for one year from the date on which the exemption is issued. The application for an exemption must be submitted to the board at least 30 days before the vessel enters the state. The board shall approve or deny an application for the exemption within 10 working days after the application is received by the board. If the board does not approve or disapprove the application within 10 working days, the exemption is considered to be approved, and the board shall issue the exemption. The 10-day period for action by the board is suspended while the board is waiting for a response to a request by the board for additional information from the applicant. An exemption issued under this subsection may be revoked by the board if the vessel is not operated in a manner that is appropriate to protect human life, property, and the marine environment or if the vessel does not comply with all applicable local, state, and federal laws. The exemption must remain on the vessel while the vessel is in state water. An exemption issued under this subsection does not exempt a vessel from the requirement to employ a pilot licensed under this chapter while the vessel is in Wrangell Narrows or in the water between Chatham Strait and Sitka via Peril Strait.

(126) (c) The operator of a pleasure craft of foreign registry of more than 65 feet overall length but not more than 125 feet overall length that has received an exemption under (b) of this section shall proceed upon initial entry into state water to the first port of call to receive navigational and safety information from an agent registered under AS 08.62.040(a)(3) [not in this text] who is employed by the operator of the vessel. The navigational and safety information provided by the agent must be approved by the marine pilot coordinator and annually reviewed, revised, and approved as appropriate by the board at its spring meeting.

(127) (d) The operator of a pleasure craft of foreign registry of more than 125 feet overall length but less than 175 feet overall length that has received an exemption under (b) of this section shall employ a pilot licensed under this chapter from initial entry into compulsory pilotage water of the state to the first port of call. The marine pilot shall provide navigational and safety information relating to the pilotage region to the operator of the vessel.

(128) (e) In (b) - (d) of this section,

(129) (1) "for hire" means for consideration contributed as a condition of carriage on a vessel, whether directly or indirectly flowing to the owner, charterer, operator, agent, or other person having an interest in the vessel;

(130) (2) "pleasure craft" means a vessel that does not carry passengers or freight for hire.

(131)

### §08.62.185 Certain licensed pilots required for oil tankers.

(132) (a) Any oil tanker, whether enrolled or registered, of 50,000 dead weight tons or greater, shall, when navigating in state water beyond Alaska pilot stations employ a pilot licensed by the state under this chapter.

(133) (b) The pilot required in (a) of this section shall control the vessel during all docking operations.

(134)

### 12 AAC 56.100. Established Boundaries of Compulsory Pilotage Waters of Alaska.

(135) Specific boundaries of the compulsory pilotage waters of Alaska are as follows:

(136) (1) all waters inside a line drawn from Cape Spencer Light due south to a point of intersection which is due west of the southern extremity of Cape Cross; then to Cape Edgecumbe Light; then through Cape Bartolome Light and extended to a point of intersection which is due west of Cape Muzon Light; then due east to Cape Muzon Light; then to a point which is one mile, 180° true, from Cape Chacon Light; then to Barren Island Light; then to Lord Rock Light; then to the southern extremity of Garnet Point, Kanagunut Island; then to the southeastern extremity of Island Point, Sitklan Island; then from the northeastern extremity of Point Mansfield, Sitklan Island, 40° true, to the mainland;

(137) (2) all waters of Prince William Sound and environs inside a line drawn from Cape Puget to Point Elrington; then to Cape Cleare; then Zaikof Point to Cape Hinchinbrook Light; then Point Bentinck to Okalee Spit;

(138) (3) all waters of Resurrection Bay inside a line extending from the southern tip of Aialik Cape to the southern tip of Cape Resurrection;

(139) (4) all waters of Cook Inlet inside a line extending from Cape Douglas to the western tip of Perl Island then northward to the shoreline of the Kenai Peninsula;

(140) (5) all waters of Chiniak Bay inside a line extending from Cape Chiniak to the eastern tip of Long Island then to Spruce Cape;

(141) (6) all waters of Marmot Bay and environs including eastern approaches, inside a line extending from Spruce Cape to the southern tip of Pillar Cape and western approaches, inside a line extending from Cape Nuniliak to the northern tip of Raspberry Island and also inside a line extending from Raspberry Cape to Miners Point;

(142) (7) all waters of Chignik Bay inside a line extending from the eastern tip of Castle Cape to the western tip of Nakchamik Island then to the eastern tip of Cape Kumhun;

(143) (8) all waters of Unalaska Bay inside a line extending from the tip of the west headland of Constantine Bay to Eider Point;

(144) (9) all waters of Port Moller and Herendeen Bay inside a line extending from Lagoon Point to Cape Kutuzof;

(145) (10) all waters of Bristol Bay inside a line extending from Cape Newenham to Cape Pierce, then to Cape Constantine, then to the southern extremity of Egegik Bay;

(146) (11) all waters of Kuskokwim Bay inside a line extending from Cape Newenham to Cape Avinof;

(147) (12) all waters of Norton Sound inside a line extending from the western tip of Stuart Island to Cape Darby, then to Cape Nome;

(148) (13) all waters of Port Clarence inside a line extending from Pt. Spencer Lt. North to the Seward Peninsula shore;

(149) (14) all waters of the Chukchi Sea and Kotzebue Sound inside a line extending from Cape Prince of Wales three miles due west (270° true) to a point approximately 65°38' north latitude, 168°15' west longitude; then due north (0° true) to a point approximately 66°27' north latitude, 168°15' west longitude; then 59° true to a point approximately 66°45' north latitude, 167°02' west longitude; then due east (90° true) to a point approximately 12 miles off the coast of Cape Espenberg at the intersection with a line drawn from Cape Espenberg to Cape Krusenstern, approximate position 66°45' north latitude, 163°40' west longitude; then to Cape Krusenstern; then to Point Hope;

(150) (15) all waters surrounding the Pribilof Islands of St. Paul and St. George from the shoreline seaward to the outer limit of the three-mile territorial seas;

(151) (16) all waters surrounding the Bering Sea Islands from shoreward to the outer limit of the three-mile territorial seas, including St. Lawrence Island, Nunivak Island, St. Matthew Island, and Little Diomede Island;

(152) (17) all waters encompassing the Aleutian Islands from the shoreline to the outer limit of the three-mile territorial seas, including any and all islands around the Fox Islands, Rat Islands, Near Islands, Andreanof Islands, and the Islands of Four Mountains;

(153) (18) all waters encompassing the south coast of the Alaska Peninsula from Cape Kanatak (Portage Bay) to Cape Pankof to the outer limit of the three-mile territorial seas, including any and all islands around the Shumagin Islands, Semedi Islands, Pavlof Islands, Sutwik Island, Sanak Island, and the Sandman Reefs;

(154) (19) all waters of the north coast of the Alaska Peninsula from Cape Krenzin to the southern extremity of Egegik Bay to the outer limit of the three-mile territorial seas, including Amak Island and Sea Lion Rocks.

(155)

**12 AAC 56.110. Exclusions For Entering Compulsory Pilotage Waters of Alaska.**

(156) Vessels are excluded from the use of a state licensed marine pilot in compulsory pilotage waters when proceeding directly between points outside Alaska and an established pilot station for the express purpose of embarking or disembarking a pilot in the following situations:

(157) (1) travel via Revillagigedo Channel to Twin Islands Pilot Station; in transiting Revillagigedo Channel, ships must stay west of longitude 131°05';

(158) (2) travel via Clarence Strait to the following:

(159) (A) Guard Island Pilot Station;

(160) (B) Point McCartey Pilot Station;

(161) (C) Chasina Point Pilot Station;

(162) (3) *repealed 10/18/2001*;

(163) (4) travel via Cape Muzon in Cordova Bay;

(164) (A) to Shoe Island Pilot Station for vessels proceeding to Long Island;

(165) (B) to Mellen Rock Pilot Station for vessels proceeding to Hydaburg;

(166) (5) travel via Cape Bartolome in Bucareli Bay to Cabras Island Pilot Station;

(167) (6) travel via Cape Ommaney in Chatham Strait to Frederick Sound Pilot Station;

(168) (7) travel via Sitka Sound to Sitka Sound Pilot Station;

(169) (8) travel via Prince William Sound to the Cordova Pilot Station;

(170) (9) travel via Prince William Sound to the Valdez Pilot Station;

(171) (10) travel via Prince William Sound to the Whittier Pilot Station;

(172) (11) travel via Resurrection Bay to Seward Pilot Station;

(173) (12) travel via Cook Inlet to the Homer Pilot Station;

(174) (13) travel to the Kodiak City or Womens Bay Pilot Station without transiting Whale Passage;

(175) (14) travel by the most direct safe route to a pilot station or pickup point arranged under 12 AAC 56.120(b) [see pilot boarding stations or pickup points which follows in this chapter];

(176) (15) travel via Yakutat Bay to Yakutat Pilot Station.

(177)

**12 AAC 56.021. Pilotage Regions.**

(178) (a) Pilotage regions for which a marine pilot license may be issued are as follows:

(179) (1) Southeastern Alaska Region—covering the compulsory pilotage waters of Alaska commencing at the southern border with Canada, then west to and north on 141° west longitude;

(180) 2) Southcentral Alaska Region—covering the compulsory pilotage waters of Alaska commencing at the western boundary of the Southeastern Alaska pilotage region, then generally west to 156° west longitude;

(181) (3) Western Alaska Region—covering the compulsory pilotage waters of Alaska commencing at the western boundary of the Southcentral pilotage region, then west, north, and east to the northern border with Canada.

(182) (4) *repealed 10/25/2002*.

(183) (b) Each exemption or endorsement to a marine pilot license must be identified on the license.

(184) The Southeastern Alaska Region is served by the Southeast Alaska Pilots. The main office is 1621 Tongass Avenue, Suite 300, Ketchikan, AK 99901, telephone 907–225–9696, FAX 907–247–9696.

(185) Pilot services should be arranged in advance through ship's agents or otherwise, in sufficient time to enable the pilot to travel to the area where the service is required. The State of Alaska requires a 48-hour notification for pilots in the Southeastern Alaska Region.

(186)

**12 AAC 56.120. Pilot Stations or Pickup Points.**

(187) (a) The established pilot stations for the state are as follows:

(188) (1) Guard Island - 1.0 mile 315° true from Guard Island Light; approximate position 55°27.5' north latitude, 131°53.9' west longitude;

(189) (2) Point McCartey - 1.0 mile 090° true from Point McCartey Light; approximate position 55°06.8' north latitude, 131°40.5' west longitude;

(190) (3) Cabras Island - 1.0 mile 315° true from Cabras Island; approximate position 55°22.0' north latitude, 133°24.8' west longitude;

(191) (4) Sitka Sound - 0.25 mile 000° true from the Eckholms Light; approximate position 57°00.9' north latitude, 135°21.4' west longitude;

(192) (5) Twin Island – 2.0 miles 045° true from Twin Islands Light; approximate position 55° 10.0' north latitude, 131° 10.4' west longitude; this is a seasonal station open only during the period May 1 through September 30;

(193) (6) Petersburg Bar Range – not west of 132° 58.0' west longitude; this is a seasonal station open only during the period from June 1 through August 31 for the embarkation and disembarkation of pilots for vessels with valid exemptions under AS 08.62.180(b) – (e), and for the purpose of transiting Wrangell Narrows between Petersburg and Point Alexander, as follows:

(194) (A) transit may occur only during

(195) (i) the period 30 minutes before and after slack water at the Port of Petersburg;

(196) (ii) daylight or civil twilight hours; and

(197) (iii) periods of visibility that allow the Petersburg Bar Range to be viewed visually from Buoy WN;

(198) (B) during transit, a minimum of five foot underkeel clearance must be maintained between Buoy WN and Buoy 60;

(199) (7) Point Alexander – not north of Point Alexander Light at 56° 30.33' north latitude; this is a seasonal station open only during the period from June 1 through August 31 for the embarkation and disembarkation of pilots for vessels with valid exemptions under AS 08.62.180(b) – (e) and for the purpose of transiting Wrangell Narrows between Petersburg and Point Alexander;

(200) (8) Yakutat – 1.0 mile 315° true from Yakutat Bay Lighted Whistle Buoy 4; approximate position 59°36.3' north latitude, 139°52.5' west longitude;

(201) (9) Icy Bay – 9.0 miles 180° true from Claybluff Point Light; approximate position 59°49.0' north latitude, 141°35.0' west longitude;

(202) (10) Cordova – 2.0 miles 180° true from Sheep Point; approximate position 60°35' north latitude, 146°00' west longitude;

(203) (11) Valdez and Whittier – approximately 3.6 miles 246° true from Bligh Reef Buoy; approximate position 60°49' north latitude, 147°01' west longitude;

(204) (12) Seward – 1.1 miles 152° true from Caines Head Light; approximate position 59°58' north latitude, 149°22' west longitude;

(205) (13) Cook Inlet – 1.0 mile 180° true from Lands End Light; approximate position 59°35' north latitude, 151°25' west longitude;

(206) (14) Kodiak (City) or Womens Bay – 2.0 miles 100° true from St. Paul Harbor Entrance Light; approximate position 57°44' north latitude, 152°22' west longitude;

(207) (15) Discoverer Bay – 2.0 miles 000° true from Posliedni Point; approximate position 58°28' north latitude, 152°20' west longitude;

(208) (16) Port Wakefield – 1.0 mile 298° true from Kekur Point; approximate position 57°52' north latitude, 152°49' west longitude;

(209) (17) Port Bailey – 1.5 miles 000° true from Dry Spruce Bay Light; approximate position 57°59' north latitude, 153°06' west longitude;

(210) (18) Uganik – 2.0 miles 284° true from East Point; approximate position 57°51' north latitude, 153°32' west longitude;

(211) (19) Larsen Bay – 1.0 mile 090° true from Harvester Island; approximate position 57°39' north latitude, 153°57' west longitude;

(212) (20) Alitak – 2.4 miles 131° true from Cape Alitak Light; approximate position 56°49' north latitude, 154°15' west longitude;

(213) (21) Old Harbor – 1.0 mile 082° true from Cape Liakik; approximate position 57°07' north latitude, 153°25' west longitude;

(214) (22) Chignik – 1.5 miles 020° true from Chignik Spit Light; approximate position 56°20' north latitude, 158°22' west longitude;

(215) (23) Sand Point – 2.7 miles 235° true from Popof Head; approximate position 55°13' north latitude, 160°24' west longitude;

(216) (24) King Cove – 1.5 miles 157° true from Morgan Point Light; approximate position 55°01' north latitude, 162°19' west longitude;

(217) (25) Cold Bay – 4.3 miles 177° true from Kaslokan Point Light; approximate position 55°02' north latitude, 162°31' west longitude;

(218) (26) False Pass – 1.5 miles 315° true from Ikatan Point; approximate position 54°48' north latitude, 163°13' west longitude;

(219) (27) Akutan – 1.0 mile 073° true from Akutan Point Light; approximate position 54°09' north latitude, 165°42' west longitude;

(220) (28) Dutch Harbor-Captains Bay – 1.0 mile 060° true from Ulakta Head Light; approximate position 53°56' north latitude, 166°29' west longitude;

(221) (29) Adak – 2.0 miles 092° true from Gannet Rocks Light; approximate position 51°52' north latitude, 176°33' west longitude;

(222) (30) Attu – 1.5 miles 180° true from Murder Point; approximate position 52°46' north latitude, 173°11' east longitude;

(223) (31) St. Paul Island – 4.0 miles 263° true from Reef Point; approximate position 57°06' north latitude, 170°25' west longitude; or – 4.0 miles 043° true from North Point; approximate position 57°16' north latitude, 170°13' west longitude;

(224) (32) Port Moller – 4.8 miles 048° true from Walrus Island; approximate position 56°05' north latitude, 160°43' west longitude;

(225) (33) Port Heiden – 5.0 miles 340° true from Strongonof Point; approximate position 56°58' north latitude, 158°55' west longitude;

(226) (34) Ugashik Bay – 6.2 miles 291° true from Smoky Point Light; approximate position 57°38' north latitude, 157°52' west longitude;

(227) (35) Egegik – 7.0 miles 285° true from Red Bluff Light; approximate position 58°16' north latitude, 157°42' west longitude;

(228) (36) Naknek – 9.0 miles 248° true from Naknek Light; approximate position 58°39' north latitude, 157°21' west longitude;

(229) (37) Nushagak Bay – 0.6 miles 180° true from Nushagak Bay Entrance Lighted Bell Buoy; approximate position 58°33' north latitude, 158°24' west longitude;

(230) (38) Kulukak Bay – 3.0 miles 180° true from Kulukak Point; approximate position 58°47' north latitude, 159°39' west longitude;

(231) (39) Togiak – 1.0 mile 180° true from Summit Island; approximate position 58°48' north latitude, 160°12' west longitude;

(232) (40) Kuskokwim Bay Region

(233) (A) Kuskokwim Bay – 17.4 miles 320° true from Cape Newenham, approximate position 58°52' north latitude, 162°32' west longitude;

(234) (B) Goodnews Bay – 7.5 miles 228° true from Platinum; approximate position 58°55' north latitude, 162°00' west longitude;

(235) (41) Kivalina/Cape Krusenstern – 14.0 miles 239° true from the barge loading terminal; approximate position 67°27' north latitude, 164°35' west longitude;

(236) (42) Cape Spencer – 3.2 miles 090° true from Cape Spencer Light; approximate position 58°12' north latitude, 136°32' west longitude; this is a seasonal station open only during the period from May 1 – September 30;

(237) (43) St. George Island – either 3.0 miles 000° true from St. George village; approximate position 56°39' north latitude, 169°33' west longitude; or – 3.0 miles 210° true from Rush Point; approximate position 56°33' north latitude, 169°47' west longitude;

(238) (44) Frederick Sound – 3.0 miles 310° true from Cornwallis Point Light; approximate position 56°58' north latitude, 134°21' west longitude;

(239) (45) Chasina Point – 1.25 miles 013° true from Chasina Point; approximate position 55°18' north latitude, 132°01' west longitude;

(240) (46) Shoe Island – 2.0 miles 090° true from Shoe Island Light; approximate position 54°57' north latitude, 132°41' west longitude;

(241) (47) Mellen Rock – 0.6 miles 050° true from Mellen Rock Light; approximate position 55°02' north latitude, 132°39' west longitude;

(242) (48) Atka/Nazan Bay – 1.1 miles 134° true from Flat Point; approximate position 55°13' north latitude, 174°06' west longitude;

(243) (49) Tanaga Bay – 2.2 miles 202° true from Cape Agamsik; approximate position 51°45' north latitude, 178°04' west longitude;

(244) (50) Kiska Harbor – 1.0 mile 270° true from Little Kiska Head; approximate position 51°58.5' north latitude, 177°36.5' west longitude.

(245) (51) Barrow – 3.0 miles 320° true from the town of Barrow; approximate position 71°20’ north latitude, 156°53’ west longitude.

(246) (52) Kotzebue Sound – 11.0 miles 015° true from Cape Espenberg Light; approximate position 66°44’ north latitude, 163°29’ west longitude.

(247) (53) Port Clarence – 2.1 miles 000° true from Port Spencer Light; approximate position 65°19’ north latitude, 166°51’ west longitude.

(248) (54) Nome – 2.6 miles 199° true from the Nome north jetty breakwall; approximate position 64°27’ north latitude, 165°28’ west longitude.

(249) (55) Bieli Rocks – 1.0 mile 315° true from Bieli Rocks; approximate position 57°06’ north latitude, 135°31’ west longitude.

(250) (b) Inside compulsory pilotage waters, embarking or disembarking pilots at any location inside of an established pilot station may be undertaken only by agreement between a:

(251) (1) pilot and a ship’s master in an emergency or for reasons of safety when required by extreme weather or other unforeseeable circumstances; or

(252) (2) pilot organization and a ship’s agent on a trial basis to accommodate a newly established port, trade, or route.

(253) (c) If safe and reliable transportation cannot be provided to or from the pilot station, the nearest pilot station with safe and reliable transportation shall be used. If reasonable effort has been made to offer safe and reliable transportation and the vessel, equipment, or personnel do not meet the minimum standards set out in

(d) of this section, the pilot may use the transportation provided.

(254) (d) In order to provide safe and reliable transportation for pilots, a vessel must have the following items onboard:

(255) (1) licensed operator;

(256) (2) waterproof VHF radio in addition to the pilot's VHF radio;

(257) (3) distress signals, including three parachute flares, three hand held flares, and one dye marker in a waterproof case;

(258) (4) first aid kit;

(259) (5) spare fuel supply, if the vessel is propelled by an outboard motor;

(260) (6) radar reflector;

(261) (7) tool kit;

(262) (8) engine kill switch;

(263) (9) survival suits; one for each person onboard the vessel;

(264) (10) flashlight;

(265) (11) anchor and 30 fathoms of line;

(266) (12) sound producing device;

(267) (13) pilot retrieval system;

(268) (14) high-intensity strobe when a pilot transfer occurs at night.

(269) (e) Before a trial pilot station established under (b)(2) of this section may be used, it must be preliminarily approved by the marine pilot coordinator. A trial pilot station that has been preliminarily approved by the marine pilot coordinator will remain valid unless the board disapproves the trial pilot station for further use. The board will approve the trial station for notice as an established pilot station if it determines that the trial station accommodates a newly established port, trade, or route and is in the public interest. The board will disapprove the trial station for further use if the board determines that the trial station is not necessary or not in the public interest.

(270) In Southeast Alaska, the vessels used as pilot boats serve other functions. However, when engaged in pilotage duties they display the appropriate day and night signals. The pilot boat assumes radiotelephone watch about 1 hour prior to a vessel's ETA at the pickup point. Contact is made on VHF-FM channel 16 or 13 with channel 12 and 77 as working frequencies.

(271) Boarding instructions such as vessel's speed, course, ladder height, and preferred boarding side will be given by the pilot prior to boarding. This information depends on weather condition and type of ship. Pilotage services are affected by weather, tides and currents, and daylight hours.

(272)

### Towage

(273) Tugs are located at most ports in southeastern Alaska and are available for assisting vessels in mooring and unmooring at the various wharves and piers. However, these tugs are principally engaged in towing and handling log rafts and barges. Arrangements should be made well in advance through shipping agents. For further information, refer to the description of the port.

(274)

### Vessel Arrival Inspection

(275) Vessels subject to U.S. quarantine, customs, immigration, and agricultural quarantine inspections generally make arrangements in advance through ships' agents. Government officials conducting such inspections are stationed in most major ports. Mariners arriving at ports where officials are not stationed, should contact the nearest activity providing that service. (See Appendix A for addresses.) Unless otherwise directed, officials usually board vessels at their berths.

(276) **Harbormasters** are mentioned in the text when applicable. They generally have charge of berthing vessels.

(277)

### Supplies

(278) Deep-draft vessels usually obtain supplies before visiting Alaska ports. Gasoline, diesel oil, diesel fuel, distillates, lubricating oils and greases are available in all ports and at many of the operating canneries in southeastern Alaska. Fuel oils for steamships are not available in southeastern Alaska. Provisions, fishing supplies and some marine supplies are available at most ports in the area. Ice for fishing vessels is available from cold storage companies and from operating canneries. Fresh water is piped to most wharves, piers and floats.

(279)

### Repairs

(280) There are no major repair facilities for large vessels in southeastern Alaska. The nearest major repair facilities are in the Puget Sound area and British Columbia. Marine railways, grids and marine repair firms for smaller vessels are located in the larger cities of southeastern Alaska. The smaller communities and operating canneries usually have machine shops capable of making minor repairs to small vessels. Small craft are sometimes beached on mudflats for minor repairs. Electronic repair firms and commercial divers are in the larger ports.

(281) Spare parts for machinery and electronic equipment are stocked in Ketchikan, Wrangell, Juneau and Sitka. Parts not stocked can usually be obtained from suppliers in Washington, Oregon and California by overnight air freight shipment.

(282)

### Communications

(283) There is regularly scheduled steamer and barge service between Puget Sound ports, Prince Rupert, BC, and the ports of southeastern Alaska. The State of Alaska operates a vehicle and passenger ferry weekly from Seattle and daily from Prince Rupert, BC, to Ketchikan, Wrangell, Petersburg, Sitka, Juneau, Haines and Skagway; this service is less frequent during the winter from Prince Rupert, BC. Passenger cruise ships sail daily from Vancouver, BC, to southeastern Alaska during the summer.

(284) Scheduled airline flights are maintained daily from the other states to several points in southeastern Alaska, where connecting service is available by scheduled or chartered flights to all points in Alaska.

(285) Radio transmission and reception is good in the main channels of the inland waters of southeastern Alaska; however, it becomes very poor when in inlets and passes shielded by mountains from the transmitting or receiving stations.

(286) Telephone service is available from most communities in southeastern Alaska.

(287) Alascom, Inc., operates a radio network that includes coast stations with ship-to-shore service throughout most of Alaska. Complete information on this service can be obtained from Alascom, Inc., Office of Public Affairs, Pouch 6607, Anchorage, AK 99502.

(288)

### Reporting Marine Emergencies and Oil Spills

(289) Marine emergencies, oil spills, possible illegal entry, sightings of foreign naval or fishing vessels, icebergs, submarines or any other unusual events should be reported to the nearest Coast Guard unit by radio or by calling, toll free, 800–478–5555 anywhere in Alaska except Juneau, Douglas or Kodiak. Within these cities, call 463–2000 for Juneau/Douglas and 487–5888 for Kodiak.

(290)

### Small-craft facilities

(291) Small-craft floats for local and transient craft are maintained by most communities in southeastern Alaska. For further information, refer to the description of the community in the text. Complete information on the location of these facilities may also be obtained from the State of Alaska, Division of Waters and Harbors, Juneau, AK 99801.

(292) **A vessel of less than 65.6 feet (20 meters) in length or a sailing vessel shall not impede the passage of a vessel that can safely navigate only within a narrow channel or fairway. (Navigation Rules, International-Inland Rule 9(b))**.

(293)

### Commercial fishing facilities

(294) Canneries and cold storage companies in southeastern Alaska operate during the fishing season as prescribed by the Alaska State Department of Fish and Game. These canneries, cold storage companies and their facilities are active during some years and inactive in others; some are abandoned by their owners and the buildings and facilities fall into ruins in a short time.

(295) Active canneries, during the non-fishing season, and inactive canneries and cold storage companies usually have a caretaker in attendance. Fresh water and some fuels and provisions are usually available at these facilities in an emergency.

(296) Radiotelephone communication with the nearest Alascom, Inc. coastal station is maintained by most active facilities and those in caretaker status.

(297)

### Logging industry

(298) Logging camps are located along the mainland and islands throughout southeastern Alaska. They are established when the forest products are sold by the U.S. Forest Service to private companies. A camp normally operates from 3 to 10 years and has less than 100 people in the smaller camps, but the larger ones may have several thousand residents. The camps generally operate 9 or 10 months each year, closing to caretaker status only during the heavy snow periods.

(299) Float facilities for tugs and small craft used in handling and making up log rafts and for seaplanes and barges used to transport personnel and supplies are maintained by logging camps located along the waterways. These camps, in addition to maintaining radiotelephone communication with Alascom, Inc., can usually provide fresh water, fuels and provisions in an emergency.

(300) Location of the various camps can be obtained from the U.S. Forest Service in Ketchikan or Juneau or from the Alaska Loggers Association and the marine operations department of the Ketchikan Pulp Company in Ketchikan. This information can also be obtained from the logging engineering department of the Alaska Lumber and Pulp Company in Sitka.

(301)

### Standard Time

(302) All of Alaska east of 169°30'W. uses Alaska standard time (AKST), which is 9 hours slow of Coordinated Universal time (UTC). For example, when it is 1200 UTC, it is 0300 in Juneau and Anchorage. All the Aleutian Islands west of 169°30'W., including the communities of Adak, Atka, Attu and Shemya, use Hawaii-Aleutian standard time (HAST), which is 10 hours slow of UTC. When it is 1200 UTC, it is 0200 at Adak.

(303)

### Daylight saving time

(304) In the State of Alaska, clocks are advanced one hour on the second Sunday of March and are set back to standard time on the first Sunday of November.

(305)

### Legal public holidays

(306) The following are legal holidays in the area covered by this Coast Pilot: New Year's Day, January 1; Martin Luther King, Jr.'s Birthday, third Monday in January; Washington's Birthday, third Monday in February; Memorial Day, last Monday in May; Independence Day, July 4; Labor Day, first Monday in September; Columbus Day, second Monday in October; Veterans Day, November 11; Thanksgiving Day, fourth Thursday in November; and Christmas Day, December 25. The national holidays are observed by employees of the Federal Government and the District of Columbia and may not be observed by all the states in every case.

(307) In addition, the following holidays are also observed in the area covered by this Coast Pilot: Seward's Day, last Monday in March, and Alaska Day, October 18.

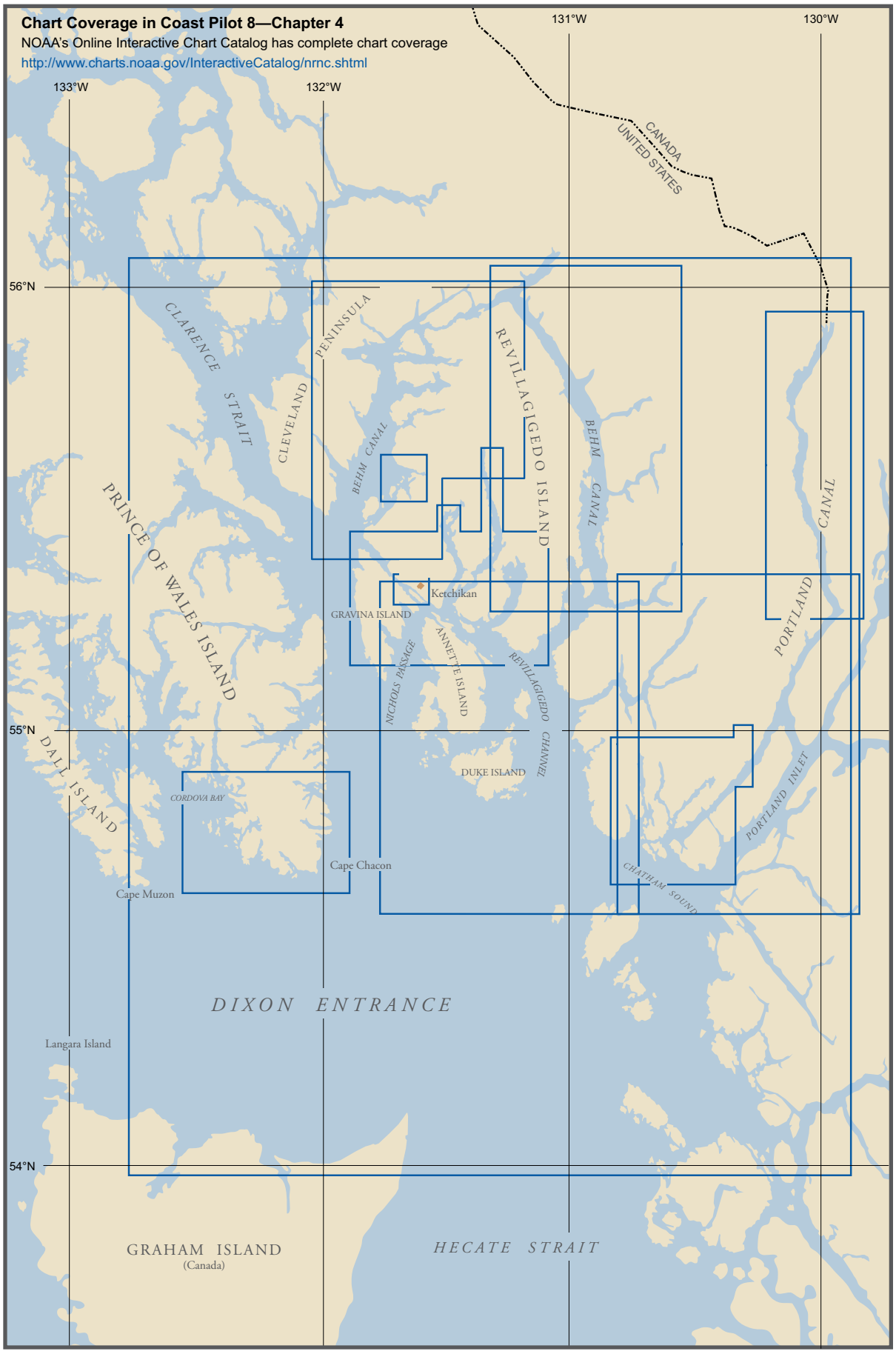


Chart Coverage in Coast Pilot 8—Chapter 4
NOAA's Online Interactive Chart Catalog has complete chart coverage
http://www.charts.noaa.gov/InteractiveCatalog/nrnc.shtml
131°W
130°W
133°W
132°W
CANADA
UNITED STATES
56°N
CLARENCE STRAIT
CLEVELAND PENINSULA
BEHM CANAL
REVILLAGIGEDO ISLAND
BEHM CANAL
PORTLAND CANAL
PRINCE OF WALES ISLAND
Ketchikan
GRAVINA ISLAND
NICHOLS PASSAGE
ANNETTE ISLAND
REVILLAGIGEDO CHANNEL
55°N
DALL ISLAND
DUKE ISLAND
CORDOVA BAY
PORTLAND INLET
Cape Chacon
Cape Muzon
CHATHAM SOUND
DIXON ENTRANCE
Langara Island
54°N
GRAHAM ISLAND
(Canada)
HECATE STRAIT

# Dixon Entrance to Ketchikan

(1) This chapter describes the waters of Dixon Entrance, Pearse and Portland Canals, Revillagigedo Channel, Tongass Narrows, Carroll and George Inlets, Behm Canal, Ward Cove and the city and harbor of Ketchikan.

(2)

## Weather

(3) Dixon Entrance is exposed to the rigors of the nearby Pacific. Gales blow frequently from October through April, mainly out of the southeast, up the Hecate Strait. Sometimes north gales draw down Portland Inlet across the northeast end of Chatham Sound, making the crossing from Dundas Island to Cape Fox hazardous. Strong southwest winds create a heavy beam sea on this same crossing. Swells approach Dixon Entrance mostly from the west and southwest, particularly in winter. They move through passages, break on shoals or against shorelines and are heavy at times. In Caamano Passage, the west coast of Dundas Island experiences almost continuous heavy swell. Parry Passage, as well as the west and north coasts of Langara Island, is subject to prevailing ocean swell.

(4) Uncertain currents and a number of hazards make navigation in Dixon Entrance treacherous when visibility is poor. Advection fog plagues these waters from July through September, when visibility less than 0.5 mile occurs up to 5 percent of the time, and is often cyclical over a period of several days. At Langara Island, fog is reported 4 to 9 days each month from May through September.

(5) **Dixon Entrance**, the south approach from the Pacific Ocean to the inner channels of southeastern Alaska and the north seaward approach to those of British Columbia, is entered between Queen Charlotte Islands on the south and Dall and Prince of Wales Islands on the north. It extends in a general east direction from Cape Muzon and Langara Island to Dundas Island, a distance of about 75 miles, with an average width of more than 30 miles; it then contracts to a width of about 8 miles between Cape Fox and Dundas Island and continues with this width to the mouth of Portland Inlet, a distance of 17 miles.

(6) **The International Boundary Line between the United States and Canada runs through Dixon Entrance, Tongass Passage, Pearse Canal and Portland Canal.**

(7) **Bowie Seamount** is a sharp pinnacle with a depth of 13.9 fathoms in 53°17'58"N., 135°39'02"W.

(8) **Learmonth Bank** is in the fairway of the west entrance of Dixon Entrance between 8 and 18 miles north of Langara Island and inside the 100-fathom curve. The bank is about 12 miles long, northwest and southeast, and about 5 miles wide. The least depth is about 19 fathoms over a bottom of sand, rock and gravel.

(9)

## Currents

(10) In **Dixon Entrance**, the flood current runs east around Langara Island and sets along the north shore of Graham Island. In the area about midway between Rose Spit and Dundas Island it divides: one part sets north past Dundas Island and the other south into Hecate Strait.

(11) The turn of the current in the vicinity of Rose Spit coincides approximately with the times of high and low water. At times the streams run as high as 4 knots in the vicinity of Rose Spit and cause heavy overfalls that have the appearance of shallow water in depths of 10 fathoms or more. This area should be navigated with great care. Give Rose Spit a wide berth.

(12) At Cape Muzon the flood current sets around the cape northeast and the ebb southwest, with a velocity of about 2.4 knots at strength.

(13) At Nunez Rocks and Cape Chacon the currents are irregular and affected by storms. The flood generally sets east or northeast. From the cape to Nichols Bay there is apparently an eddy with a west set close to the shores. Between the cape and the rock off the cape, the current apparently always runs west, although not strong during the last half of the flood. North of Cape Chacon an eddy runs to the south, close to the shore. Off the cape a current of 2 to 3 knots has been experienced.

(14) On the ebb the general direction of the current is to the west. From Cape Chacon it runs in the direction of Nunez Rocks, probably forced to the south by the current from Nichols Bay; the latter sets east as far as the cape and then turns south. The current from the south entrance of Nichols Bay runs southeast until it meets the main current when it turns west around Nunez Point. West of Nunez Rocks the ebb current is west but is affected by currents from inlets; there are small eddies along shore.

(15) Between Cape Chacon and Zayas Island on the south and Duke Island and Cape Fox on the north, the tidal currents are much confused. In bad weather the heavy and confused sea sometimes looks like breakers.

(16) Between Dundas Island and Cape Fox the flood current sets east with an average velocity at strength of 2 knots, and the ebb current sets west with an average velocity at strength of 3 knots.

(17) See the Tidal Current prediction service at *tidesandcurrents.noaa.gov* for specific information about times, directions, and velocities of the current at

numerous locations throughout the area. Links to a user guide for this service can be found in chapter 1 of this book.

(18) Additional information on currents in these waters is given in the Canadian Sailing Directions British Columbia (North), Volume II.

(19)

### Routes

(20) Because of the numerous dangers and uncertain currents, navigation of Dixon Entrance at night or in thick or foggy weather is somewhat risky. In approaching from south, the light on Langara Island is a sufficient guide to the entrance. In approaching from west or northwest, Forrester Island is a good landmark. The light on Cape Muzon and the light on Cape Chacon are good guides when in their vicinity, but the unmarked Nunez Rocks, about 3.2 miles southwest from Cape Chacon, should be kept in mind. The light on Barren Island is also a good guide when going to the east part of Dixon Entrance; it is advisable to set a course southeast of the island in passing.

(21) The high rugged coastline and the isolated islands are very good radar targets.

(22)

## Graham Island to Cape Muzon

(23) **Graham Island** forms the south side of Dixon Entrance for 50 miles from Langara Island to Hecate Strait. Its northwest end is mountainous with **Pivot Mountain**, 1,922 feet high, the most conspicuous. This mountain, about 2.5 miles back from the west shore, is round, somewhat detached from the others, and can be seen for about 50 miles in clear weather. **Tow Hill**, 500 feet high, is a conspicuous landmark on the northeast end of the island, rising above the low and featureless land in its vicinity. It is on the coast and is fronted by a perpendicular cliff nearly 400 feet high, composed of columnar volcanic rocks facing the sea and sloping gradually to the south.

(24) **Langara Island**, on the south side of the west end of Dixon Entrance, is a small, irregularly shaped, densely wooded island, close off **Cape Knox**, the northwesternmost point of Graham Island. Near the middle of the island is a succession of rounded hills of almost uniform height that extend in an east direction.

(25) **Langara Point Light** (54°15'24"N., 133°03'30"W.), 160 feet above the water, is shown from an octagonal tower on the northwest end of Langara Island. A white dwelling is about 135 yards east of the light.

(26) **Forrester Island**, about 14.5 miles off the Dall Island shore, is a prominent landmark for the approach to Dixon Entrance from northwest. The island is wooded and mountainous; the highest peak is near the center of the island.

(27) **Cape Muzon**, the south extremity of Dall Island, forms the northwest headland of Dixon Entrance. It is heavily wooded and rises to a rounded peak 2 miles northwest of the extremity of the cape. Off the east end of the cape is a group of small islands and rocks. A breaker is 0.3 mile off the south shore of the cape. Vessels should give the cape a berth of at least 1 mile. A bank with a reported least depth of 14 fathoms is 2 miles southwest of Cape Muzon Light.

(28) **Cape Muzon Light** (54°39'54"N., 132°41'34"W.), 80 feet above the water, is shown from a spindle with a red and white diamond-shaped daymark on the south extremity of the cape.

(29)

### Local magnetic disturbance

(30) Differences of as much as 4° from normal variation have been observed at Cape Muzon.

(31)

## Point Marsh to Nunez Rocks

(32) **Point Marsh** (54°43.2'N., 132°19.1'W.), about 13 miles east of Cape Muzon, is a group of rocky islets, all of which are comparatively low and wooded, lying close to the main shore of Prince of Wales Island. Between 1 and 2 miles back of the point, the ground rises evenly and several irregular knobs show along the slope. About 2.5 miles northeast of the point is a prominent, almost bare hill, with rounded top. **Point Marsh Light** (54°42'42"N., 132°17'43"W.), 74 feet above the water, is shown from a skeleton tower with a red and white diamond-shaped daymark on a small islet about 1 mile southeast of Point Marsh.

(33) **Minnie Bay**, a small bight in the main shore back of Point Marsh, is much used by local fishermen and affords excellent anchorage for small craft. Enter the bay west of the small charted islets inside the entrance and run fairly close-to in order to avoid a reef extending 30 feet out from the west shore opposite the southernmost islet. Heavy kelp covers much of the shoreline during the summer, but the center of the bay is clear.

(34) **Brownson Bay**, about 1.5 miles northeast of Point Marsh Light, is narrow, and its entrance is somewhat obstructed by islets and rocks. It affords indifferent anchorage in about 11 fathoms, 0.2 mile south of the rock awash near the head of the bay. A private mooring buoy is 200 yards east of the rock awash. In entering, favor the west side of the bay, taking care to avoid a rock awash that is about 0.6 mile northeast of the islets off the west point at the entrance.

(35) In 1968, it was reported that the depths in Brownson Bay were considerably less than the charted depths; caution is advised.

(36) **Little Brownson Bay**, on the east side of the entrance to Brownson Bay, affords anchorage for small craft. The bay is entered from the south, but local knowledge is required; the north passage can only be used by very small boats. Williwaws sweep across the bay during southeast gales.

(37) **Surf Point**, about 4.6 miles east-southeast of Point Marsh Light and 2.5 miles west of Nunez Point, rises rapidly to a knob and then to higher ground to the north.

**Brown Bear Rock** is a prominent rock close to the point. A submerged rock, cleared to 6 fathoms, is about 0.4 mile south of the point, with deep water inshore. Tide rips, hazardous to small craft, are in the vicinity.

(38) An inlet, about 1.2 miles east from Surf Point, is too deep for anchorage and is open and exposed. Foul ground extends about 0.2 mile off the point on the east side of the inlet.

(39) **Bert Millar Cutoff** is the passage to Nichols Bay west of Bean Island. It forms a bight at each end, narrowing at the center to a channel about 30 yards long and 10 yards wide. A depth of about 1¾ fathoms is in the narrow part of the channel, and submerged rocks are in the bight at the north end. At times the current through the channel is very swift.

(40) **Bean Island** is wooded and has a number of rounded, steep-sided, rocky knobs. From west it shows as a rounded hill that stands well above the general level of the island. Off the southeast point of the island is a small wooded island from which submerged rocks extend.

(41) **Nunez Point**, about 2.7 miles west of Cape Chacon, is the southeast extremity of Bean Island. It has several rocky ridges, with bare bluffs 150 to 200 feet high on the seaward face.

(42) **Nichols Bay** is about 2.5 miles west of Cape Chacon. Three islands divide the entrance into two channels. From the southeast end of the south island, irregular bottom with 2- and 2½-fathom spots extend across the entrance of the south channel to a 4¾-fathom spot about 0.6 mile to the northeast of Nunez Point. During severe south gales seas pile up heavily at the entrance and are reported to break entirely across it at times. A daybeacon is on the east side of the entrance of the north channel.

(43) The bay has three anchorages, one in each of the three bights on the southwest shore. In entering the first bight keep well off the northwest end of the north island to avoid rocks. Anchor in 16 fathoms, mud bottom, 250 yards offshore. The second anchorage is to the northwest of the peninsula, in depths of 15 fathoms, 300 yards offshore. The third anchorage is about 0.7 mile to the northwest of the second anchorage and about 0.6 mile from the head of the bay, in depths of about 13 fathoms, soft mud bottom, 350 yards offshore.

(44) **Nichols Lake**, a large freshwater lake, empties into the head of the bay through a stream. Small boats anchor off the flats at the mouth of this stream.

(45)

### Routes

(46) When about 1 mile from the entrance, bring the bay wide open and head for the center of the north channel. Stand in between the kelp patches. Favor the north point at the entrance, and then follow midchannel courses. The narrowest part of the channel, about 75 yards wide, is 1 mile inside the entrance, where the least depth is 7 fathoms.

(47) The south channel, used by small craft, leads to the south of the islands. Fishing craft anchor in the lee of the 20-foot rock about 270 yards off the northeast shore of Bean Island and in the channel between the islands.

(48) **Cape Chacon**, the southeast point of Prince of Wales Island, is about 23 miles east of Cape Muzon. **Cape Chacon Light** (54°41'26"N., 132°01'01"W.), 50 feet above the water, is shown from a frame with a red and white diamond-shaped daymark on the south extremity of the cape.

(49) From the northeast and southwest quadrants, the cape is easily recognized by three hills; the outer appears as a perfect cone; the second is slightly higher and somewhat rounded; the third has a flat top. The land to the northwest is high and broken.

(50) A rock, awash at extreme low water and usually showing as a breaker, is 260 yards southeast from the cape. The pass between the rock and the cape has depths of 5 fathoms and is used by small craft. For a distance of about 0.5 mile from the cape, tide rips are likely to be severe for small craft.

(51) **Nunez Rocks**, about 1.4 miles south of Nunez Point, are bare at half tide and usually show as a breaker. Shoal water extends 550 yards southeast to a ¾-fathom spot that frequently shows as a separate breaker. A ¾-fathom spot is about 400 yards northeast of the rocks. The channel between Nunez Rocks and Nunez Point is clear. The rocks when passed to the south should be given a berth of 0.8 mile.

(52)

## Duke Island to Zayas Island Reef

(53) **Duke Island**, on the north side of Dixon Entrance between Clarence Strait and Revillagigedo Channel, is low and heavily wooded and shows numerous round-topped hills. **Mount Lazaro** at its south end is a broad-topped mountain and the only part of the island visible for over 25 miles. The south and southwest sides of the island should be avoided, as rocks and reefs extend about 7 miles offshore. Dangers are marked by kelp during the summer, but it is probable that this safeguard is lacking during the fall and winter. The farthest outlying dangers are Hassler Reef, West Rock, Club Rocks, Yellow Rocks, Barren Island and a rocky shoal, covered 5 fathoms, about 4 miles west of West Rock.

(54) **Judd Harbor**, on the south shore of Duke Island, is north of the east end of **Kelp Island**. It offers excellent shelter with swinging room for vessels up to 175 feet long (short scope). When entering the harbor do not rely on the compass, because there is local magnetic attraction.

(55) The best entrance is north of East Island. When abreast of the northeast point of Kelp Island, steer midchannel toward the prominent point marking the west side of the entrance to Judd Harbor. When about to round into the bay give the point to the east a fair berth because of a submerged rock 130 yards off that point. Anchor in the center of the bay in 4 fathoms, sticky mud bottom. This anchorage is used extensively by fishing

vessels during the fishing season and may be congested during that period.

(56) Anchorage on the north side of Kelp Island, while good, is not recommended for use except for those with local knowledge, because the east entrance is shallow and the west entrance has numerous reefs. Currents through this passage are very strong at times.

(57) **Kelp Island Anchorage**, a bight in the east end of Kelp Island, offers fair shelter for small boats. Anchorage is in 2 to 7 fathoms, rock and sand bottom. Piles have been driven along the south shore.

(58)

### Local magnetic disturbance

(59) Extreme magnetic disturbances with differences of as much as 50° have been observed southeast of Duke Island. The magnetic compass should not be relied upon within the area outlined in magenta on the charts.

(60) **East Island**, marked by a light on its east side, is a small island, 2.5 miles south of **Duke Point**, the easternmost point of Duke Island. Round East Island with great care because of the outlying rocks to the west, the magnetic disturbance and the uncertainty of the tidal currents.

(61) **Hassler Reef** is an extensive shoal area, interrupted by rocks and breakers in several places, about 7.8 miles west of Mount Lazaro. The reef is covered by heavy kelp during the summer and has deep water close-to. Hassler Reef is exceedingly foul, and every effort should be made to avoid its extents. Very irregular bottom extends 3 miles to the south of Hassler Reef, and passage over that section is not recommended.

(62) A rocky shoal, covered 5 fathoms, is about 2.5 miles south-southwest of Hassler Reef and about 4 miles west of West Rock.

(63) **West Rock**, 12 feet high, is 6.3 miles southwest of Mount Lazaro. A rock with 2 fathoms over it and marked by kelp is about 0.6 mile south of West Rock.

(64) **Club Rocks**, two in number, bare and surrounded by reefs and kelp, are about 4.4 miles south of Mount Lazaro; the north rock is 40 feet high, and the south rock is 35 feet high.

(65) **Yellow Rocks**, two in number, yellowish in color and surrounded by kelp, are about 7.3 miles southeast of Mount Lazaro. The larger rock is 25 feet high and shows some vegetation.

(66)

### Caution

(67) Vessels without local knowledge should not go near the line of Hassler Reef, West Rock and Club Rocks. These waters should be navigated with great caution, and every appearance of kelp should be avoided. Isolated rock pinnacles exist that may show no kelp. There is deep water close to Yellow Rock and Barren Island.

(68) **Barren Island** is a bare rock 30 feet high, about 8.5 miles south of Mount Lazaro. There are other small rocks and some kelp near it, but there is deep water within about 0.2 mile in all directions. **Barren Island Light** (54°44'38"N., 131°21'03"W.), 85 feet above the water, is shown from a spindle with a red and white diamond-shaped daymark on the summit of the island.

(69) **West Devil Rock** is a dangerous ledge in the northeast part of Dixon Entrance, about 15.5 miles south-southwest of Mount Lazaro. The highest part of the rock bares 11 feet, and foul ground, on which the sea breaks, extends about 0.3 mile south, southwest and north of it. A 2½-fathom shoal, on which the sea breaks almost continuously in moderate weather, is 0.6 mile 333° from the rock. A submerged rock is close southeast of the 2½-fathom shoal. A 6½-fathom and a 6-fathom shoal are 0.9 mile 015°, and 2.3 miles 141° from West Devil Rock, respectively.

(70) **East Devil Rock** bares 2 feet and is about 3.3 miles north of Zayas Island. The channel between this rock and **Zayas Island Reef** is apparently clear, but the north coast of Zayas Island should not be approached closer than 1 mile.

(71)

## Celestial Reef to Holliday Island

(72) **Celestial Reef** (54°31'N., 131°28'W.), about 10 miles south-southeast of West Devil Rock, is about 1 mile long and has three heads with less than 1 fathom over them near the south end. The depth over the remainder of the shoal is about 10 fathoms. A rock, covered 1½ fathoms, is 0.7 mile northeast of the reef. Two 10-fathom shoals are about 0.5 mile north and 3 miles north-northwest of the reef, respectively. An 8-fathom shoal is about 2 miles south of the center of the reef.

(73) **Zayas Island**, in the northeast part of Dixon Entrance and about 11.5 miles southeast of Barren Island, is wooded, flat-topped and high near the south end. A rock, with 4 feet over it, is about 0.7 mile north of **Aranzazu Point**, the northwest extremity of Zayas Island. Foul ground marked by kelp extends along the north shore of the island with several 5-fathom spots about 1 mile north of the island. A light marks the southernmost point of the island.

(74) **McCullock Rock**, a pinnacle rock with 9 feet over it, is about 4 miles west of Jacinto Point, the southwest extremity of Zayas Island. A 3-fathom shoal and a 5-fathom shoal are about 0.4 mile east-southeast and about 1.3 miles north-northeast of the rock, respectively.

(75) **Dundas Islands**, in the east part of Dixon Entrance, consist of **Dundas Island**, **Baron Island**, **Dunira Island**, **Melville Island**, and numerous small islets and rocks. Dundas, the northwesternmost and largest island, has a number of conspicuous mountains, of which **Mount Henry**, towards the south end of the island, is the highest. Two conspicuous hills are in the northwest part of the island. **Slab Hill**, flat-topped with a knob, is conspicuous near the northeast end of the island.

(76) The coasts of the four large islands of the group are much indented by small creeks and bays.

(77)

### Caution

(78) Recent surveys indicate less water than charted in the vicinity of Dundas Islands. Mariners are advised to navigate with caution in the vicinity of these islands as many rocks awash and submerged, and some marked by kelp, have been reported in this area.

(79) **Holliday Island Light** (54°37'24"N., 130°45'30"W.), 21 feet above the water, is shown from a white slatted daymark on a concrete base on the north end of **Holliday Island**, which is 0.3 mile off the northeast end of Dundas Island.

(80)

## Cape Fox to Winter Inlet

(81) **Cape Fox**, on the north side of Dixon Entrance, forms the west side of Nakat Bay and the east point of the entrance to Revillagigedo Channel. The cape is mountainous and wooded, with wooded islets close off its south shore. The cape terminates in remarkable high white cliffs, with a conspicuous saddle-shaped mountain, **Harry Saddle**, about 2 miles back. A small-boat channel between Fox Island and the cape is narrow and crooked and should not be attempted without local knowledge. The channel has many piles and is used as a log storage area. A rock awash is about 500 yards east-northeast from the east tip of **Fox Island**, a small island about 0.2 mile off Cape Fox.

(82) Tree Point Light, described later in this chapter, is on the northeast side of the lower end of Revillagigedo Channel, about 3.7 miles northwest of Cape Fox.

(83) **Lord Islands**, about 2.5 miles southeast from Cape Fox, are in two groups, separated about 0.7 mile, and have a number of islands in each group, with a clear channel between the groups. The larger islands are wooded and 100 to 200 feet high. Several bold and bare rocks are close to the Lord Islands. Submerged rocks and kelp fringe these islands, and shoal water extends about 0.5 mile north and northwest of the north group. The recommended channel into Nakat Bay is to the west of the islands and **Thistle Rock**, favoring the Cape Fox shore.

(84) **Lord Rock**, about 10 feet high, is about 0.7 mile southwest from the south group of the Lord Islands. **Lord Rock Light** (54°43'33"N., 130°49'13"W.), 38 feet above the water, is shown from a skeleton tower with a red and white diamond-shaped daymark on the highest part of the rock.

(85) **Nakat Bay**, making north between Cape Fox and Tongass Island, is the entrance to Nakat Inlet and the west approach to Port Tongass. The bay does not afford anchorage.

(86) **Boat Rock**, 5 feet high, is close to the west shore at the entrance to Nakat Bay. **Boat Rock Light** (54°46'49"N., 130°47'58"W.), 38 feet above the water, is shown from a skeleton tower with a red and white diamond-shaped daymark on the southwest end of the rock.

(87) **Craig Rock**, near the middle of the bay and about 0.7 mile from the west point of Tongass Island, is awash at extreme low water, with deep water all around. It breaks in a heavy sea and is not marked by kelp.

(88) **Harry Bay**, on the northwest side of Nakat Bay, is deep and exposed to the southeast. **Slim Island** is close to the west shore at the entrance. A boat passage is between the island and the mainland, but the island shore must be kept close aboard, because the west half of the passage is foul. A shoal with 6¾ fathoms over it is 0.4 mile 116° from the south end of Slim Island. **Ledge Point** on the east side of the entrance to the bay should be passed at a distance of 0.5 mile to clear the rocks off the point.

(89) **Nakat Inlet** extends in a north direction for about 8 miles. The shores are steep and heavily wooded to the water's edge. The main inlet is deep and affords no anchorage except near its head. The group of small, wooded islands near the head of the inlet provides shelter for small craft. Anchorage may be had in 8 to 13 fathoms. The inlet is clear of obstructions except near its head or close inshore.

(90)

### Local magnetic disturbance

(91) Differences of as much as 5° from the normal variation have been observed in the west shore of Nakat Inlet about 1.25 miles north of Surprise Point.

(92) **Nakat Harbor** makes off from the southeast part of Nakat Inlet and is separated from it by a chain of wooded islands. An abandoned cannery dock, in ruins, is on the east shore of the harbor east of Observation Rock. In the south part of the harbor, about halfway up the arm, off a small bight having a gravel beach, anchorage and shelter for vessels of moderate size may be found in 19 fathoms. The north arm of Nakat Harbor also has anchorage but poor shelter. A reef with two pinnacles that bare 3 feet is 200 yards from the west shore about 0.3 mile north from **Simonton Point**. **Observation Rock**, in the middle of Nakat Harbor, is about 6 feet high, with submerged rocks that extend about 250 yards southeast and northwest from it. A deep channel is between the rocks and the shore, but the shore must be given a berth of over 100 yards.

(93) The best channel for entering Nakat Harbor is southeast of the southeasternmost islet of the chain separating it from Nakat Inlet.

(94) Excellent anchorage may be had in 18 fathoms, mud bottom, in the southwest arm of Nakat Harbor, about 0.6 mile southeast of **Surprise Point**. Passage to the head of this arm is obstructed by a rock baring 3 feet in the middle of the constricted part of the arm. Small vessels should favor the west shore to avoid the rock and the extensive flats along the east shore. At high water the southwest arm is connected with the small bight, about 0.7 mile north of the daybeacon on Tongass Reef, by a narrow passage that is obstructed by trees and is only navigable by small boats.

(95) **Tongass Reef**, on the northeast side of the bay, about 0.5 mile north of Tongass Island, is awash at high water.

**Tongass Reef Daybeacon** (54°47'13"N., 130°44'40"W.) on a skeleton tower with a red and white diamond-shaped daymark on the north side of the reef, marks the north entrance to Port Tongass. **Passage Rock** and **Track Rock**, between Tongass Reef and the north point of Tongass Island, cover at high water.

(96) **Port Tongass** is a small harbor formed by the passage between Tongass Island and the mainland. **Tongass Island** is low and, except on the northeast side, has ledges and submerged rocks that extend well out on all sides. A launch passage is immediately north of Tongass Island but is tortuous and obstructed and should be used only with local knowledge. Port Tongass is sometimes used as an anchorage, but the bottom is hard, and with wind and changing tidal currents a vessel may drag her anchor and foul.

(97) The anchorage is 200 yards from the northeast shore of the harbor, east of **Fort Point** in about 20 fathoms, hard bottom. The flood current sets northwest through the anchorage at about 1 knot. The anchorage may be entered by three channels. The southeast and southwest entrances are described under Sitklan Passage.

(98) The north entrance between Tongass Reef and the mainland is the one recommended and is the best entrance for vessels approaching from west.

(99) **Sitklan Passage**, except for its west entrance between Tongass and Kanagunut Islands, is a deep narrow passage with steep wooded shores that extend east-northeast between the mainland and the northwest shores of Kanagunut Island and **Sitklan Island** from Nakat Bay to Tongass Passage. It forms the southeast and southwest approaches to Port Tongass. The east entrance of the passage from Tongass Passage is north of **Point Mansfield**. This channel, with depths of 16 to 42 fathoms, is fairly straight and about 300 yards wide. **Dark Point**, the turning point from Sitklan Passage into Port Tongass, has a bare rock about 5 feet high close-to.

(100) The west entrance, on the south side of Tongass Island, is obstructed by rocks and kelp but is much used by small vessels with local knowledge. Strangers should use this entrance only with small craft at high water. All dangers in the passage are marked by kelp. A circular shoal with a least depth of 2¼ fathoms is about 0.6 mile northwest of **Tingberg Island** in the west entrance. When rounding **Katakwa Point**, the southeast extremity of Tongass Island, care should be exercised to favor the east shore of Port Tongass, which is steep-to and clear of dangers.

(101) **Lincoln Channel** is the narrow passage between Kanagunut and Sitklan Islands. It is very narrow at the north entrance with a controlling depth of 9 feet midchannel. In the south part of the channel, about 0.2 mile north of the island in the bight, is a rock midchannel with ¾ fathom over it. A shoal with a depth of 1 fathom is about 0.5 mile north from **Garnet Point**, the south extremity of Kanagunut Island.

(102) **Kanagunut Island**, low and heavily wooded, is fringed along its southwest shore by rocky ledges that extend 200 to 700 yards from the island.

(103) **Tongass Passage**, between Sitklan and Wales Islands, is a deep passage with steep shores that extends northwest from Dixon Entrance. It bends to the northeast off the entrance to Sitklan Passage, separates Wales Island from the mainland and forms the west entrance to Pearse Canal. Tongass Passage is entered between **Haystack Island**, a steep wooded islet, and **Island Point**, the southeast extremity of Sitklan Island. Rocks awash are about 300 yards west of Haystack Island. From **Bartlett Point**, the west extremity of Wales Island, to **Phipp Point**, on the north shore of Wales Island about 1 mile northeast of Bartlett Point, a midchannel course will lead through deep water.

(104) **Fillmore Inlet** joins Pearse Canal on the Alaska side at the southwest end of Fillmore Island and separates that island from the mainland; it extends northeast and is comparatively free to navigation, but there are numerous rocks and reefs close inshore. The narrow entrance beyond the group of islets at the head of this inlet leads into two consecutive basins, each of considerable size. The inlet has no value as an anchorage.

(105) **Willard Inlet** is a narrow inlet that extends in a northwest direction from the northwest side of Fillmore Inlet, about 1.5 miles north of **Male Point**, the southwest extremity of Fillmore Island. It is very narrow at the entrance, and the currents have great velocity, forming swirls that extend well out from the mouth. The times of high and low water inside the inlet are about 1 hour later than at other places in the vicinity, and the rise and fall about 2 feet less. This inlet can only be entered at slack water and has no value as an anchorage.

(106) **Edward Passage** separates Fillmore Island from the mainland north and connects Fillmore Inlet with Pearse Canal. The passage is narrow, foul, and only navigable by small craft with local knowledge.

(107) **Pearse Canal** is about 25 miles long from Tongass Passage to its junction with Portland Canal off Tree Point, the north extremity of Pearse Island. The British Columbia shore is formed by **Wales Island** and **Pearse Island**, and the Alaska shore by Fillmore Island and the mainland.

(108) The west entrance to Pearse Canal is to the south of a group of heavily wooded islets about 0.8 mile southwest of Male Point. **Pearse Canal Island Light** (54°47'02"N., 130°36'36"W.), 12 feet above the water, is shown from a square skeleton tower with a white square daymark on the south point of the 150-foot island in the entrance to Pearse Canal. A rock with 1¾ fathoms over it is 0.1 mile north of the light. To enter from the west, pass in midchannel between this rock and the southernmost of the islets south of Male Point. A rocky shoal, covered 3½ fathoms, is about 250 yards east-southeast of the light.

(109) See the Tidal Current prediction service at *tidesandcurrents.noaa.gov* for specific information about times, directions, and velocities of the current at

numerous locations throughout the area, including Pearse Canal. Links to a user guide for this service can be found in chapter 1 of this book.

(110) **Safa Islands**, mostly wooded, are on the south side of the channel off the entrance to Wales Harbor.

(111) **Fillmore Island** forms the northwest shore of Pearse Canal and is separated from the mainland by Fillmore Inlet and Edward Passage. Several wooded islets are off its south shore. Passage behind the islets is not recommended except for small craft with local knowledge.

(112) **Regina Cove** indents the south shore of Fillmore Island about 2 miles from Male Point. Anchorage is available in the center of the bay in 14 fathoms, mud bottom. A small shoal of 1¾ fathoms, with deep water surrounding it, is near midchannel about 0.2 mile off the entrance to the cove.

(113) **Wales Harbour**, on the British Columbia side of Pearse Canal, about 1.5 miles from Tongass Passage, affords good anchorage in 14 to 18 fathoms, soft bottom; its entrance is somewhat obstructed by islets and rocks, and only vessels with local knowledge should attempt to enter it. The usual anchorage is north of the larger island near the head of the harbor. In entering, follow the southwest shore at a distance of about 200 yards until past the shoal in the entrance to the harbor.

(114) Three arms are at the head of the harbor; the middle and largest open out into a basin. An island with an islet close southeast of it nearly closes the entrances to the west and middle arms; the channel for entering them is west of the islands, but the chart is the best guide for navigating these waters.

(115) **Wales Passage**, between Pearse Island and Wales Island on the British Columbia side of Pearse Canal, is free from midchannel dangers.

(116) **Winter Inlet**, the entrance to which is about 1.3 miles northeast of the north entrance to Wales Passage, indents the northwest shore of Pearse Island. It affords secure anchorage for small craft; the holding ground is good and there is ample swinging room in the wider part. The north shore is bold, except where small sandspits make out at the mouths of streams. In entering, favor slightly the south shore until past the first spit on the north side, and then keep the north shore close aboard when passing the bight on the south side to avoid a reef that extends about 75 yards off a small wooded islet. Ice forms in the harbor during winter, making it unsafe for small-craft shelter.

(117)

## Hidden Inlet

(118) **Hidden Inlet**, a narrow arm, extends north into the mainland from Pearse Canal, about 8 miles south of its junction with Portland Canal. **Hidden Point** is on the northeast side of the entrance to the inlet. The entrance is less than 150 yards wide, and the tidal currents through it set with a velocity of 8 to 10 knots, forming swirls that extend well into Pearse Canal. The main body of the inlet is about 4 miles long, varying in depth from 30 to 73 fathoms, but there is only 2½ fathoms at the entrance. It can be entered only at slack water and is of no value as an anchorage.

(119) A rock with 2 fathoms over it is about 0.4 mile south of Hidden Point. **Yelnu Islets** are two wooded prominent islets on the west side of the Pearse Canal about 0.8 mile south of Hidden Point.

(120)

## Portland Canal to Car Point

(121) **Portland Canal** extends north from its junction with Pearse Canal and **Portland Inlet** at **Tree Point** for about 57 miles to the towns of Hyder, AK, and Stewart, BC. The channel, clear and deep, has no dangers except for a rock awash, about 0.2 mile off the west (Alaska) shore, 2.3 miles above **River Point** (55°34.2'N., 130°08.2'W.). It is reported that in the winter there are strong north blows in the canal and small boats often ice up.

(122) **Reef Island** is close off the west shore, abreast **Spit Point**, at the entrance to Portland Canal. **Reef Island Light** (55°04'44"N., 130°12'11"W.) 19 feet above the water, is shown from a spindle with a red and white diamond-shaped daymark on the south end of the island.

(123) **Harrison Point**, high and bold, is 2.5 miles north of Reef Island. **Dickens Point**, on the east shore, is about 4.5 miles north of Spit Point. A black rock, 8 feet high, is close south of Dickens Point, and a drying ledge extends a short distance from it.

(124) **Sandfly Bay**, on the west shore abreast Dickens Point, 14.5 miles above Hidden Inlet, has no value as an anchorage. **Stopford Point**, bold and conspicuous, is on the east shore about 3 miles above Dickens Point.

(125) **Halibut Bay**, free of hidden dangers, is on the west shore of Portland Canal, about 4 miles above Sandfly Bay. Its shores are generally bold, but on each side near the entrance are sandy beaches with shoals that extend 80 yards offshore and low grassy land running 100 yards back. Near the head of the bay extensive flats, which bare, make out from the west shore almost all the way across leaving a narrow channel close to the east side, through which 5 feet can be carried to a narrow basin 2 to 4 fathoms deep and suitable only for small craft.

(126) Halibut Bay affords anchorage for vessels in the middle of the bay in 10 fathoms, about 0.2 mile above **Astronomical Point**, the northeast point at the entrance, and abreast a rocky point at the north end of the sand beach on the west side, where the anchorage is 450 yards wide; also 700 yards farther up abreast the north end of the sand beach on the east side, in 10 fathoms, where the anchorage is 300 yards wide.

(127) **Logan Point**, on the east shore, is 4.3 miles northeast of Stopford Point.

(128) **Camp Point** on the west shore about 4.5 miles northeast of the entrance to Halibut Bay is wooded and precipitous.

(129) **Hattie Island**, in midchannel about 6 miles above Halibut Bay, is about 700 yards long and has some stunted brush growing on it. **Hattie Island Light** (55°17'15"N., 129°58'12"W.), 21 feet above the water, is shown from a pole with a slatted orange circular daymark on the west side of the island. **Belle Bay**, the bight east of Hattie Island, does not afford anchorage.

(130) **Car Point** is on the east shore about 3.5 miles northwest of Belle Bay. About midway between Car Point and Belle Bay are three conspicuous landslides.

(131)

## Breezy Point to Stewart

(132) **Breezy Point** (55°21.5'N., 130°02.3'W.), about 5 miles north of Camp Point on the west shore, is conspicuous. **Bluff Point**, on the east shore, about 1.5 miles northeast of Breezy Point, terminates in a high, bold cliff.

(133) **Tombstone Bay**, on the west side of Portland Canal about 7.5 miles above Hattie Island, affords a temporary anchorage for small craft in 8 fathoms near the head of the north bight.

(134) **Maple Bay**, on the east (British Columbia) side of Portland Canal, 8 miles above Hattie Island, affords fair anchorage for small craft, 300 yards from the south side, in 7 to 8 fathoms. In 1977, a rock awash was reported about 150 yards offshore on the south side of the bay near the entrance.

(135) **Turn Point**, on the west side of Portland Canal, about 9.5 miles above Hattie Island, is 0.5 mile wide.

(136) **Green Islets**, two small wooded islets on the east side, about 21.5 miles above Hattie Island, are connected with the shore by a short spit that bares.

(137) **Fords Cove**, on the east shore just north of Green Islets, is a bight in the shore affording fair shelter from south winds but none from north winds. A rocky ledge, which partly bares, extends north about 75 yards from Green Islets. The south part of the cove is shoal for about 175 yards offshore. A fair anchorage with sufficient swinging room may be found in 13 fathoms, 0.2 mile from Green Islets and the same distance from the east shore. Small craft can anchor closer inshore.

(138) **Cliff Point**, on the west shore, is about 3.3 miles above Green Islets. **Verdure Point**, about 4.5 miles north of Cliff Point, is conspicuous when the maple trees bloom.

(139) **Lion Point**, on the east shore about 3 miles below the head of the canal, is low and wooded and has a grassy flat in front. The bight in the shore just south of Lion Point is filled by a flat that bares. The **Marmot River** flows through a valley that trends to the east.

(140) There is a government landing float at **Marmot Bay**, 0.5 mile northeastward of Lion Point, with a depth of 18 feet alongside at the southern end and 9 feet at the northern end.

(141) The Bear and Salmon Rivers, which flow into the head of Portland Canal, are separated by the **Reverdy Mountains**, a high ridge of bare mountains, of which **Mount Dolly**, the southernmost peak, 5,475 feet high, is conspicuous to the mariner. Throughout the year, the discoloration of the water caused by the discharge from the Bear and Salmon Rivers extends as far south as **Glacier Point** (55°49.2'N., 130°06.7'W.).

(142) **Salmon River** empties on the west shore about 2 miles below Bear River. Extensive flats make out in a fan shape from the mouth of Salmon River, the north part extends about halfway across the canal; these flats are covered at high water and are steep-to. The east edge of the flats is marked by buoys and a light. **Stewart Light** (55°54'38"N., 129°59'29"W.), 12 feet above the water, is shown from a square skeleton tower on the east side of the canal opposite **Eagle Point**, the north entrance point of Salmon River. It is reported that in the winter the mouth of the Salmon River freezes with 3 to 8 inches of ice.

(143) **Bear River** flows through an extensive wooded flat at the head of Portland Canal. The channels are subject to change during freshets. The flats at the mouth uncover for 800 yards and are steep-to; it is reported that they are slowly extending.

(144) **Hyder**, on the Alaska side of the boundary, is a community occupying the flats off the mouth of the Salmon River and extends up the valley. A 1,252-foot-long trestle with a small dock at its outer end extends southeast over the mudflats from Eagle Point, which separates Portland Canal and the entrance to Salmon River. A 150-foot-long small-craft float with a seaplane float at its outer end extends southwest from the dock; the community operates the floats. A small-boat harbor with a seaplane float and a launching ramp is just northeast of the trestle. A buoy marks the entrance to the harbor. In 1976, depths of 14 to 20 feet were reported along the northwest and southeast sides of the 150-foot small-craft float. A yacht club on the west side of the canal between Hyder and Stewart has several floats and finger piers.

(145) Limited marine supplies, gasoline, diesel fuel, aviation gasoline, water, provisions and minor small-craft repairs can be obtained in Stewart.

(146) Hyder, and Stewart, BC, about 2 miles to the north, are connected by a shore road that leads about 370 miles farther north to a junction with the Yukon Province Highway 1 (ALCAN Highway). Seaplane service to Ketchikan is available, as well as telephone and radiotelephone communications with other cities in Alaska and British Columbia.

(147) **Stewart** is a settlement on the British Columbia side at the head of Portland Canal. Mining is the principal industry.

(148) Anchorage may be had in 25 to 30 fathoms near the head of the canal, about 550 yards off the east shore and about 450 yards south of the flat fronting the mouth of Bear River, with the light marking the edge of the flat east of Eagle Point, bearing 229°. The holding ground is good, soft mud, but the anchorage is unprotected, being exposed to north and south winds that draw through the

canal. Vessels should use caution in this area because the flat uncovers only at low water and is very steep-to.

(149) Numerous piles, the remains of the approaches to two former wharves, are on the mudflats at the head of the canal.

(150) The waters of Portland Canal in the vicinity of Stewart are a **seaplane operating area**.

(151)

### Currents

(152) In Pearse Canal the current has a maximum velocity of 2.8 knots, diminishing toward the head of Portland Canal.See the Tidal Current prediction service at *tidesandcurrents.noaa.gov* for specific information about times, directions, and velocities of the current at numerous locations throughout the area, including the Pearse and Portland Canals. Links to a user guide for this service can be found in chapter 1 of this book.

(153) Stewart has a small hospital with a resident doctor and nurse in attendance; X-ray facilities are available.

(154)

### Supplies

(155) Provisions in limited quantities can be obtained. Gasoline, diesel fuel, stove oil and aviation gasoline can be procured by tank truck by prior arrangement with two local oil companies; water is also available.

(156)

### Communications

(157) Radiotelephone and telephone services are available. A vessel makes regular calls, and an airline and ferries maintain regular service to and from Prince Rupert, with connections to other coastal points.

(158)

## Revillagigedo Channel and Tongass Narrows

(159) **Revillagigedo Channel** and **Tongass Narrows** are connecting bodies of water that have a combined length of about 53 miles from their junction with Dixon Entrance at Tree Point Light to their junction with Clarence Strait at Guard Islands Light. On their south side they connect with Clarence Strait through Felice Strait and Nichols Passage. **Revillagigedo Island**, separated from the mainland by Behm Canal, forms the greater part of the north shore of the passages.

(160) Revillagigedo Channel extends in a general northwest direction from Dixon Entrance for about 40 miles to Tongass Narrows, the latter being a continuation of the channel, for 13 miles to Guard Islands. The dangers are shown on the charts. From its entrance to Bold Island, Revillagigedo Channel is broad and comparatively free of dangers; the rocks nearest the tracks of vessels show out of water and are readily distinguishable. Above Bold Island, the channel is narrow in places, but the principal dangers are marked by buoys and lights. No difficulty should be experienced in passing through in clear weather.

(161)

### Tides and currents

(162) East of Duke Island the average velocity of the tidal current at strength of flood or ebb is about 0.5 knot. A set across the channel is sometimes experienced in the vicinity of Twin Islands. Observations taken in midchannel between Bold Island and Reef Point indicate that the current at that location sets northwest most of the time with a velocity up to 1 knot. The current in the channel is usually too weak to be predicted.

(163) The tidal current in Tongass Narrows is weak; however, currents of 2.5 and 3.0 knots have been reported in the vicinity of Idaho Rock. There is evidence of a weak northwest nontidal drift. Currents of an appreciable velocity are due to winds. See the Tidal Current prediction service at *tidesandcurrents.noaa.gov* for specific information about times, directions, and velocities of the current at numerous locations throughout the area. Links to a user guide for this service can be found in chapter 1 of this book.

(164)

### Weather

(165) Because of its orientation, Revillagigedo Channel is susceptible to the strong southeast winds that blow from October through April. At the south entrance to the channel, advection fog is a problem, particularly from July through September. Throughout most of the channel and in Tongass Narrows, visibility is worst during the winter. At Ketchikan visibility drops below 1 mile on up to 8 days each winter month, and 3 to 6 days of fog occur from July through September. The waters around Mary Island are consistently the most foggy. April, May and June are the most fog-free months in the channel.

(166)

## Boat Harbor to Vixen Bay

(167) **Boat Harbor**, about 2.7 miles northwest of **Cape Fox** (54°46.2'N., 130°50.0'W.), is a small cove forming a poor shelter for boats. It is badly exposed to southwest. Two small wooded islets are at the entrance, and the best passage for small boats is between these islets. Near the middle of the north entrance is a rock that bares 5 feet.

(168) **Tree Point Light** (54°48'10"N., 130°56'02"W.), 86 feet above the water, is shown from a 66-foot white square tower on a building on Tree Point, 4 miles northwest of Cape Fox.

(169) **Tree Point**, low and timbered, has a rocky and steep-to shore. The shoreline from Cape Fox to Tree Point is very irregular and studded with many wooded islets and bare rocks. Because of the irregular bottom and inshore dangers this section of the coast should be given a berth of not less than 0.5 mile. The small bight at Tree Point affords no shelter from south seas. **Humpy Point** is 1 mile north of Tree Point.

(170) **Foggy Point**, about 7.4 miles north of Tree Point, is a low, rocky, wooded peninsula marked by a light.

(171) The coast from Tree Point to Foggy Point is clear of dangers except close inshore. A rock awash is about 0.6 mile north of Foggy Point. Other kelp-marked rocks are southeast of this rock.

(172)

### Local magnetic disturbance

(173) Extreme magnetic disturbances exist southeast of Duke Island. The magnetic compass should not be relied upon within the area outlined in magenta on the charts.

(174) **De Long Islands** are a group of several low, wooded islets 2 to 3 miles north-northwest of Foggy Point. The bottom between them and the mainland is exceedingly foul. Foul ground extends 0.8 mile south-southeast of these islands.

(175) **Kirk Point**, about 4.2 miles north-northwest of Foggy Point, is a low, wooded peninsula. A kelp-marked reef, bare at low water, is about 550 yards west of the point. Heavy tide rips have been experienced during a southwest blow in the vicinity of Kirk Point.

(176) **Foggy Bay** is a wide indentation in the shore between Foggy Point and Kirk Point. It is almost divided into two parts by the De Long Islands and the foul ground that extends inshore from them. The northwest part of the bay is foul and seldom used.

(177) The south part of the bay is used considerably by fishing boats and affords safe anchorage for small craft in its southeast and east ends. Large vessels can obtain temporary shelter from south storms in the southeast part of the bay, but the water is deep and the bottom lumpy. Great caution must be exercised in entering in order to clear the dangers that extend 0.6 mile north from Foggy Point and to give sufficient clearance to the submerged rocks and reefs that extend 0.8 mile southeast from the De Long Islands. As practically all the dangers are covered at high tide, it is recommended that this bay be entered at low tide when the reefs are visible. Water may be obtained from a pipeline at the head of the bight in the southeast corner of the bay.

(178) A small craft mooring is 1.7 miles nearly due south of the entrance to Very Inlet, marked by unconfirmed charted pilings. No irregular bottom or rocks exist along the approach, but the inlet only affords 4 fathoms and shoals rapidly around the pilings to ½ fathom. Use of the inlet without local knowledge is inadvisable.

(179) Potential anchorage for small craft may be had in the southeast head of Foggy Bay to the east of a cluster of small wooded islands, about 1.8 miles south-southeast of the entrance to Very Inlet. Use the northern entrance as the southern opening bares at low tide. The northern entrance is narrow and carries 1½ fathoms at its deepest point, but the inlet offers a protected mooring for small craft with 6 fathoms at its northern end and 2½ fathoms at its southern end. Unconfirmed pilings are charted within the inlet. Use of the inlet without local knowledge is inadvisable.

(180) An unnamed inlet 0.9 mile southeast of the entrance to Very Inlet offers excellent anchorage for small craft behind a large wooded island close to shore. Use the northern entrance as the southern opening bares at low tide. The narrow approach carries 3 fathoms in the center of the channel, but care should be taken as it shoals rapidly on either side. The channel opens into a fair anchorage with room for multiple small craft with a mud bottom at about 5 fathoms.

(181) **Very Inlet**, a narrow arm that extends northeast, has its entrance on the east side of Foggy Bay 2.2 miles north of Foggy Point. About 1.5 miles inside the entrance, a branch extends in a southeast direction. This branch is very narrow for about 1 mile and then expands into a basin that has considerable foul ground and a number of small islets. The ebb current flows over the rapids in the narrowest part of the branch for about 2 hours after low water. The passage has been made by a small vessel drawing 8 feet, but it should only be attempted at high-water slack. In entering, pass east of the ledge just within the opening.

(182) At the head of Very Inlet is a small basin much used by fishing boats. A branch, which can only be entered safely at high-water slack, extends in a southeast direction from the head of Very Inlet. The entrance is very narrow and, in the narrows, bares at low water.

(183) The entrance to Very Inlet is between a reef awash at high water and a low wooded island. It is usually discernible during the ebb by a strong current running out of the inlet. Favor the island shore in entering and keep in midchannel as far as the entrance to the first arm. Then pass midway between a large, wooded, round islet and a small, grass-covered one, west of it. Just before entering the narrows, favor the north shore slightly, then keep in midchannel. Tide rips have been experienced about 0.5 mile southwest from the entrance to Very Inlet.

(184) **House Rock**, a small bare rock, is 0.3 mile 330° from Kirk Point.

(185) **Black Rock Light** (55°01'25"N., 131°03'35"W.), 55 feet above the water, is shown from a cylindrical house, on a pyramidal skeleton tower with a red and white diamond-shaped daymark on the highest part of the rock, which is surrounded by kelp.

(186) **Snail Rock**, grass-topped and 28 feet high, is about 0.6 mile north-northeast of Black Rock.

(187) Between Black and Snail Rocks are numerous rocks, submerged and awash, and the area should be avoided. A kelp patch having a least depth of 1½ fathoms is 0.5 mile 106° from Snail Rock.

(188) **White Reef** is an extensive white, shell-covered reef, mostly covered at high water, about 2 to 3 miles north-northeast of Black Rock in the entrance to Boca de Quadra. A rock, 5 feet high, is near the north end of the reef.

(189) **Kah Shakes Cove**, a bight about 2 miles southeast of the entrance to Boca de Quadra, is a good anchorage for small craft. A submerged rock is 175 yards from the east shore east of the center of the cove. Care must be exercised in entering the bight leading to Kah Shakes Cove, as the bottom is irregular and shoals suddenly to 1

fathom about 210 yards west of the entrance. Numerous islets and rocks are on the southern side of the entrance. Local knowledge is essential for entering and anchoring in the cove. About 12 feet can be carried through the entrance channel between the rocky islets. The cove has excellent holding ground in sticky mud.

(190) **Bullhead (Bull Head) Cove**, about 0.8 mile north of Kah Shakes Cove, affords anchorage with good holding ground in sand and mud. The inner part of the cove is almost all bare. The northern entrance, while fully submerged, is extremely shallow and should not be attempted. The southwestern entrance is fair, being 150 yards across and carrying 10 fathoms. Local knowledge is recommended for use.

(191) Vessels too large to enter either Kah Shakes Cove or Bullhead Cove can find fair protection in the bight between the coves. The outer part of this bight is rough in heavy south weather; vessels should anchor as near the head as their drafts permit. The bottom is sandy.

(192) **Kah Shakes Point** is on the south side of the entrance to Boca de Quadra. Northwest of the point are submerged rocks within 120 yards of the shoreline. Kah Shakes Point is the termination of a low, broad, wooded peninsula that extends northeast for about 1.5 miles, where the ground rises abruptly to the west point of a distinctive ridge running parallel to Boca de Quadra. The ridge has five distinct small peaks when viewed from the south along the coast; from other directions it shows from one to four tops. **South Quadra Mountain** is the highest point on the ridge.

(193) **Ray Anchorage**, a bight in the east side of Duke Island, affords shelter from south winds, but the bottom is hard and the anchorage is open northeast. Anchor about midway between the rocky patch in the entrance to Morse Cove and the point about 0.6 mile east, with the rocks bearing 277° in 10 to 22 fathoms, rocky and hard sandy bottom. Deeper water is nearer the rocks.

(194) **Morse Cove**, entered at the southwest end of Ray Anchorage, is a landlocked harbor with varying depths and mud bottom. The entrance is very narrow and has a rock that bares 10 feet in the narrowest part, on the southeast side of midchannel. The channel on the northwest side of the rock is about 75 feet wide. Small craft with local knowledge can enter, preferably at low water. The entrance channel from Ray Anchorage is on the southeast side of the rocky patch in its entrance. Rocks awash are between the rocky patch and the west shore.

(195) **Reef Harbor** is the indentation between **Duck Islands**, the reefs on the east, and the shore of Duke Island, south of **Grave Point**, the north extremity of the island. It has depths of 24 to 26 fathoms, mud bottom, but the swinging room is scant for the scope of chain required by this depth. Small craft may secure some protection from south weather by anchoring as close as size permits in the lee of **Flag Point**. Very small craft may use the wide part of the passage between the two largest of the Duck Island group, but this anchorage is not secure in south weather.

(196) **Little Rock** and **Whale Rock** are the extremities of a chain of rocks about 1 mile long, 2 miles northeast of Grave Point.

(197) **Cat Island**, **Fripo Island** and **Lane Island**, between Duke Island and Mary Island, are low and densely wooded. The islands are surrounded by ledges that extend from 100 to 200 yards offshore. Small craft sometimes anchor off the middle of the west side of Cat Island, but there is little shelter. **Bird Island**, about 1.5 miles west-northwest of Whale Rock, is about 20 feet high and bare.

(198) **Danger Passage**, between Cat and Mary Islands, is about 350 yards wide between the 3-fathom curves and suitable only for small craft. It is reported that the shoals in the passage are marked by kelp in the summer and fall.

(199) **Mary Island Light** (55°05'57"N., 131°10'57"W.), 76 feet above the water, is shown from a white square tower on a white building on the northeast side of **Mary Island**. The island is comparatively low and densely wooded near the shores.

(200) **Mary Island Anchorage** is a bight in the north end of Mary Island between **Point Winslow** and **Giant Point**. It is a contracted anchorage with fair shelter from southeast and southwest winds, but more room and better protection can be had in Custom House Cove. (See Felice Strait.) Ledges covered with kelp extend about 150 yards north of Point Winslow and Giant Point, and the entire south side of the anchorage is shoal for 150 yards beyond the projection of the shore. The approach is clear. Anchor in 12 to 15 fathoms, hard sandy bottom.

(201) **Twin Islands**, two in number and low and wooded, are 1.8 miles north of Mary Island. The northwest and larger island is marked by a light on its northeast side. Deep water is close-to in all directions, except for a submerged rock that is 250 yards north of the larger island.

(202)

## Pilotage, Southeastern Alaska

(203) Pilotage, except for certain exempted vessels, is compulsory for all vessels navigating the inside waters of the State of Alaska. (See Pilotage, Alaska, indexed as such, chapter 3, for details.)

(204) Vessels requiring a pilot for Alaska inside waters can meet the pilot boat at about 2 miles northeast of Twin Islands Light TI (55°08'35"N., 131°13'02"W.); this is a seasonal pilot station (pickup point), open only during the period of May 1 through September 30.

(205) **Boca de Quadra** has its entrance on the east side of Revillagigedo Channel between Kah Shakes Point and **Quadra Point**, about 6 miles east of Mary Island Light. It extends northeast to the flat that extends 0.8 mile from its head. The sides are steep-to and densely wooded, and there are no outlying dangers.

(206)

## Tides and currents

(207) Tidal currents have an estimated maximum velocity of about 1.5 knots at the entrance to Boca de Quadra, diminishing toward the head. See the Tidal

Current prediction service at *tidesandcurrents.noaa.gov* for specific information about times, directions, and velocities of the current at numerous locations throughout the area. Links to a user guide for this service can be found in chapter 1 of this book.

(208) The preferred entrance is between Slate Islands and White Reef, following midchannel courses, passing on either side of Kite Island, but preferably north of it.

(209) **Orca Point** is on the east side of the inlet about 6 miles from the entrance.

(210) **Weasel Cove** indents the north shore about 7 miles from Kah Shakes Point and affords anchorage in 17 to 19 fathoms, mud bottom, about 0.5 mile above the east point at the entrance. The entrance and anchorage are clear, but vessels must keep clear of the flat that extends 700 yards from its head.

(211) **Badger Bay**, separated from Weasel Cove by a promontory, has 14 to 30 fathoms throughout its length, and there is a small flat at its head.

(212) **Kestrel Island**, a small rocky islet close to the east shore, is about 1.5 miles southeast of Orca Point. **Kite Island**, low and wooded, is in the middle of the inlet about 2.5 miles southeast of Orca Point.

(213) **Vixen Bay**, entered southwest of Kite Island, affords anchorage at the head about 2 miles above the entrance. In entering, the main channel is west of **Gannet Island**. **Raven Island** is close to the east shore, 1.3 miles from Gannet Island. Rocks, visible and submerged at various stages of the tide, are south of and near Raven Island.

(214) The anchorage is between the rocks off Raven Island and Gosling Island, which is at the head of the bay. A ledge extends 175 yards northwest from the north end of Gosling Island. Local knowledge is essential in anchoring near the head of the bay.

(215) Anchorage for deep-draft vessels can be found about 0.3 mile south to southwest of Kite Island in 20 to 30 fathoms, hard bottom.

(216)

## Mink Bay to Bactrain Point

(217) **Mink Bay** (55°05.5'N., 130°43.4'W.) enters the south side of Boca de Quadra about 2 miles east of Kite Island and has depths of 16 to 60 fathoms to near its head. **Cygnet Island**, low and wooded, is on the west side of the entrance. The narrow passage on the west side of the island is frequently used by small craft. A submerged rock is near midpassage about 100 yards south of the island. **Grouse Rock**, which bares, is about 0.2 mile south from Cygnet Island; deeper water surrounds the rock. A mooring buoy is about 200 yards south of Cygnet Island. Anchorage may be found between Grouse Rock and Cygnet Island in 5¾ to 7 fathoms, off the old cannery site. It is reported that the ruins of the old cannery dock are no longer visible at the south end of the anchorage.

(218) **Humpback Creek** enters from east about 0.8 mile from the head of Mink Bay and carries a flat halfway across the channel. A privately maintained mooring buoy is close north of the flat on the east side of the bay. Above the flat is a secure anchorage, 0.3 mile wide, in 10 to 15 fathoms. A flat extends 700 yards from the head of the bay. Local knowledge is necessary to use this anchorage.

(219) **Hugh Smith Lake** empties through **Sockeye Creek** into the inlet about 0.3 mile north of the entrance to Mink Bay. A cabin is on the north bank at the head of Sockeye Creek. A trail leads from the inlet along Sockeye Creek to Hugh Smith Lake.

(220) **Marten Arm**, entered about 1.5 miles north of the entrance to Mink Bay, has depths of 23 to 107 fathoms until near the flat that extends 0.7 mile from the head. The arm is clear but has no anchorage. Above **Bactrian Point**, the main northeast arm of Boca de Quadra is too deep for anchorage.

(221)

## Slate Islands

(222) **Slate Islands**, on the northwest side of the entrance to Boca de Quadra, are a group of four low, wooded islands with numerous intervening rocks. The three north islands are almost connected at low water. **Slate Islands Light** (55°05'17"N., 131°03'10"W.), 33 feet above the water, is shown from a spindle with a red and white diamond-shaped daymark on the south end of the southernmost island of the group.

(223) The coast from Slate Islands extends north for about 6 miles to Point Sykes. The shore is fringed by a number of islets and rocks. A cove, about 1.2 miles south of Point Sykes, offers some protection to small craft in moderate weather but is not sufficiently sheltered for use in heavy weather. The best anchorage is in the lee of the point on the south side of the cove in 8 to 10 fathoms, rock and sand bottom.

(224)

## The Sisters to Pulizzi Island

(225) **Lucky Cove** (55°12.7'N., 131°15.9'W.) is a small indentation in the southwest shore of Revillagigedo Island midway between Point Alava and Cone Island.

(226) **Hog Rocks**, the easternmost of a chain of islands, rocks and reefs that extend southeast about 4 miles from the shore of Annette Island, are two principal groups of rocks about 1 mile apart, showing about 6 feet at high water. **Hog Rocks Light** (55°10'41"N., 131°16'59"W.), 23 feet above the water, is shown from a truncated concrete pyramid with a red and white diamond-shaped daymark on the southeast rock of the group. A ledge with 7½ feet near its end extends 0.3 mile southeast from the light. Good water is between the two groups of rocks and between the inner group and **Walker Island**. By avoiding the rocks shown on the chart, small craft can pass between Walker Island and **Lewis Island** or between Lewis Island and Ham Island.

(227) **Ham Island**, 2 miles west of Hog Rocks Light, is low and densely wooded. A deep channel is along the

entire northeast side of the island at an average distance from shore of 225 yards.

(228) **Cascade Inlet** is a deep and narrow body of water between Ham and Annette Islands. A narrow, crooked boat passage connects the inlet at its head with Revillagigedo Channel; small craft can find fair anchorage in midchannel in the broadest part of this passage close to the west end of Ham Island.

(229) **Hassler Harbor**, a bight on the north side of Annette Island, south of Bold Island, affords excellent shelter with good holding ground for small craft in southeast gales. A small grass-topped rock, 10 feet high, is 0.2 mile west of **Pow Island**, which is in the bight.

(230) **Bold Island**, about 5.5 miles northwest of Hog Rocks Light, is in midchannel off the northeast shore of Annette Island, between **Reef Point** and **Harbor Point**. It is wooded and has several knolls somewhat above the general level of the island. The south shore of Bold Island is steep-to and has no off-lying rocks. Shelter for small craft may be found in the cove on the northeast side of the island. Small boats sometimes moor to the dolphin near the head of this cove.

(231) **Angle Point Light** (55°14'19"N., 131°25'37"W.), 24 feet above the water, is shown from a skeleton tower with a red and white diamond-shaped daymark on the southwest side of Bold Island.

(232) The passage north of Bold Island is seldom used by large vessels. **Mastic Rock**, marked by a daybeacon, bares 2 feet and is near the east end of this passage.

(233) The passage north of Round Island is much used by local fishermen. Numerous shoals are in this area, and passage should not be attempted without local knowledge.

(234) **Round Island**, about 150 feet high and wooded, is about 0.5 mile northeast of the east end of Bold Island, with two wooded islets between.

(235) **Thorne Arm** has its entrance east of Bold Island and west of Cone Island. Its general direction is north-northeast, curving gradually to north. The arm is free from outlying dangers. **Cone Island**, dome-shaped and wooded, is off **Cone Point**. **Washington Monument Rock**, 0.5 mile southwest of Cone Island, is covered 2 fathoms and surrounded by much deeper water. A number of small wooded islands are off the west shore of Thorne Arm near the head. At the head of Thorne Arm in the cove east of **Mop Point** is a somewhat constricted anchorage in 18 to 20 fathoms, hard bottom. Anchorage can also be selected in the bight on the west side at the head between **Snipe Island** and Mop Point in 25 to 30 fathoms, soft bottom. Small craft may find shelter in the small cove northwest of Snipe Island, between it and the adjoining small island. A midchannel course leads safely through the arm and to the anchorages. Private mooring buoys are 2.2 and 2.5 miles northeast of Snipe Island.

(236) **Moth Bay** is a narrow indentation on the west side of Thorne Arm just inside the entrance. In the middle of the entrance to the bay is a small wooded islet, and about 325 yards northwest from its northernmost extremity is a smaller islet with a rock about 50 yards to the south-southwest. The preferred channel leads east of the islets. Vessels up to 100 feet long can anchor in 20 to 24 fathoms, rocky bottom, about 0.4 mile above the smaller islet. Swinging room is limited, and in southeast weather vessels subject to yawing will find this anchorage uncomfortable. Small craft can find anchorage near the head of the bay in 12 fathoms, soft bottom.

(237) **Coho Cove**, about 1.2 miles west of Moth Bay and opposite the east end of Bold Island, affords fair anchorage for small craft, although the depths are great. The best channel for entering is on the east side of the islet in the entrance.

(238) **Spire Island** is small, wooded, and about 150 feet high; there is a small islet to the east close-to. **Spire Island Reef Light SI** (55°16'05"N., 131°29'59"W.), 30 feet above the water, is shown from a square, truncated concrete pyramid with a green square daymark near the northeast end of the reef that extends about 500 yards northeast of Spire Island. The reef is covered 0.1 fathom at its north end. A 1.7-fathom rock is 0.3 mile west-northwest of the light. Foul ground, with a dangerous rock awash at its end, extends west about 500 yards from the west end of the island.

(239) **Carroll Inlet** has its entrance about 1.5 miles north of Spire Island Reef Light between **Mountain Point** and **Carroll Point**. The inlet extends north about 23 miles. **California Head** separates it from George Inlet.

(240) **Mountain Point Light** (55°17'37"N., 131°32'55"W.), 29 feet above the water, is shown from a skeleton tower with a red and white diamond-shaped daymark on the southwest tangent of Mountain Point.

(241) **Mountain Point** is an unincorporated settlement on the point. A launching ramp is on the point about 500 yards east of the light. **Herring Cove** is an unincorporated settlement on the shores of **Herring Bay**, which indents the west shore of George Inlet about 2 miles north of Mountain Point. In the small cove 0.5 mile south of Herring Bay, locally known as **Hole-in-the-Wall**, the city of Ketchikan maintains 493 feet of small-craft floats for vessels up to 40 feet. In 2002, 5 to 10 feet was reported alongside the floats. Marine supplies are not available in the cove; however, gasoline, diesel fuel, provisions and repairs can be obtained in Ketchikan.

(242) The cove does not afford adequate protection during severe weather, and boats should exercise caution when mooring overnight or for extended periods.

(243) **Cutter Rocks**, two in number, close together and uncovering 11 feet, are on the west side of the entrance to Carroll Inlet about 0.6 mile east-southeast from Mountain Point; they are marked by a light. A clear passage is between Cutter Rocks and Mountain Point.

(244) **California Cove**, on the west side of Carroll Inlet and immediately east of California Head, is a small open bight exposed to the south. The cove is deep except along the west shore. Two small wooded islets and a rock awash are close to the west shore.

(245) **Gnat Cove** is on the east side of Carroll Inlet about 6.5 miles above California Head and abreast **Hume**

**Island**. A fair anchorage can be had off the entrance to the cove in 17 to 18 fathoms, soft bottom. Foul ground extends 250 yards from the outer of two points at the south side of the entrance to the cove. Small craft can find good moorage inside the cove by rafting up to the anchored log booms of a log storage area on the northeast side of Gnat Cove. Care should be taken, however, to avoid the mudflats that extend from the south shore and the rock ledges that extend into the southwest bight of the cove.

(246) In the main inlet between Gnat Cove and **Island Point**, a distance of 4 miles, there are depths of about 11 to 67 fathoms, and anchorage in suitable depth can be selected with the aid of a chart. At its head the inlet narrows to 0.2 mile, with depths of 27 to 34 fathoms, shoaling abruptly to the flat that extends about 0.7 mile from the head.

(247) A midchannel course carries safely to the flat at the head of the inlet and also into Gnat Cove. The only places requiring more than usual caution are the shoal opposite Spit Point about 1.2 miles below Gnat Cove and the area about 2.5 miles above Gnat Cove, abreast of **Shoal Cove**, where there is a wooded islet 95 feet high in the middle of the inlet, with a spur that extends 300 yards from its northeast side and a flat that extends 0.2 mile toward the islet from the mouth of a stream on the east side, east of the islet. The south and west sides of the islet have a clear channel.

(248) In 1976, a logging camp was operating in the small cove 1.7 miles north of Shoal Cove; rafting grounds extend from the south side of the cove. The logging camp maintains a float landing in the cove for small craft, tugs and float planes. Water and gasoline are available in an emergency. Radiotelephone communications are available at the camp. A 40-foot Coast Guard pier is at the south end of the camp.

(249) **George Inlet**, joining Carroll Inlet from west at California Head, extends north about 12 miles and has deep water throughout. A former cannery and wharf are on the west side of George Inlet, about 3.5 miles above California Head. The stub pilings of a former wharf remain close north of the present wharf; caution is advised in this area.

(250) **Mahoney Bight**, on the west shore of the inlet, 6 miles north of California Head, is good shelter for small craft except during southeast weather. Its entrance is clear of dangers, with 10 fathoms leading into the inner bight, which has depths from 4 to 11 fathoms, hard bottom.

(251) Midchannel courses lead safely through George Inlet passing west of Coon Island and Bull Island, two wooded islands off the east shore of the inlet about 8.2 and 9.7 miles, respectively, above California Head. **Coon Island** is identified by a large white quartz outcrop showing on its south shoreline.

(252) **Coon Cove**, in the east shore of the inlet opposite the south end of Coon Island, offers good anchorage in 13 fathoms, mud bottom, south of the small tree-covered islet off the north shore and is the best shelter in the inlet in southeast weather. It is entered on a midchannel course south of Coon Island.

(253) The upper part of Coon Cove is a tidal flat. The south extremity of the flat is marked by prominent pilings. Small craft may find more convenient anchorage in 7 to 9 fathoms, soft bottom, just south of the pilings.

(254) **Leask Cove**, on the west shore near the head of the inlet, affords fair anchorage in depths of 10 to 15 fathoms, sand and gravel bottom, off the north shore of the cove. A prominent offshore rock, bare at all stages of the tide, is on the east side of the entrance. A shoal with a least depth of 2 fathoms is 400 yards northeast of the west side of the entrance.

(255) **Bat Cove**, just east of Leask Cove, affords excellent shelter for small craft, with anchorage at the head in 10 to 11 fathoms, mud bottom. The prominent offshore rock mentioned in the Leask Cove reference marks the west side of the entrance to Bat Cove. Hold close to the rock when entering the cove to avoid a rock ledge, bare at low water, that extends 200 yards southwest across the entrance from **Bat Point** on the east side.

(256) **Tsa Cove**, on the east shore of the inlet northeast of Bull Island, is difficult to enter but affords good shelter and anchorage in 10 to 14 fathoms, mud bottom. Small boats with local knowledge enter between Bull Island on the southwest and Granite Island on the northeast, holding close to the Granite Island shoreline to avoid shoals that extend from the numerous rock islets off the northeast end of Bull Island.

(257) Small boats with local knowledge pass into **Salt Lagoon** at the head of the inlet, but only at or near high water slack. The entrance is very narrow, with dangerous rapids at most stages of the tide.

(258) **Tongass Narrows**, a continuation of Revillagigedo Channel, extends northwest to Guard Islands in Clarence Strait. The principal dangers are marked by buoys or lights, so that no difficulty should be experienced in passing through in clear weather.

(259) The narrows is divided at its lower end by Pennock Island; the channel northeast of the island is called **East Channel** locally, and the channel southwest of the island, **West Channel**. Both channels are good for vessels of any draft. A lighted buoy marks the edge of a shoal making out from the southwest side of West Channel. An isolated 9.3-fathom pinnacle rock in 55°17'45"N., 131°35'55"W., is about 0.5 mile south-southeast from the southernmost extremity of Pennock Island.

(260) (See **33 CFR 162.240**, chapter 2, for regulations governing navigation in Tongass Narrows.)

(261)

## Ketchikan

(262) **Potter Rock**, about 0.7 mile east-southeast of the east end of Pennock Island, is small, has 2.9 fathoms over it, and is marked by a lighted bell buoy on its south side. A 7.2-fathom shoal is about 0.2 mile south-southeast from the rock.

(274)




(263) **Pennock Island**, which divides Tongass Narrows at its lower end, is generally wooded. Several rock patches are 250 to 400 yards from shore around the southeast end of the island. Other than the dangers previously mentioned, the south shore of the island is steep-to, and the channel is clear if the island side is favored in the narrowest part of the channel. A lighted buoy is about 400 yards south of the southernmost extremity of the island.

(264) **Tongass Narrows West Channel Light 4** (55°19'08"N., 131°38'35"W.), 18 feet above the water, is shown from a skeleton tower with a red triangular daymark on the west side of Pennock Island.

(265) **Radenbough Cove**, on the northeast side of and about 0.5 mile south of the north end of Pennock Island, is south and directly across the channel from Thomas Basin. Grids for vessels up to 30 feet long are available in the cove.

(266) **Whisky Cove**, on the east side of Pennock Island about 0.45 mile south of Radenbough Cove, is southwest and directly across the channel from the Coast Guard Base.

(267) **Pennock Reef**, 0.25 mile west of the north extremity of Pennock Island, is small and bares at low water; a lighted buoy marks the northwest end of the reef. A shoal covered 2.2 fathoms is about 300 yards southeast of the reef.

(268) Foul ground extends about 200 yards north and about 400 yards northwest, respectively, of the north and northwest extremities of Pennock Island.

(269) **California Rock** is about in midchannel in the passage northeast of Pennock Island and 0.5 mile northwest from its southeast end. The rock is small in extent, has 1½ fathoms over it, and is marked by a lighted buoy. A channel is on either side of the rock, but large vessels usually pass on the north side between it and Idaho Rock.

(270) **Idaho Rock**, covered 2.2 fathoms and marked by a lighted buoy, is 250 yards north-northeast of California Rock near the north side of the passage.

(271) **Saxman** is a small settlement in the bight indenting the southwest shore of Revillagigedo Island north of Idaho Rock and about 2 miles southeast of Ketchikan. The center of the settlement has a prominent group of totem poles.

(272) A privately dredged basin protected on the south side by a breakwater is about 0.3 mile southeast of Saxman; a row of breasting dolphins is on the north side of the basin. A private light marks the west end of the breakwater. In 2002, the basin had a reported depth of 10 feet. The basin is the site of a privately operated barge and rail terminal. A loading ramp with an adjustable bridge at the head of the basin is used for handling containers to and from barges. The terminal has three acres of open storage

and is accessible from Ketchikan by highway. A float is available for small craft.

(273) **Ketchikan** (55°20.5'N., 131°38.7'W.), on the southwest side of Revillagigedo Island and on the east side of Tongass Narrows, is one of the most important cities in Alaska. It is 659 miles from Seattle via the Inside Passage, 79 miles from the sea at Dixon Entrance via Nichols Passage, 89 miles from Wrangell and 220 miles from Juneau.

(275) Ketchikan has oil terminals, a cannery and cold storage plants and is the distributing point and center of the commercial, logging and fishing industries of this part of southeastern Alaska. There are also three cruise ship piers in Ketchikan.

(276) The deepest draft of commercial vessels calling at Ketchikan was 35 feet in 2003. Commodities handled at the port include petroleum and petroleum products, fish and fish products, logs and lumber products, wood pulp, chemicals, provisions and general cargo.

(277)

### Prominent features

(278) The buildings of **Ketchikan Coast Guard Base** at the south end of the waterfront, the 410-foot tower, northwest of Bar Point; the aerobeacon and gray-green gravel slopes of the airport, west-northwest of Bar Point; and a high yellow hotel and green condominium, close north and northeast of Bar Point, respectively, are prominent.

(279)

### Channels

(280) A federal project provides for two small-craft basins at Ketchikan: Thomas Basin at Ketchikan Creek, with a project depth of 10 feet; and Bar Point Basin off Bar Point, with a project depth of 15 feet in the northwest section and 10 feet in the southeast section.

(281) **Thomas Basin**, the small-craft harbor off Ketchikan Creek, is protected on its west side by a log boom and on the south side by a stone breakwater. The harbor is entered from the south through a 75-foot opening between the west log boom and the breakwater on the south; a light marks the entrance. In 2007, the basin had a controlling depth of 10 feet except for shoaling in the north part of the basin, near the grids and along the edges. The city-operated floats in the basin have water and metered electricity; 80-foot and 65-foot grids are available. Fuel can be obtained at the facilities just north of the Coast Guard base. The U.S. Fish and Wildlife Service maintains a float for its own use on the north side of the basin behind the federal Building.

(282) The basin is controlled by a **harbormaster**, who maintains an office at Bar Point Basin. Local regulations limit the maximum size of vessels using the basin to 80 feet in length and 9 feet in draft. A 3-knot and "no wake"**speed limit** is enforced in the basin.

(283) **Bar Point Basin**, locally called **Bar Harbor**, is a small-craft harbor off Bar Point about 1.35 miles northwest of Thomas Basin. The harbor is protected on its west side by a detached floating breakwater, on its south side by a detached floating breakwater and a detached stone breakwater and on its southeast side by another stone breakwater. The harbor has three entrances, which are marked by lights and daybeacons. The southeast entrance is between the stone breakwater and the detached stone breakwater. The southwest entrance is between the two detached floating breakwaters, and the northwest entrance is north of the northernmost detached floating breakwater. In 2007, the basin had a controlling depth of 10.0 feet with lesser depths along the edges. The city-operated floats in the basin have water and metered electricity. Fuel can be obtained at the oil facilities just north of the Coast Guard base. A surfaced launching ramp and float are at the north end of the basin.

(284) The basin is under the control of a **harbormaster**, who maintains an office at the northeast corner of the basin. Local regulations limit the maximum size of vessels using the basin to a length of 80 feet. A 3-knot and "no wake"**speed limit** is enforced in the basin.

(285) **Anchorage** off Ketchikan is limited by the cable and pipeline areas that extend northwest through Tongass Narrows. Scan the chart carefully for limits of cable and pipeline areas before attempting to anchor. The anchorage is secure for all but the heaviest winter gales; the confined channel admits no sea, and the tidal currents do not exceed 1.5 to 2 knots.

(286) (See **33 CFR 162.240**, chapter 2, for regulations governing navigation in Tongass Narrows.)

(287) The harbor area along the Ketchikan waterfront between Thomas Basin and Bar Point is an anchorage area for large passenger vessels. (See **33 CFR 110.231**, chapter 2, for limits and regulations.)

(288)

### Tides and currents

(289) At Ketchikan, there is usually a direct current or eddy setting west along the face of the wharves. See the Tidal Current prediction service at *tidesandcurrents.noaa.gov* for specific information about times, directions, and velocities of the current at numerous locations throughout the area, including at Ketchikan. Links to a user guide for this service can be found in chapter 1 of this book. For this reason all large vessels make a port landing, those from the south frequently using West Channel, which is marked by a light and buoys, and making the necessary turn around the west end of Pennock Island.

(290)

### Weather

(291) This port has about 244 cloudy days a year, and rain falls on the average of about 236 days annually. October is the wettest month; it holds the 24-hour rainfall record of more than 7 inches. The marine nature of the climate is evident by the fact that the minimum temperature falls below freezing on about 76 days a year. Moscow, at approximately the same latitude, records minimum temperatures below freezing on about 170 days annually. Winds are prevalent from the southeast, and gales are

infrequent in this sheltered port. Calm conditions are frequent.

(292)

### Pilotage, Ketchikan

(293) Pilotage, except for certain exempted vessels, is compulsory for all vessels navigating the inside waters of the State of Alaska. (See Pilotage, Alaska, indexed as such, chapter 3, for details.)

(294) Vessels en route to Ketchikan via Clarence Strait, from the south, meet the pilot boat about 1 mile northwest of **Guard Islands Light** (55°26'45"N., 131°52'52"W.); Clarence Strait from the north, about 1 mile east of **Point McCartey Light** (55°06'49"N., 131°42'26"W.).

(295) The pilot boat, a tugboat, can be contacted by calling "KETCHIKAN PILOT BOAT" on VHF-FM channels 16, 13 or 12.

(296)

### Towage

(297) Tugs up to 1,800 hp operating out of Ketchikan and engaged principally in the towing of barges and log rafts are available for assistance in docking and undocking. They are equipped with VHF-FM channels 16, 13 and 12. Arrangements for tugs should be made well in advance through ships' agents.

(298)

### Quarantine, customs, immigration and agricultural quarantine

(299) (See chapter 3, Vessel Arrival Inspections, and Appendix A for addresses.)

(300) **Quarantine** is enforced in accordance with regulations of the U.S. Public Health Service. (See Public Health Service, chapter 1.) Contract hospital space is available in a private hospital in an emergency.

(301) Ketchikan is a **customs port of entry**.

(302)

### Coast Guard

(303) Captain of the port and marine inspection functions at Ketchikan are handled by the Coast Guard Marine Safety Detachment.

(304)

### Harbor Regulations

(305) Harbor regulations are enforced by the **harbormaster**, who maintains an office at Bar Point Basin. A copy of the regulations pertaining to speed and other matters may be obtained from the harbormasters office. The harbormaster can be contacted on VHF-FM channels 16 and 73 or by telephone 907-228-5632.

(306)

### Wharves

(307) The Port of Ketchikan has about 3 miles of developed waterfront on the east side of Tongass Narrows. All the wharves are privately owned. The alongside depths for the facilities described are reported; for information on the latest depths contact the operator.

(308) **Petro Marine Services, Ketchikan Wharf** (55°20'02"N., 131°37'43"W.): 75 yards northwest of Ketchikan Coast Guard Base; 283-foot face; depth alongside, 40 feet reported in 2002; deck height, 22 feet; marked at each end by a private light; receipt of petroleum products; pipelines to storage tanks; 7 metered hoses for fueling small craft; owned and operated by Harbor Enterprises, d.b.a. Petro Marine Services.

(309) **Petro Marine Services** fuel float: adjacent to the southeast of main wharf; 160-foot face; depth alongside, 40 feet reported in 2002; 20 metered hoses for fueling purposes; owned and operated by Harbor Enterprises, d.b.a Petro Marine Services.

(310) **Alaska General Seafoods, Ketchikan Wharf** (55°20'10"N., 131°37'59"W.): 650 yards northwest of Coast Guard Base; 260-foot face, southeast side 120 feet long, northwest side 60 feet long; depth alongside, 45 feet reported in 2002; deck height, 23 feet; total berthing space, 440 feet; receipt of seafood, and icing fishing vessels; owned and operated by Alaska General Seafoods.

(311) **Anderes Oil Co., Ketchikan Wharf** (55°20'12"N., 131°38'02"W.): 700 yards nortthwest of Coast Guard Base; 50-foot face with 110-foot barge moored along face; depth alongside, 30 feet reported in 2002; deck height, 22 feet; pipelines to storage tanks; 17 metered hoses on barge for fueling small craft; owned and operated by Anderes Oil Co., Inc.

(312) **Trident Seafoods Ketchikan Wharf** (55°20'16"N., 131°38'12"W.): 200 yards southeast of Thomas Basin; 170-foot face; depth alongside, 30 feet reported in 2002; deck height, 22 feet; receipt of seafood, icing fishing vessels; owned and operated by Trident Seafoods Corp.

(313) **Coastal Fisheries, Ketchikan Wharf** (55°20'18"N., 131°38'17"W.): 60-foot face; depth alongside, 35 feet reported in 2002; deck height, 22 feet; receipt of seafood; owned by Goodale Properties and operated by Coastal fisheries.

(314) **City of Ketchikan, Berths 1C and 1D Wharf and Daly Float** (55°20'21"N., 131°38'39"W.): 860 feet total berthing space; depth alongside, 20 feet reported in 2002; deck height, 22 feet; mooring cruise ships, excursion vessels and commercial vessels; owned by City of Ketchikan and operated by Ketchikan and operated by the Port of Ketchikan.

(315) **City of Ketchikan, Berths 1A and 1B Wharf** (55°20'25"N., 131°38'46"W.): 1,455-foot face; depths alongside, 30 to 40 feet reported in 2002; deck height, 22 feet; mooring cruise ships, occasional receipt and shipment of general cargo; owned by City of Ketchikan and operated by the Port of Ketchikan.

(316) **City of Ketchikan, Berth 2 Wharf**: foot of Grant Street extended; 575-foot face; depths alongside, 40 feet reported in 2002; deck height, 24 feet; mooring cruise ships; owned by City of Ketchikan and operated by the Port of Ketchikan.

(317) **Waterfront Storage Co., Ketchikan Wharf** (55°20'40"N., 131°39'24"W.): 0.5 mile northwest of Thomas Basin; 260-foot face; depths alongside, 30 to 35 feet reported in 2002; deck height, 24 feet; handling

supplies for fishing vessels; owned and operated by Waterfront Storage Co.

(318) **Talbot's Building Supply Wharf** (55°20'41"N., 131°39'28"W.): 0.7 mile northwest of Thomas Basin; 356-foot face; depth alongside, 35 feet reported in 2002; deck height, 24 feet; shipment of building supplies and lumber; owned and operated by Talbot's Inc.

(319) **Silver Lining Seafoods, Ketchikan Wharf** (55°20'50"N., 131°39'53"W.): 226-foot face; depths alongside, 35 to 40 feet reported in 2002; deck height, 24 feet; receipt of seafood, icing fishing vessels; owned and operated by Silver Lining Seafoods.

(320) **E.C. Phillips & Son, Ketchikan Wharf** (55°20'50"N., 131°40'02"W.): 500 yards east of Bar Point; 232-foot face; 272 feet east and west side; depths alongside, 30 to 40 feet reported in 2002; deck height, 24 feet; receipt of seafood; west side also used to ice fishing vessels; owned and operated by E.C. Philips and Son, Inc.

(321) **State of Alaska, Ketchikan Ferry Terminal, Berth 1** (55°21'14"N., 131°41'42"W.): 275 yards southeast of Sunny Point; 150-foot face; depth alongside, 35 feet reported alongside in 2002; passengers and vehicles; owned and operated by the State of Alaska.

(322) **Petro Alaska, Ketchikan Marine Fuel Wharf and Float** (55°21'31"N., 131°42'02"W.): 160 yards northwest of Charcoal Point; 140-foot face; depths alongside, 15 to 20 feet reported in 2002; receipt of petroleum products and fueling vessels; owned and operated by Petro Alaska, Inc.

(323)

### Supplies

(324) Provisions and marine and fishing supplies are available in Ketchikan. The three oil company terminals near the southeast end of the waterfront have fueling floats for small craft in addition to wharf space for fueling larger vessels. Gasoline, diesel fuel, diesel oil, distillates and lubricating oil and greases can be obtained at these terminals. Only diesel oil is available in Ketchikan for large vessels. Most of the wharves can provide water; ice for fishing vessels can be obtained at the cold storage company wharves.

(325)

### Repairs

(326) The Ketchikan Shipyard Facility is located in the Tongass Narrows adjacent to and northwest of the Ketchikan Ferry Terminal. The facility has a floating drydock, over 1,000 feet of deep water moorage, a fabrication shop, pierside utilities and ship support services. The floating drydock has a clear breadth between fenders of 107 feet, a depth over blocks of 19 feet, fully immersed, and a capacity of 9,600 tons. The facility is the largest shipyard in Alaska and serves primarily larger vessels. Several machine shops and repair firms along the waterfront can provide hull, engine, electrical and electronic repairs. The largest shaft that can be produced by local machine shops is 30 inches by 16 feet. Divers for underwater repairs and salvage work are available in Ketchikan. Engine spare parts are stocked by several of the local repair firms. Spare parts not available locally can be ordered by air freight.

(327)

### Small-craft facilities

(328) The city of Ketchikan maintains several small-craft facilities in addition to Thomas Basin and Bar Point Basin, which were previously described in this chapter.

(329) **Ryus Float**: 525 yards northwest of the entrance to Thomas Basin and immediately north of Ketchikan City Dock No. 1; 136 feet of berthing space; 25 to 30 feet reported alongside in 2002; limited to craft up to 80 feet long; 4-hour limit alongside for loading and unloading, and no vessels are permitted to tie-up when a cruise vessel is docked at Berth 2 Wharf.

(330) **Hansen Float**: 290-foot concrete float on west end of Berth 2 Wharf, limited to craft up to 100 feet with a reported depth alongside of 35 feet in 2002.

(331) **City Floats**: 875 yards northwest of the entrance to Thomas Basin; 1,151 feet of berthing space with depths of 20 to 80 feet reported alongside in 2002; limited to craft up to 90 feet long or as otherwise posted; water and metered electricity available.

(332) Small-craft grids are available in Thomas Basin and Bar Harbor; city-operated boat launching ramps are at the north end of Bar Point Basin, 12.7 miles north of the town at Knudson Cove, 5 miles southeast of the town at Mountain Point and 6.9 miles east of the town at Hole-in-the Wall.

(333)

### Communications

(334) Ketchikan has regular passenger, express and freight service to Puget Sound ports, British Columbia and other Alaska ports and towns by water and air. The Alaska State Ferry System has daily ferry service during the summer to Prince Rupert, BC, Sitka, Wrangell, Petersburg, Juneau, Haines and Skagway and weekly service to Seattle. This schedule is less frequent during the winter. The Inter-Island Ferry Authority offers daily round trips to Hollis year round. For more information, visit *interislandferry.com*. In addition to the scheduled airlines, other air services operate from Ketchikan on a charter basis.

(335) A highway parallels the Revillagigedo shore of Tongass Narrows. It extends from Herring Bay to Settler's Cove, about 3.3 miles northeast of Knudson Cove, in Clover Passage.

(336) Telephone and radiotelephone communications are available with the other States and parts of Alaska.

(337) **East Clump** is a wooded point on the south shore of Tongass Narrows opposite Bar Point. **East Clump Light 7** (55°20'41"N., 131°41'20"W.), 15 feet above the water, is shown from a square frame structure with a square green daymark on the east extremity of the islet.

(338) Ketchikan International Airport is on the south side of the narrows opposite Charcoal Point. A hexagon-shaped seaplane float is moored about 140 yards north of the terminal building.

(339)

## Lewis Reef to Point Higgins

(340) From East Clump northwest for a distance of 2.5 miles to Lewis Reef, shoals extend 50 to 200 yards from the south shore of Tongass Narrows, but the channel is well marked by buoys.

(341) **Lewis Reef** extends from the south shore at **Lewis Point** about one-third the distance across Tongass Narrows and is bare at half tide. **Lewis Reef Light 11**(55°22'28"N., 131°44'19"W.), 15 feet above the water, is shown from a concrete pyramid with a square green daymark on the southeast edge of the reef.

(342) **Peninsula Point**, about 0.4 mile north of Lewis Reef Light 11, is the outer end of a neck of land built out from the north shore. The point is hard-topped and serves as a seaplane launching ramp. A reef, marked at the north end by a buoy, extends about 200 yards north-northwest from the point; a ½-fathom depth is about 350 yards southeast of the point.

(343)

### Measured nautical mile

(344) **A 135°–315° measured nautical mile**, about 0.8 mile northwest of Lewis Reef Light 11, is along the Gravina Island shore opposite Ward Cove.

(345) **Ward Cove**, entered about 0.7 mile north of Peninsula Point, is on the north side of Tongass Narrows about 5 miles northwest of Ketchikan. The cove is about 0.3 mile wide at the entrance, wider inside, and has steep shores. A long log boom extends from the northeast end of an inoperative pulpmill to the ledge. **East Island** is a wooded islet off the northwest side of the entrance. A midchannel course leads safely into the cove, and there are no known dangers other than those mentioned.

(346) Anchorage may be had 0.1 mile east of East Island in 20 to 30 fathoms. The bottom of Ward Cove is strewn with logs throughout, with the highest concentration near the head. Within these areas of dense log concentration, there are numerous potentially dangerous snags. Mariners are advised against anchoring in these areas and to use caution anchoring in all other areas of the cove. Small craft often tie up to the anchored log booms in the cove.

(347) A cannery is on the southeast shore 0.7 mile from the head of the cove. The wharf has a 540-foot face with a depth of 40 feet alongside in 2002; deck height is 25 feet. Water and electricity for fishing vessels may be obtained. The cannery is owned and operated by Ward Cove Packing Co. Fuel and marine supplies are available in Ketchikan.

(348) A cruise ship dock (55°24'11"N., 131°43'46"W.) is on north shore of the cove. A pontoon style floating dock has a 500-foot berthing face with a depth of 90 feet alongside reported in 2022; deck height, 8 feet. The dock is owned and operated by Ward Cove Dock Group, LLC.

(349) To avoid disturbing a protective sand cover placed over the bottom of North Ward Cove, deep draft vessels should limit the thrust of their propulsion in waters less than 50 feet in depth; vessels should provide a safe distance from cruise ships maneuvering to and from the cruise ship dock.

(350) Ward Cove a small fishing village with seasonal logging operations, on the highway near the northwest corner of the cove.

(351) West of Ward Cove and near the north side of Tongass Narrows is a group of small islands, partially wooded, and rocks awash that are mostly surrounded by ledges. These small islands protect Refuge Cove from any swells that might be running in Tongass Narrows. The south side of the cove is clear. **Refuge Cove**, an unincorporated settlement, is at the head of the cove. A marina in the cove has floats with a total berthing capacity of 3,500 feet in length, and a reported depth of 15 to 60 feet alongside in 2002. The entrance to the cove is marked by a light and daybeacons. Water, electricity, gasoline, some marine supplies, storage and a launching ramp are available. A 50-ton mobile, vertical boat lift is available. One 300-ton marine railway and one 5-ton marine-aircraft railway are located at the inner end of Refuge Cove. Some hull and engine repairs can be made. Several private small-craft floats are at the head of the cove; depths of 10 feet are reported alongside. Water is available on the floats.

(352) **Channel Island**, about midchannel in Tongass Narrows and west of the entrance to Ward Cove, is wooded and has a good passage on either side, but that on the south side is generally used. A ledge extends 75 yards northeast from the island. **Channel Island Light 14** (55°23'41"N., 131°45'53"W.), 24 feet above the water, is shown from a skeleton tower on a concrete base with a triangular red daymark at the west end of the island.

(353) **Ohio Rock**, with 3½ fathoms over it and marked by a lighted buoy, is 0.3 mile northwest of Channel Island. **Danger Island Light** (55°24'05"N., 131°46'00"W.), 15 feet above the water, is shown from a tower with a red and white diamond-shaped daymark on the edge of a reef that extends west of **Danger Island**.

(354) **Mud Bay**, on the north side of the narrows about 1.5 miles northwest of Ward Cove, is shallow, with bare flats that extend 100 yards or more offshore.

(355) Several totem poles and a replica of an old Indian meetinghouse are on the east point of **Totem Bight**, the first bight northwest of Mud Bay.

(356) **Rosa Reef** makes off about 0.2 mile from Rock Point on the south shore 1.8 miles northwest of Channel Island and is covered at highest tides. **Rosa Reef Light 15** (55°24'48"N., 131°48'09"W.), 24 feet above the water, is shown from a caisson with a square green daymark at the east end of the reef. The bight south of Rosa Reef forms an indifferent anchorage but is seldom used. The west part of the bight is shoal for over 0.2 mile offshore.

(357) **Pond Reef** is about 0.2 mile from the north shore near the west end of Tongass Narrows. It is bare at half tide and usually surrounded by kelp during the summer and is marked by a light on the southwest side.

(358) **Vallenar Point**, the northwest extremity of Gravina Island, is low and wooded and rises in a long easy slope

to the high land of the island. A rocky patch, marked by a buoy, is 700 yards northeast of the point. Close northwest of the point are two wooded islets, and west of them are rocks awash at highest tides; there is no safe passage inside these rocks. The northernmost rock, **Vallenar Rock**, marked by a light, has deep water close to northwest. Small boats with local knowledge often use the passage between Vallenar Point and the small islands close-to. It has a least found depth of 1 fathom in the middle of the passage. It is necessary to pass between the two shoals northeast of Vallenar Point, which can usually be identified by being awash or by the surrounding kelp.

(359) **Guard Islands**, two in number, wooded, and close together, about 1.5 miles northwest of Vallenar Point, guard the west entrance to Tongass Narrows. **Guard Islands Light** (55°26'45"N., 131°52'52"W.), 74 feet above the water, is shown from a white square tower on a rectangular building on the north island of the group.

(360) About 0.3 mile southeast of Guard Islands is a large kelp patch marking a reef covered 0.6 fathom. Passage can be made on either side of the reef, but **Inside Passage**, between the reef and Vallenar Rock and 0.6 mile wide, is preferred. An 8.5-fathom patch is near the middle of Inside Passage about 0.7 mile southeast from Guard Islands Light.

(361) **Point Higgins**, low and wooded, is on the north shore opposite Vallenar Point. The radio towers of the Coast Guard radio station on the hills back of Point Higgins are useful landmarks, but they are not very prominent.

(362)

## Behm Canal

(363) **Behm Canal** borders the east, north and west sides of Revillagigedo Island; its east entrance, between **Point Sykes** and **Point Alava**, is about 5.7 miles north-northeast of Mary Island Light. The west entrance of the canal between Point Higgins and Caamano Point is about 2 miles north of Guard Islands Light; the distance from the east entrance to the west entrance through Revillagigedo Channel and Tongass Narrows is about 30 miles; the length of the canal from entrance to entrance is about 100 miles. The main channel of the canal is exceptionally free from dangers, with no submerged rocks or ledges that cannot be easily avoided by a stranger in clear weather. It was reported that in the winter there are strong north blows and that small boats often ice up in Behm Canal.

(364) Naval **restricted** areas are in Behm Canal along the west side of Revillagigedo Island. (See **33 CFR 334.1275**, chapter 2, for limits and regulations.)

(365)

### Currents

(366) The flood current enters Behm Canal at each end and meets somewhere in the vicinity of Burroughs Bay. In general the currents are not very strong, ordinarily from 1 to 1.4 knots. Tide rips generally occur on the ebb at the mouths of the various tributaries. During the ebb a strong west set is noticed in Behm Canal at the entrance to Naha Bay. (See the Tidal Current Tables for daily predictions in Behm Canal.) In the early summer, milky colored water extends from Burroughs Bay to the west end of Gedney Island and up into Yes Bay. This is the result of the glacial silt carried down by the rivers emptying into Burroughs Bay.

(367) The cove east of **Roe Point**, on the east shore, is a fair anchorage for small craft in 5 to 10 fathoms, soft bottom.

(368)

## Alava Bay to Narrow Pass

(369) **Alava Bay**, on the west shore of Behm Canal, about 2.8 miles northeast of **Point Alava** (55°11.6'N., 131°11.1'W.), is partly open to south weather. Depths in the main part of the west bight are 16 to 28 fathoms, but fair shelter for small vessels can be found close inshore in 6 to 10 fathoms, soft bottom. Some swell but very little wind comes into the head of this arm. A privately maintained mooring buoy is in the west bight. The entrance to the west bight is constricted by a 1½-fathom shoal in midchannel. The shoal is marked by thick kelp in the summer. The east bight is clear but too deep to afford anchorage.

(370) **Narrow Pass** is west of **Rudyerd Island**, on the west side of Behm Canal 8 miles above Point Alava. The northeast and southwest shores of Rudyerd Island are very foul and should be given a wide berth. Small craft can find some shelter from southeast blows in the two narrow bights at the north end of the island. Such craft have tied to the steep west shore of the west bight. The head of the west bight is shallow and rocky; in 1957 an anchored 50-foot cruiser grounded on a falling tide 100 yards from the south shore.

(371)

## Smeaton Bay to Burroughs Bay

(372) **Smeaton Bay** enters Behm Canal from east 10 miles above Point Sykes and east of the south end of Smeaton Island. On the south side of the entrance to the bay, between **Carp Island** and **Short Point**, a vessel can lie in summer in 19 fathoms, hard bottom, protected from the summer winds. Small vessels may find shelter close to Short Point in 5 to 10 fathoms. Numerous shoals and rocks are close to Carp Island; foul ground extends about 0.3 mile from the northwest side of the island. Another deep-draft anchorage may be found on the south side of the bay near the entrance to a small inlet 0.6 mile east of Short Point in 20 to 30 fathoms, hard bottom.

(373) Seven miles from the entrance, the bay divides into **Wilson Arm** and **Bakewell Arm**. A mining camp is on the south shore of Wilson Arm about 3.5 miles from the entrance. A floating pier is at the camp, and a private mooring buoy is northeast of the camp.

(374) **Princess Bay**, to the west of Smeaton Island, is open and exposed to the south. Deep water extends close to the shores, and depths in the bay are too great for anchorage.

**Short Pass**, between the north end of Smeaton Island and **Wasp Point**, has a depth of 11 fathoms.

(375) A private mooring buoy is about 0.8 mile north-northwest of Wasp Point. Small craft can find anchorage in the small bight in the west shore about 1 mile north of the south tip of **Sharp Point** (55°20.7'N., 131°01.4'W.) in 15 to 20 fathoms, hard bottom. This anchorage affords good protection from south and southeast winds. Anchorage for small craft can be had in the bight to west of Sharp Point, depths ranging from 5 to 20 fathoms, hard bottom. When entering, favor the west shore. Very small craft can find a land-locked anchorage in the bight on the west shore, about 1.5 miles southwest of Sharp Point in 2 fathoms, soft bottom. This bight and the entrance are foul. Enter only on a rising tide with local knowledge, and use extreme caution.

(376) **Wasp Cove** is on the west shore of Behm Canal, about 3 miles north of Smeaton Island. It affords anchorage for small craft in 5 to 7 fathoms, soft bottom, free from obstructions.

(377) **Shoalwater Pass** is a narrow body of water that separates **Winstanley Island** from the mainland. The pass is divided into two separate anchorages, the north one being the better of the two, with depths of 5 to 33 fathoms, mud bottom. The south anchorage has depths of 12 to 27 fathoms, mud bottom. Small craft can pass through the narrows between the anchorages at high water. **Candle Island** is on the west side of the south entrance to the pass. A submerged rock with 3 feet over it is near the middle of the south entrance about 0.9 mile north of Candle Island. The bar at the north entrance has a depth of 9 feet and should not be crossed at low water except by small craft. A privately maintained mooring buoy is about 0.3 mile southwest of the bar at the north entrance to the north anchorage.

(378) **Entrance Island**, which is fairly bold, may be passed on either hand in approaching the north entrance to Shoalwater Pass. Pass in midchannel between the highwater islet at the north end of Winstanley Island and **Slag Point**; then favor the mainland shore and proceed with caution until up with the wooded island on the Winstanley side of the channel. Leave this island to the west and select an anchorage south of it.

(379) **Checats Cove**, on the east side of Behm Canal, is entered about 1.7 miles north-northeast of Winstanley Island between **Edith Point** on the north and **Checats Point** on the south. The cove affords anchorage for small vessels, protected from south winds, in about 8 to 10 fathoms, mud bottom, about 100 to 200 yards north of Checats Point. Strangers should select an anchorage at low water, as the flats extend for some distance and are then plainly visible.

(380) **New Eddystone Rock** (55°30.2'N., 130°56.2'W.), 20 miles above Point Sykes, is a remarkable shaft of rock, 230 feet high, rising from a sand shoal in the middle of the canal, with deep water surrounding it. It may be passed on either hand, keeping it at a distance of 0.5 mile to avoid the sand shoal. At the east extremity of the shoal is a small pinnacle rock that uncovers about 4 feet.

(381) **New Eddystone Islands** are a group of islets and rocks, some of which cover; they extend for about 1.2 miles offshore northeast of New Eddystone Rock. Small craft with local knowledge pass among these islands, but strangers should keep to west of them.

(382) **Ella Creek**, west of New Eddystone Rock, empties into the small bight behind **Ella Point** on the west shore of Behm Canal. A mooring buoy is about 0.15 mile northwest of Ella Point.

(383) **Rudyerd Bay**, about 11 miles long, enters Behm Canal from east between **Point Eva** and **Point Louise**, about 23 miles above Point Sykes and 3.5 miles northeast of New Eddystone Rock. The bay and approaches are free from outlying dangers.

(384) The bay has several branches. The first, named **Punchbowl Cove** due to its precipitous sides, enters the bay from south and is 2.2 miles from the entrance. Temporary anchorage may be found close to the south shore near the head of Punchbowl Cove in 25 fathoms. The bottom is medium gravel and may not provide a strong hold in heavy weather. A privately maintained mooring buoy is on the south side of the cove, approximately 0.3 mile from the head.

(385) The bay branches north and south approximately 7.5 miles from the entrance. An anchorage in 20 fathoms, hard bottom, is near the head of the upper arm and opposite a prominent landslide. Small craft can find temporary anchorage near the edge of the flats at the head of the bay and the head of the upper arm. Landslides may occur in the upper arm and at the head of the bay and may cause uncharted shoreline changes or shoaling in flatter areas. Temporary anchorage may be had about 0.5 mile east of Point Louise and about 400 yards north of a small, but prominent landslide, in 18 to 20 fathoms, hard bottom. The bottom is very irregular.

(386) **Sargent Bay**, on the west shore of Behm Canal opposite Rudyerd Bay, is open and exposed to south. Depths throughout the bay are too great for anchorage. **Cactus Point** is the northeast point and **Tramp Point** the south point at the entrance. A small-boat passage is on the west side of the group of islands north of Tramp Point. The passage is clear, but favor the islands to clear the foul ground along the west shore.

(387) The channel on the west side of **Manzanita Island** (55°34.7'N., 130°55.9'W.) is clear, with a controlling depth of only 6 feet. This channel is used to a large extent by small fishing vessels. Midchannel courses are good.

(388) **Manzanita Bay**, on the west side of Behm Canal, west of **Wart Point** (55°35.3'N., 130°56.5'W.), affords good anchorage in 20 fathoms, soft bottom. The head of the bay is filled with a flat that bares, and several rocks that bare are along the edge of the flat. The anchorage is in the southeast bight of the bay. In entering, favor the east shore to avoid the rocks and flat previously mentioned. U.S. Forest Service maintains a float in the small bight on the west side of Wart Point. Depths at the outer end of

the float are reported to be 8 fathoms. U.S. Forest Service also maintains a mooring dolphin off the mouth of **Grace Creek**, 4.7 miles north of Wart Point.

(389) **Snip Islands** are off the west shore of Behm Canal, 1.3 miles north of Grace Creek. Good anchorage for small craft can be had in the passage west of the islands in about 15 fathoms, sandy bottom. The entrance is from north. The south entrance is obstructed by a bar that bares.

(390) **Walker Cove** enters Behm Canal from east about 10 miles above Rudyerd Bay entrance and abreast Snip Islands. The cove has great depths throughout except at the entrance. The shores of Walker Cove are very abrupt and in some places almost perpendicular. A summer anchorage can be made in midchannel on the inside of the bar at the entrance between **Hut Point** and **Ledge Point** in 10 to 20 fathoms. The bar has depths of 4 to 10 fathoms. Rocks and ledges off the entrance points are the only dangers in the cove. Foul grounds extend about 0.25 mile west-northwest of Ledge Point and about 0.2 mile southwest of Hut Point; caution is advised in the narrow entrance channel. U.S. Forest Service mooring buoy is near the head of a bight on the south side of the cove about 5 miles east-northeast of the entrance.

(391) **Channel Islands** are two wooded islands about 0.6 mile off the east shore of Behm Canal, about midway between Walker Cove and Chickamin River. The islands may be passed on either side, but care should be taken to avoid the reef, awash at high water, that extends about 0.2 mile southeast of the islands.

(392) **Chickamin River** enters Behm Canal from east, between **Fish Point** and **Trap Point**, about 5 miles above the entrance to Walker Cove. Large flats occupy almost the whole of the bay at the mouth of the river and extend almost to the two points at the entrance from Behm Canal. Small craft can find temporary anchorage near the edge of the flat.

(393) **Portage Cove** on the west side of the canal opposite the entrance to Chickamin River bares. Depths of 3 to 8 fathoms can be found at the entrance, but these drop off quickly to deep water.

(394) **Saks Cove** on the northeast shore of Behm Canal 10 miles above the mouth of Chickamin River affords anchorage near the north end. There are no dangers, except the small flat at the northeast corner of the cove and a reef that uncovers 4 feet about 75 yards southeast of **Fire Point**, the west point at the entrance.

(395) **Fitzgibbon Cove** is on the northeast shores of Behm Canal, about 2.6 miles north of Saks Cove and about 1.5 miles southeast of the entrance to Burroughs Bay. The entrance between **Dew Point** and **Hose Point** is clear. **Center Islets**, wooded, are near midchannel, 0.4 mile inside the entrance. **Gibbs Rock**, bare and 15 feet high, is on the east side of the cove, 0.3 mile above Center Islets. A submerged rock with 6 feet over it is 110 yards 300° from Gibbs Rock. The cove affords good anchorage about 0.2 mile above Gibbs Rock in 11 to 13 fathoms, mud bottom.

(396) **Burroughs Bay**, clear, enters Behm Canal from the northeast. **Unuk River** enters the head of the bay from north and **Klahini River** from northeast; Unuk River is said to be navigable a considerable distance for skiffs. The head of the bay and the mouths of both rivers are filled with flats. There is no secure anchorage. Temporary anchorage for moderate-sized craft can be selected on the east side just south of the flat of the Klahini River in about 30 fathoms. Small craft can anchor near the edges of the flats. The depths at the head of the bay are gradually shoaling. The U.S. Forest Service maintains a mooring buoy here.

(397)

## Anchor Pass to Smugglers Cove

(398) **Anchor Pass** is a narrow strait about 6 miles west of the entrance to Burroughs Bay, which separates the northeast end of Bell Island from the mainland. Protected anchorage can be found about 0.6 mile inside the south entrance in 10 to 20 fathoms of water, mud bottom. The pass has good anchorage for small craft in the small cove just south of the restricted north entrance in 3 to 5 fathoms, soft bottom. The north entrance to Anchor Pass is shallow and rocky. The least depth of the shoalest reef, in the middle of the pass at its north end, is 1½ feet. A privately maintained mooring buoy is on the east side of the pass about 0.8 mile north-northwest of **Point Lees**, the east point at the entrance to Anchor Pass.

(399) The estimated tidal current has a velocity of 2 to 3 knots at the north end of the pass and flows north from about 2 hours after low water until 2 hours before the next low water. From 2 hours before to 2 hours after low water the current flows south with a velocity of about 1 knot.

(400) **Behm Narrows** separates **Bell Island** from Revillagigedo Island. The shores of the narrows are generally steep and heavily wooded. Midway through the narrows, at the narrowest point, the tidal currents change direction. **Snipe Point Light** (55°55'32"N., 131°36'54"W.), 18 feet above the water, is shown from a skeleton tower with a red and white diamond-shaped daymark on the southwest end of Bell Island; it marks the west entrance to Behm Narrows and the south entrance to Bell Arm. Anchorage can be had in the bight on the north side of the narrows about 1.6 miles east of Snipe Point Light and about 0.5 mile south of Bell Island Hot Springs. The bight affords anchorage in about 14 fathoms, mud bottom. Care should be taken to avoid the rocks and ledge on the north side of this bight.

(401) **Bell Island Hot Springs** is a privately owned, former resort, at the head of the cove at the southwest end of Bell Island about 1.5 miles east of Snipe Point Light.

(402) An overhead power cable with a clearance of 285 feet crosses the east end of Behm Narrows.

(403) **Bell Arm**, which separates the northwest shore of Bell Island from the mainland, extends northeast from Behm Canal and at its head is joined by Anchor Pass;

it has good anchorage in the expansion at its head in 10 to 20 fathoms, soft bottom. Snipe Point Light on **Snipe Point** marks the south entrance to Bell Arm. **Short Bay** and **Bailey Bay** are two small, narrow bays entering the northwest side of Bell Arm. Short Bay has good anchorage in 15 to 18 fathoms; a flat extends about 400 yards from its head. A private mooring buoy is near the flat. Inland from Bailey Bay is an area of hot springs. A mooring buoy is on the west side of Bailey Bay about 1 mile from the head.

(404) An overhead power cable with a clearance of 561 feet crosses the north end of Bell Arm centered at 55°59'32"N., 131°27'31".

(405) **Hassler Pass** and **Gedney Pass**, on the east side of Behm Canal and south of Snipe Point Light, separate Hassler Island from Revillagigedo Island; the passes are broad and clear. **Shrimp Bay**, at the head of Gedney Pass, is crossed 0.5 mile east of its entrance by an overhead power cable with a clearance of 280 feet. Farther in, **Klu Bay** has good anchorage in 16 fathoms, soft bottom, suitable for vessels of moderate size. A private mooring buoy is on the west side of Klu Bay.

(406) **Dress Point** is a broad point on the east side of the south entrance to Hassler Pass. An anchorage for small craft, with depths of 14 to 17 feet, is in a cove on the east side of Hassler Pass, 1.5 miles north of Dress Point.

(407) **Blind Pass**, between **Black Island** and the northwest side of **Hassler Island**, offers protection and anchorage for small craft in the basin at the southwest end of the pass. Because of rocks in this entrance, local knowledge is necessary in entering the basin. The pass is closed by a sandbar just northeast of the basin. The bar uncovers 3 feet and is studded with small boulders up to a foot in diameter. Northeast of the bar the water is deep, ranging from 10 to 50 fathoms except for a 3½-fathom spot near midchannel at the northeast part of the entrance to the pass. A privately maintained mooring buoy is in a small bight on the south side about 0.9 mile northeast of the bar.

(408) **Convenient Cove**, in the southwest end of Hassler Island between it and Gedney Island, is too deep for anchorage. The narrow passage east-southeast of the cove leading to Gedney Pass is clear for small vessels except for some rocks on the north shore and a ledge extending in a northwest to southeast direction surrounding the easternmost islet.

(409) **Yes Bay** enters Behm Canal from the northwest between **Bluff Point** and **Syble Point**. **Bluff Point Light** (55°53'03"N., 131°44'46"W.), 12 feet above the water, is shown from a skeleton tower with a red and white diamond-shaped daymark on Bluff Point on the southwest side of the entrance to the bay. The entrance is free from dangers.

(410) A fishing resort is on the north point of a narrow passage leading to the first basin, about 2.6 miles above the entrance of Yes Bay. Caution must be exercised in navigating the east end of this passage. Water and gasoline are available. The resort maintains radiotelephone communication with Ketchikan. Charter seaplane service with Ketchikan is also available. Anchorage can be had about 0.3 mile southeast of the resort in 22 fathoms, mud bottom.

(411) The narrow passage, close south-southwest of the fishing resort, leads to the first basin where good anchorage can be had in 15 to 32 fathoms, mud bottom. A good small-boat anchorage in 8 fathoms is near the southeast end of the first basin. At the head of the first basin is a group of islands, east of which is a channel leading to the inner basin, where good anchorage can be had in 11 to 12 fathoms, mud bottom.

(412) Care is required in navigating Yes Bay, and strangers should do so at low water when the rocks are clearly visible. Enter in midchannel and then favor the north shore. In entering the first basin, pass between the charted rocks and the resort pier. If going to the inner basin, favor the north shore up to the group of islands that separate the two basins. Here the channel narrows to about 75 yards because of a submerged rock with 3 feet over it, and a rock awash at low water, both of which are on the west side of the channel. In passing through this channel, favor the east shore. Once past the islets, the innermost basin is clear.

(413) **Spacious Bay**, west-southwest of Bluff Point Light, is a broad bay in the west shore of Behm Canal about 22 miles above **Caamano Point** (55°30.0'N., 131°58.2'W.). **Square Island** is in the entrance near the south shore; the channel south of the island is not recommended for vessels larger than small craft. Near its head the bottom is irregular and there is a considerable area of tidal flats with off-lying reefs and submerged rocks. Good anchorage can be selected in the lee of Square Island, sand and mud bottom. The bights in the north shore of the bay are not recommended for anchorage.

(414) **Snail Point**, on the west side of Behm Canal about 3.8 miles south of Bluff Point Light, is readily identified by the distinct knoll, about 0.5 mile south of the point. On the west side of the point is a bight 0.5 mile long that affords good anchorage for small craft. A submerged rock with ¾ fathom over it is in the middle of the bay, and small craft should favor the east shore until clear of this rock and proceed to the head of the bay for anchorage.

(415) **Neets Bay** indents the east shore of Behm Canal about 19 miles above Caamano Point. The bay has no good anchorage. Small craft, however, can find fair shelter in the last cove (locally called Fire Cove) toward the head of the south side of the bay. Pass east of the small wooded islet and anchor east of it in 3 to 5 fathoms, sand bottom. The bottom in Neets Bay is very irregular and there are several dangers, one of which is a submerged rock with ¼ fathom over it, 300 yards southwest from the west end of **Bug Island**, which is in the middle of the entrance to the bay. Enter Neets Bay either north or south of Bug Island but south of **Clam Island**, which is about 1.4 miles east of Bug Island. A shoal extends from Clam Island almost to the north shore of the bay.

(416) **Bushy Point**, a prominent projection on the east side of Behm Canal about 2 miles south of Neets Bay,

is readily recognized from north and south by a series of dome-shaped hills immediately inshore from the point. **Bushy Point Light** (55°43'52"N., 131°43'56"W.), 18 feet above the water, is shown from a skeleton tower with a red and white diamond-shaped daymark on the west side of the point.

(417) **Bushy Point Cove**, a small bay inside of Bushy Point, is too deep for anchorage except for small craft that anchor close to the beach at the head of the bay.

(418) **Heckman Point**, on the west shore of Behm Canal opposite Bushy Point, is prominent and readily identified by some reddish brown rocks. On the northwest side of the point is a small bight that is used as a temporary anchorage for small craft.

(419) **Traitors Cove**, entered about 2.5 miles south-southeast of Bushy Point Light, indents the east shore of Behm Canal about 15 miles above Caamano Point. An island is in the middle of the entrance. Ledges extend north and south from this island, but the center of the channels on both sides are clear. About 300 yards west-southwest from the north point at the entrance is a rock that uncovers 6 feet. It presents a real danger to craft leaving or entering the cove by the north entrance.

(420) A narrow and rocky pinch point, about 3.5 miles inward from the mouth of Traitors Cove, should be avoided by strangers as the strong tidal currents and rocks make navigation dangerous. The upper part of the cove can be entered only by small craft at slack water, which is very short in duration; on the flood small craft should keep away from the narrow entrance to the upper cove as there is danger of being swept through by the force of the current. There is very little time of slack water on spring tides; the current changes direction very suddenly. **Marguerite Bay**, the bight on the south shore of Traitors Cove about 2 miles above the entrance, affords the only anchorage in the cove. Rocks are on both sides of the bight near its entrance, and a depth of 11 feet is found in midchannel at the entrance.

(421) **Port Stewart** is an indentation in the west side of Behm Canal, 12.5 miles north of Caamano Point. Its south entrance is just north of **Point Francis**, a prominent wooded point. The north entrance point is not well defined, being low, flat country for 1 mile from the beach. Four wooded islets are across the mouth of the bay. A clear channel is between the easternmost and southernmost islets, but there are some off-lying rocks to avoid. The best entrance is north of the two larger islets. The passage between the southernmost wooded islet and the main shore is narrow, but clear, with a least depth of 5 fathoms.

(422) Anchorage can be had in 10 to 20 fathoms, rock and mud bottom, past the larger islets at the entrance to Port Stewart. Small craft with local knowledge can find sheltered anchorage in 5 to 6½ fathoms, mud bottom, in the land-locked bight in the north shore of Port Stewart, about 3.5 miles above Point Francis.

(423) The small bight on the east shore of Behm Canal, about 0.5 mile north of **Escape Point** opposite Point Francis, is too deep for anchorage, although in good weather small craft anchor in the south end of this bight near Escape Point.

(424) **Raymond Cove** and **Wadding Cove**, opposite Naha Bay, are indentations in the west shore of Behm Canal about 3 and 3.9 miles, respectively, southwest of Point Francis. They are useless as anchorages, and at low water there are extensive tidal flats of sand and gravel with some boulders.

(425) **Mike Point** is a low, rocky point separating Wadding and Raymond Coves. The point is foul and should be given a good berth. The beach here is strewn with bleached logs and other drift, and this is also true, to a lesser extent, of all the shore north to Point Francis.

(426) **Helm Bay** indents the west shore of Behm Canal about 5.5 miles above Caamano Point. The north entrance point is marked by **Trunk Island**, off **Helm Point**, a small, prominent, slightly wooded island. The south entrance point is marked by **Helm Bay Light** (55°34'50"N., 131°55'43"W.), 14 feet above the water, shown from a skeleton tower with a red and white diamond-shaped daymark on the outermost islet on the southwest side of the entrance.

(427) Behind **Forss Island**, on the west shore, 3.3 miles in from the light, is a small cove at the head of which is a privately maintained float with depths of 20 feet reported alongside in 1976. Enter the cove from the north passing between two charted off-lying rocks.

(428) There are some dangers, but midchannel courses carry safely to the head of the bay. The channel leads between **Thomas Island** on the north and two wooded islands joined by a reef to south. Pass in midchannel north of Forss Island and another wooded island beyond, above which the bay is comparatively clear. There is about 0.5 mile of tidal flats at the head of the bay that drops suddenly into deep water.

(429) Anchorage is available in midchannel in 16 fathoms, mud bottom, about 1.2 miles above Forss Island, and in 21 fathoms, gravel and mud bottom, about 2 miles above the island. The latter is the better anchorage.

(430) **Smugglers Cove**, west of Helm Bay Light, is on the west side of Behm Canal, about 5 miles north of Caamano Point. It is a fair anchorage for small craft, although local knowledge is necessary to clear the dangers. Extensive tide flats are at the head of the cove.

(431)

## Indian Point to Grant Island

(432) **Indian Point** marks the north entrance to Naha Bay. The country north of the point is heavily wooded. The shore is rocky and generally steep-to.

(433) **Naha Bay**, on the east side of Behm Canal about 11.5 miles northeast of Caamano Point, is a popular sports fishing and hunting area. The bay and its approaches are clear. **Loring** is a village on the north side near the head of the bay. **Cache Island**, round and wooded, is near the middle of Naha Bay and has deep water on all sides with

the exception of a 9-fathom spot about 0.3 mile west of the island.

(434) The usual anchorage is just below the ruins of an old wharf about 300 yards from the shore of the village, in 19 fathoms, mud bottom. The shore in front of the village should not be approached closer than 100 yards. Small craft can find anchorage in the small bay north of **Dogfish Island** where shelter is had from any southwest squalls that occasionally strike with considerable force. The bight east of the village is practically dry at low water. A state-maintained L-shaped small-craft float and a seaplane float joining it at the southeast end are at the head of the cove west of the wharf in ruins. In 1976, depths of 12 feet were reported alongside both floats.

(435) **Roosevelt Lagoon** is a body of brackish water that is connected to Naha Bay through a tiderace only at extreme high water. The passage is dangerous and should not be used without local knowledge. Small barges at one time made this passage.

(436) **Moser Bay**, an indentation in Revillagigedo Island, is separated from Naha Bay by **Cedar Island**, **Moser Island** and **Stack Island**. Good anchorage for small craft is found in 7 fathoms in the small bight in the northwest part of the bay; for larger craft in 20 fathoms at the head of the bay. Two private homes with floats are on the east side of the bay. At the head of the bay is a tidal flat about 0.5 mile long. A reef makes off southeast from **Cod Point**, the north point at the entrance to **Long Arm**.

(437) **Grant Island**, on the east side of Behm Canal, is about 1.5 miles south-southwest of Naha Bay and about 8 miles northeast of Guard Island Light. The island is heavily wooded. **Grant Island Light** (55°33'16"N., 131°43'44"W.), 18 feet above the water, is shown from a skeleton tower with a red and white diamond-shaped daymark on the west side of the island.

(438)

## Clover Passage to Caamano Point

(439) **Clover Passage**, a deep passage on the west side of Revillagigedo Island, is frequently used by vessels proceeding between Tongass Narrows and Naha and Moser Bays. It has several entrances from the north in deep narrow channels between Cedar and Moser Islands, Stack and Grant Islands and a deep, wider entrance between Back and Grant Islands.

(440) **Back Island**, low and heavily wooded, is about 1.2 miles west of the south end of Grant Island. A reef extends about 0.2 mile off the northwest end of the island, and broken ground extends 0.3 mile east of the island. The channel between Back Island and Betton Island to the southwest is foul with reefs of submerged rocks and rocks awash.

(441) **Hump Island** is close off the east side of Betton Island about 0.4 mile south of Back Island. A daybeacon is on the southeast end of the island.

(442) **Betton Island** is on the east side of the west entrance to Behm Canal. **Betton Head**, on the west side of the island, is a prominent feature of the locality.

(443) **Joe Island**, close southeast of the south extremity of Grant Island, is in midchannel near the north entrance with deep channels on each side.

(444) **Pup Island** is off the south extremity of Betton Island at the southwest entrance to Clover Passage. A narrow channel less than 100 yards wide with a depth of 5 fathoms is between the two islands.

(445) **Clover Island** is in midchannel in the southwest entrance to Clover Passage. Deep channels are on each side of the island. **Clover Passage Entrance Light** (55°28'43"N., 131°48'47"W.) 20 feet above the water, is shown from a from a skeleton tower with a red and white diamond-shaped daymark on an islet about 0.4 mile southwest of Clover Island. A ledge with rocks awash extends about 0.2 mile northeast of the light.

(446) **Knudson Cove** is a small bight on the southeast side of Clover Passage, about 0.6 mile east-southeast of Clover Passage Entrance Light. Small craft use it as an anchorage. A depth of 4 fathoms is at the entrance. In 1970, the 4-fathom area was reported to provide good anchorage in southeast winds up to 35 knots. A daybeacon marks the west side of the entrance to the cove. Another daybeacon near the head of the cove marks a rock awash at half tide. A floating breakwater, marked on the northwest end by a private daybeacon, is in the cove. **Clover Pass** is an unincorporated settlement on Knudson Cove.

(447) The city of Ketchikan maintains small-craft floats with about 615 feet of mooring space on the east side of Knudson Cove near the head. In 2002, depths of 12 to 35 feet were reported alongside. Local regulations limit the size of vessels using the floats to 65 feet in length. Two boat launching ramps with a float in the middle are close southwest of the approach pier. Private floats are 75 yards northeast and 150 yards west of the approach pier, respectively. Clover Pass has telephone and highway communications with Ketchikan.

(448) **Survey Point** is on the southeast side of the southwest entrance to Clover Passage. A fishing resort is 0.7 mile northeast of the point. In 1976, the reported depths alongside the floats at the resort were 3 to 5 feet. Water, gasoline and limited marine supplies are available.

(449) **Tatoosh Islands**, west of Betton Island, are a group of islands north of which are numerous off-lying rocks known as **Tatoosh Rocks**. The southernmost island has deep water close to the west shore, and a yellow cliff 130 feet high on this island is a good landmark. The northwesternmost rock of Tatoosh Rocks is 14 feet high and has an off-lying reef that bares 10 feet, 140 yards northwest. The rocks are light colored and show well in clear weather. A light marks the northernmost island.

(450) The passage between the southernmost Tatoosh Island and Betton Island is clear, but the north end of the passage is rocky, and local knowledge is necessary to navigate this area. Small craft use these waters for anchorage, but there is some danger from williwaws.

(451) **Bond Bay** and the smaller indentations between Bond Bay and Caamano Point Light are used as temporary anchorages by the smaller fishing craft during the trolling season. These anchorages are exposed to southeast and are not recommended because of the suddenness and great force with which the southeast winds strike in this area.

(452) **Bittersweet Rock** (55°31.7'N., 131°55.7'W.), about 0.5 mile east of the south extremity of the point forming the north side of Bond Bay, is a dangerous submerged rock covered 2 fathoms. Mariners are urged to exercise extreme caution in this area because other dangers or shoals may exist.

(453) **Caamano Point Light** (55°29'55"N., 131°59'02"W.), 41 feet above the water, is shown from a steel post with a red and white diamond-shaped daymark on the southernmost part of the point.

(454) **Caamano Point**, the west point at the west entrance to Behm Canal, is long and low. Its extremity is somewhat indefinite when abeam, because of the Bond Bay shore in the background and because the light is not on the actual point, but 0.5 mile west.

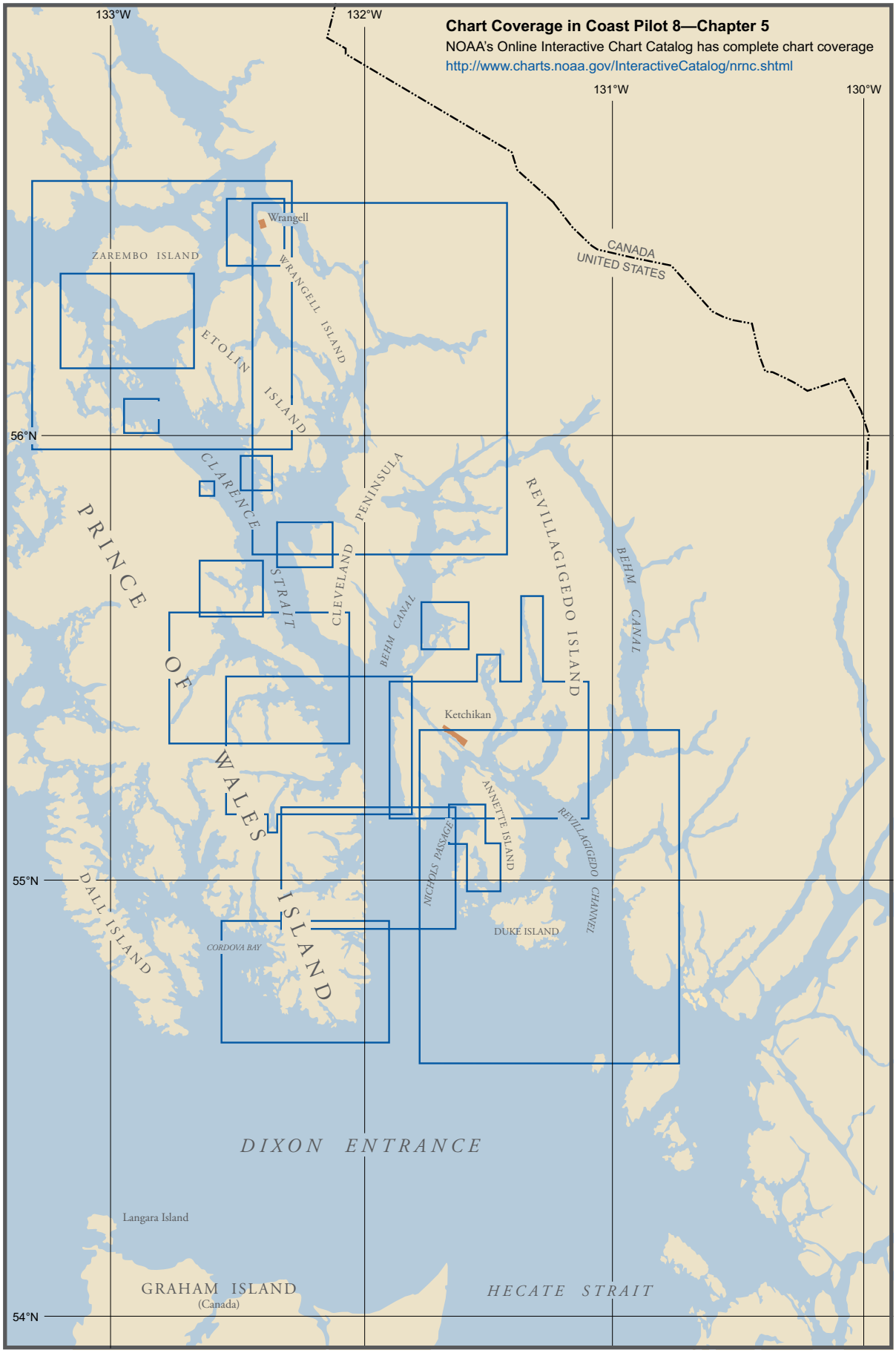


Chart Coverage in Coast Pilot 8—Chapter 5
NOAA's Online Interactive Chart Catalog has complete chart coverage
http://www.charts.noaa.gov/InteractiveCatalog/nrnc.shtml
133°W
132°W
131°W
130°W
56°N
55°N
54°N
CANADA
UNITED STATES
Wrangell
ZAREMBO ISLAND
WRANGELL ISLAND
ETOLIN ISLAND
CLARENCE STRAIT
PENINSULA
CLEVELAND
BEHM CANAL
REVILLAGIGEDO ISLAND
PRINCE OF WALES ISLAND
Ketchikan
ANNETTE ISLAND
NICHOLS PASSAGE
REVILLAGIGEDO CHANNEL
DUKE ISLAND
DALL ISLAND
CORDOVA BAY
DIXON ENTRANCE
Langara Island
GRAHAM ISLAND
(Canada)
HECATE STRAIT

# Clarence Strait, Dixon Entrance to Wrangell

(1) This chapter describes Clarence Strait and the subsidiary channels to Sumner Strait and Wrangell. Also described are the numerous tributaries, islands, islets, towns and villages related to these waterways. Preferred passages through these waterways are discussed.

(2) **Clarence Strait** extends in a north direction from Dixon Entrance for 45 miles to Guard Islands and the west entrance to Tongass Narrows and Behm Canal, and thence in a northwest direction for 67 miles to Sumner Strait. From its south entrance to Zarembo Island, a distance of about 100 miles, the channel is broad and comparatively free from dangers. At Zarembo Island the strait divides. The channel east of the island, called Stikine Strait, is the route taken by vessels to Wrangell and Wrangell Narrows; that west of the island, called Snow Passage, is used by vessels bound to Wrangell Narrows or west through Sumner Strait because it is more direct.

(3) Passage through Clarence Strait and subsidiary channels to Sumner Strait and Wrangell is described in the following order: west shore, Cape Chacon to Kasaan Bay; east shore, including Felice Strait and Nichols Passage, to Vallenar Point; Kasaan Bay and north to Kashevarof Passage; Snow Passage, Ernest Sound and Zimovia Strait; Blake Channel and Eastern Passage; and Stikine Strait to Wrangell.

(4) **Voluntary vessel traffic procedures** have been adopted for gillnet vessels and deep-draft vessels transiting the north section of Clarence Strait, Snow Passage, and Sumner Strait in the vicinity of Point Baker. Traffic lanes, about 0.2 mile wide, have been established for these areas as follows:

(5) **328°** from a point in Clarence Strait abeam of Point Stanhope in about 55°59.4'N., 132°39.8'W. to about 56°09.3'N., 132°50.8'W., thence;

(6) **333°** to a point about 56°15.9'N., 132°57.0'W., thence around the east side of Bushy Island to about 56°17.2'N., 132°58.0'W., thence;

(7) **299°** to a point about 56°18.6'N., 133°04.9'W., thence;

(8) **315°** to a point about 56°21.0'N., 133°09.5'W., thence;

(9) **277°** to a point about 56°23.0'N., 133°38.7'W., thence around Point Baker, about midway between Helm Rock and Mariposa Reef to a point about 56°22.5'N., 133°39.9'W., thence;

(10) **204°** to a point abeam of Calder Rocks in about 56°15.1'N., 133°45.7'W.

(11) Cruise ships, ferry vessels, and other deep-draft vessels are requested to observe the following practices:

(12) 1. Announce your presence 30–45 minutes prior to entering the area and at regular intervals while transiting through the area.

(13) 2. Avoid meeting and do not overtake vessels in Snow Passage.

(14) 3. Travel along indicated tracklines as much as possible and maintain a safe speed.

(15) Gillnet vessels should:

(16) 1. Adequately mark the net end with lights and radar reflectors.

(17) 2. Monitor VHF-FM channels 13 and 16 and listen for broadcasts by deep-draft vessels in the area.

(18) 3. Provide for two-way traffic of large vessels along the designated tracklines.

(19) 4. Warn other gillnetters if they appear to be in the lane when there is commercial vessel traffic approaching.

(20) 5. Do not place sleep sets within or adjacent to the shipping lane.

(21)

## Currents

(22) The current has a maximum velocity of 4 knots in Clarence Strait from the south entrance to the vicinity of Zarembo Island. At Cape Chacon, the flood current sets northeast around the cape and the ebb southwest. South of the line of Cape Chacon the tidal currents are much confused.

(23) In general the currents in the strait set directly in and out during flood and ebb, except in the vicinity of the entrances to the tributaries, where a slight set across the channel may be experienced setting to or from them, especially the large tributaries; and along the shores of the strait where the current is either slack or there is a small countercurrent. The most noticeable of these countercurrents is at Dewey Anchorage and among the islands at Onslow Point, where it has considerable velocity, from 2 to 3 knots, and sets directly opposite in direction to the current in the strait. This countercurrent meets the main current at the entrance of the large bay east of Point Stanhope and is confined to the bay and the immediate vicinity of the shore southeast. (See the Tidal Current Tables for daily predictions of places in Clarence Strait.)

(24)

## Weather

(25) The orientation of Clarence Strait and its proximity to the continent influence its weather. The strait is exposed to the strong southeasterlies of fall and early winter, although shelter may be found in several bays and inlets. Winter gales may also blow down the strait

from the northwest. Williwaws blow in many of the anchorages that are off the strait. While these waters are often sheltered from the summer advection fog, they are susceptible to winter radiation fogs. The south part of the strait is more exposed here; poor visibilities are most likely in late summer and early fall.

(26)

## Cape Chacon to Kendrick Islands

(27) **Cape Chacon** (54°41.5'N., 132°00.9'W.) has been described in chapter 4.

(28) From Cape Chacon to Stone Rock Bay, the shoreline is rocky and the bottom irregular. Temporary anchorage may be obtained 0.5 mile offshore about 1.5 miles north from the cape in depths of 18 to 20 fathoms. A 2-fathom shoal is about 2.3 miles north-northeast from the cape, and about 900 yards offshore from **Huaji Cliff**.

(29) **Stone Rock**, gray-colored and bare, is 3.5 miles north-northeast of Cape Chacon. Rocks awash and unmarked shoals are within 0.4 mile of Stone Rock.

(30) **Stone Rock Bay**, about 4.5 miles north from Cape Chacon, is an open bight with deep water and irregular bottom. Foul ground extends off the entrance points, and there is a 3½-fathom shoal midway in the entrance. Small fishing craft anchor close to shore, but the use of the bay as an anchorage is not recommended.

(31) **Mallard Bay** is about 5 miles north from Cape Chacon. Foul ground extends about 0.6 mile offshore from the point separating Stone Rock Bay and Mallard Bay.

(32) Fair weather anchorage for smaller vessels may be had near the head of the bay which is just over 0.1 mile with sandy bottom in 15 fathoms. Favor the north shore of the bay when entering. The channel between the shoals making out from the north and south shores is narrow, about 0.1 mile wide.

(33) **McLean Arm** is a narrow inlet about 6.5 miles above Cape Chacon. **McLean Point**, the south entrance point, is marked by **McLean Point Light** (54°47'30"N., 131°57'24"W.), 58 feet above the water and shown from a skeleton tower with a red and white diamond-shaped daymark. The point is low but at a short distance back rises to a dome-shaped hill. **Island Point**, the north entrance point, is a wooded island close to the main shore. A bare rock, 22 feet high, is 100 yards south of the point.

(34) The head of the arm has two branches. The west and larger branch affords anchorage in its widest part in 18 fathoms, sticky bottom, with swinging room for small vessels. A flat extends 0.1 mile from the head of this branch and sailing beyond 0.6 mile into the western branch is not advised as it becomes increasingly narrow. Anchorage can be selected in about 22 fathoms at the entrance to the north branch; however, it is less desirable, and care must be taken to avoid a ledge that bares, and extends about 250 yards east from the point dividing the two branches. An obstruction lies 2¼ fathoms below the surface in the center of the arm just 0.45 mile into the northern branch, and vessels should take care to avoid sailing more than 0.35 mile into the branch.The williwaws come down from the adjacent mountains with considerable force. Water can be obtained from several streams.

(35) **Gardner Bay**, about 8 miles north from Cape Chacon, affords good anchorage, but its narrow entrance restricts its use to small vessels only. The north entrance point is a bold, light-colored, rocky point with timber on top. A breaker close to the point and one in the bight west of the point frequently show. A group of small wooded islands with rocks awash off the southeast end is about 0.1 mile off the south entrance point.

(36) A group of islands choke the entrance to the inner bay. The channel north of the islands is narrow and crooked; its use is not recommended. The channel south is about 200 feet wide and has a least depth of 4 fathoms. About 0.1 mile into the channel entrance is a 1½-fathom spot marked by kelp about 100 feet off the southern coastline. Water may be obtained from several streams.

(37) Fishing vessels and small craft frequently use the channel south of the outer islands and rocks. Midchannel courses suffice. Caution should be exercised when entering, because the dangers are unmarked. Anchorage in 13 fathoms, mud bottom, can be had in the basin at the head of the bay. The points at the entrance to the basin should be given a berth of about 150 yards.

(38) **Kendrick Bay** is about 10 miles above Cape Chacon.The entrance to the bay is hazardous to larger vessels, with a rock covered 6¼-fathoms about 1.5 miles from the entrance and a rock covered 3¼-fathoms about 1.8 miles from the entrance.

(39) Three arms lead south and west from Kendrick Bay. **South Arm** is relatively flat, clear, and shoals to 8 fathoms near its head, affording good anchorage for small craft. **Short Arm** is clear of off-lying dangers except for a 4¼-fathom spot in the center of the arm, about 0.6 mile inside the entrance. **West Arm** is foul for a distance of 0.5 mile inside the entrance and should be entered preferably at low water. Enter south of the islets and proceed with caution. Good anchorage for small craft in 10 to 19 fathoms is available just before the head and at the head of the arm. However, during the colder winter months this area has ice and cannot be used as an anchorage.

(40) **Kendrick Islands**, on the north side of the entrance to Kendrick Bay, are a group of about 20 islands varying in size and for the most part wooded. Foul ground extends about 0.7 mile southeast of the main islands of the group. Small craft with local knowledge can enter Kendrick Bay from north by passing north of all the islands, between them and the main shore. In the center of the channel, about 1.1 miles into the northern entrance, are rocks covered 1 fathom. Vessels should favor the northern shore of Prince of Wales Island for the initial 2 miles of the channel. For the remaining 0.6 mile where the channel turns southeast, maintaining a course through the center of the channel is preferred, as the channel shoals to 3½

fathoms. Good anchorage and shelter for small craft can be found among the islands.

(41)

### Local magnetic disturbance

(42) Differences of as much as 4° from normal variation have been observed north of the Kendrick Islands.

(43) The north point of Kendrick Bay rises rather sharply to a flat-topped peak, forming a headland that shows prominently from points along the west side of the strait.

(44) The shoreline from the north entrance point of Kendrick Bay to Hidden Bay, a distance of about 2.2 miles, is very broken. Rocks are offshore from 0.2 to 0.4 mile.

(45)

## Hidden Bay to Whiterock Island

(46) An inlet (54°55.3'N., 132°58.7'W.), 0.6 mile long in a northwest direction and about 0.1 mile wide, is about 1.2 miles above the north entrance point of Kendrick Bay. The channel is narrow and has general depths of 3 to 6 fathoms, except in the narrow part, where they range from 2 to 4 fathoms. A rock covered 3¼ fathoms is 0.3 mile offshore in line with the south shore of the inlet, while rocks, awash, are 0.3 mile to the east of the north point of the entrance.

(47) **Hidden Bay** (54°56.4'N., 131°58.7'W.) indents the west shore of Clarence Strait about 15 miles north of Cape Chacon. The entrance is less than 100 yards wide and is north of a group of rocky islets. A submerged rock covered 3¾ fathoms and rocks awash are off the entrance. The largest island of the group, 200 feet high, is to the south. The south entrance point at the first narrows rises to a rounding hill 260 feet high. The north entrance point is low, with a little knob near the extremity. A depth of 1 fathom is in the entrance to the first narrows, and rocks are close to its south shore. Depths of 5 to 21 fathoms were obtained in the first cove. A rock is 50 yards off the east entrance point of the second narrows. Depths in the second narrows range from 1 to 6 fathoms and ledges project from the southeast shore. Depths in the inner cove range from 4 to 18 fathoms.

(48) A stranger entering for the first time should select low-water slack when the reefs outside and the rocks in the entrance will be showing. The currents in the narrow part of the entrance are strong. Small craft may, with care, work their way to the entrance from the south back of the islands. The bay is suitable for small craft only.

(49) **Scott Point**, about 1 mile north of Hidden Bay, is a round point with an abrupt shoreline characterized by large gray ledges. It rises rapidly to a peak.

(50) **Ingraham Bay** is about 1.2 miles northwest from Scott Point. Rocks, usually marked by kelp, extend about 200 yards off the entrance points. The entrance to Ingraham Bay is best approached from the east in midchannel, between the south entrance point and the east end of the two groups of islets in the middle of the entrance. A depth of about 20 fathoms can be carried to the head of the main bay and to an anchorage with sand and gravel bottom. The channel north of the inner group of islets is very narrow and should not be used.

(51) The bay has two arms and is about 3.5 miles long to the head of the south arm. The north arm starts about 0.8 mile within the entrance and is about 1.5 miles long.

(52) To enter the north arm, pass south of the two groups of rocky islets off its entrance. A narrow channel extends into the north arm. A shoal with a depth of 3¼ fathoms extends from the west shore to the middle of the channel.

(53) The controlling depth in the narrows is 6 fathoms. Follow the trend of the channel leaving the small islet in the second narrows to the south and anchor in 10 fathoms, mud and sand bottom, in the bight at the head of the arm. This arm is suitable for small craft only.

(54) To enter the south arm, the small wooded islet, 200 yards north of the long, wooded tongue that marks the southeast point of the entrance to this arm, is left about 100 yards to the south. The channel leads between this islet and the long reef, 200 yards to the west, that parallels the shore.

(55) The south arm is characterized by numerous rocks and reefs; the controlling depth in the entrance is 3 fathoms. With local knowledge 4 fathoms may be carried to the head where anchorage may be found for small craft in depths of 2 to 10 fathoms, with excellent holding ground in mud bottom. The chart should be the guide.

(56) **Ingraham Point**, the northwest entrance point of Ingraham Bay, is low and wooded for a distance of 0.6 mile from the point where it commences a sharp rise to a wooded ridge. The shoreline to Polk Island is rocky and foul.

(57) **Polk Island** is about 1.3 miles north of Ingraham Point. A reef, bare at half tide, is midway in the channel between the island and the Prince of Wales Island shore. The north end of the channel is obstructed by rocks and islets. There is a controlling depth of 2 fathoms in the narrow crooked section at the northeast end. Small craft with local knowledge can work their way through.

(58) A small rocky islet with a prominent tree is close to the southeast end of Polk Island. It is noticeable from the north or south for a distance of 2 miles.

(59) **Chichagof Bay** is about 2.5 miles north from Ingraham Point. It is about 0.3 mile in length and width and has varying depths from 2¾ fathoms in the entrance to 4 fathoms near the shore. A reef extends 0.1 mile in a north direction from the south shore, 0.2 mile from the entrance point. A narrow inlet, with depths of 4 to 7 fathoms, extends 0.3 mile in a south direction from the southwest corner of the bay. A depth of 1 fathom is in the middle of the entrance to the inlet.

(60) **Rip Point**, about 3.2 miles north from Ingraham Point, is low for about 1 mile back from the shore, then rises steeply to a long ridge. There is a small wooded knob about 250 feet high in the center of the flat area and several hummocks with an elevation of 200 feet or less. Foul ground extends 0.3 mile southeast from the point.

(61) **Sun Rocks**, the two most prominent rocks in this area, about 100 yards long, 20 yards wide, and 15 feet high, are about 0.2 mile southeast from Rip Point. Tide rips extend 0.8 mile off Sun Rocks and Rip Point during a southeast wind and ebb tide.

(62) A small cove is 0.3 mile southwest from Rip Point. Rocks are on both sides of the entrance about 50 yards offshore. A rock is about 50 yards off the middle of the northwest shore. Depths in the middle of the cove range from 9 to 21 fathoms; small-craft anchorage in 5 to 6 fathoms, fine sand bottom, may be had in the arm that extends south from the center of the cove.

(63) **Moira Sound** indents the west shore of Clarence Strait, about 25 miles north of Cape Chacon; it is 4.5 miles wide between Rip Point and Adams Point. **Adams Point** (55°06.7'N., 131°59.7'W.), the north entrance point, is low and wooded. Near the extremity is a knob about 350 feet high. Rocks extend about 0.2 mile off the east shore of the point. The general direction of the sound is southwest, and within the entrance it divides into three separate arms.

(64) **South Arm** extends about 5 miles to the south and has numerous reefs that uncover at low water. Favor the east shore in entering. The south end of the arm affords good all-weather anchorage in about 6 fathoms. **West Arm** has a length of 2.2 miles and then divides into two short arms, the north known as **Dickman Bay**, the south as **Frederick Cove**. **Johnson Cove** is about 2 miles long and indents the south shore of the sound about 2 miles south of **Black Point** (55°02.3'N., 132°05.2'W.). The chart is the guide.

(65) **Moira Rock Light** (55°04'58"N., 131°59'54"W.), 40 feet above the water, is shown from a skeleton tower with a red and white diamond-shaped daymark on the highest part of Moira Rock, the northernmost of a chain of islands that stretch from Rip Point towards Adams Point. A rock with 6 fathoms over it is 1 mile east-northeast of Moira Rock. **Moira Island**, 0.6 mile long and wooded, is about 0.9 mile to the south-southwest of Moira Rock. The channel between Moira Rock and Adams Point has depths ranging from about 26 to 189 fathoms.

(66) A small islet is about 0.2 mile east-northeast of the north end of Moira Island. Kelp and rocks are in the channel between them. A group of rocks, awash and marked by kelp, is midway between Moira Rock and Moira Island. Deep water surrounds these rocks; the channel between them and Moira Rock is clear.

(67) **Kegan Cove** is about 2.8 miles southwest of Black Point. The outer cove has a fair anchorage in about 6 to 15 fathoms, rocky bottom. The inner cove entrance is 50 yards wide and can be entered by boats drawing 5 feet, on the upper half of the tide. The west shoreline should be favored when entering. Excellent shelter and anchorage in 6¾ fathoms, mud bottom, can be had inside. **Kegan Creek**, outlet from **Kegan Lake**, flows into the head of the cove. A marker on the east side of the stream indicates the end of a trail paralleling the creek to the shore of the lower part of the lake.

(68) **Whiterock Island**, about 0.3 mile southeast of Moira Island, is irregular in shape and wooded. A large grayish-white, conical-shaped rock is on the southeast side of Whiterock Island. South is a smaller rock with the same general features. The small cove on the northwest shore of Whiterock Island is foul. Midway between the south ends of Moira and Whiterock Islands is a reef that uncovers 11 feet. A clear channel, about 250 yards wide, favoring Moira Island, is west of this reef. The channel between Whiterock Island and the reef is foul. Foul ground extends off the north and east shores of Whiterock Island for about 0.2 mile and off the south shore for about 0.5 mile.

(69)

## Menefee Anchorage to Wedge Islands

(70) **Menefee Anchorage**, about 1 mile west from Rip Point (55°02.2'N., 131°58.7'W.), is much used by fishing craft but is not suitable for large vessels. Anchorage may be had in about 15 fathoms, mud and rock bottom, with 200 yards of swinging room. By following the shoreline from Rip Point at a distance of 0.2 to 0.3 mile, a clear channel may be carried to the anchorage. A small cove in the south part of the anchorage, with depths of 25 fathoms in the center and shoal water near the east shore, is entered west of the midchannel islet.

(71) **Menefee Islands**, about 1.3 miles west of Rip Point, are two large, wooded islands. A narrow ledge and small rocky islets project about 250 yards from the north shore of the west and larger island. A group of three large islets and several smaller ones, covering an area about 0.9 mile long in a southwest direction, is about 0.5 mile northwest of the larger Menefee Island. Foul ground extends 300 yards southeast of the northeast islands. The channel between these islands and the Menefee group is obstructed at the northeast end by an islet, and at the southwest end by a midchannel rock that is awash at low water.

(72) A bight is about 1.5 miles to the west of Menefee Anchorage. In the center of the bight is a rock, awash at high water. A bank with a least depth of 3 fathoms is about 0.2 mile west from the rock. There are numerous rocks and islets along the south shores. The small cove on the northeast shore of the bight might furnish anchorage for small vessels in 10 to 13 fathoms.

(73) **Egg Islands** are a group of wooded islands on the northwest side of the entrance to Moira Sound, about 2.8 miles southwest of Moira Rock.

(74) **Niblack Anchorage**, just west of the Egg Islands, affords good protection in depths of 6 to 20 fathoms, mud bottom. **Clare Island** is on the north side of the entrance to Niblack Anchorage. **Safety Rock**, grass covered and about 15 feet high, is in midentrance. A ledge that uncovers 5 feet is 400 yards south of Clare Island and 250 yards off the south shore. A rock, covered 9 feet, is 0.5 mile from the head of the anchorage and 0.1 mile from the south shore. Vessels entering Niblack Anchorage usually pass

north of Moira Rock, Safety Rock, and the ledge south of Clare Island near the south shore of the anchorage.

(75) From Adams Point to **Point Halliday**, the north point of the entrance to North Arm, the shoreline is broken and there are many rocks close to shore. A 5-foot spot is about 0.4 mile east from Point Halliday. A shoal making south from Point Halliday has a depth of 3½ fathoms about 0.25 mile off the point.

(76) **North Arm**, about 4 miles long and 0.3 mile wide at the entrance, is in the northwest side of Moira Sound about 2.8 miles west of Moira Rock. There is a 3¾-fathom spot in the center of the entrance about 0.3 mile south of Point Halliday. A secure anchorage can be found inside near the east shore, in the cove about 1 mile from the entrance directly south of the small cedar-covered island, in 6 to 10 fathoms, mud bottom. There is a rock awash near the middle of the cove.

(77) **Deichman Island**, 2 miles inside the entrance of North Arm, has foul ground between it and the east shore, and foul ground extends about 400 yards southeast and 300 yards south from it. In passing beyond Deichman Island, the south shore should be favored until past **Beck Rock**, about 700 yards to the west, which uncovers 12 feet. Then a midchannel course will pass 200 yards northeast of **Cannery Rock**, about 0.8 mile west-northwest of Beck Rock, which uncovers 9 feet.

(78) At the head, North Arm divides into two fingers. The north finger, **Nowiskay Cove**, affords good small-craft anchorage in about 8 fathoms. The west finger extends to **Clarno Cove** and **Aiken Cove**. Craft entering this finger should favor the south shore, taking care to avoid the rock awash that is 240 yards southeast of the small islet off the north point at the entrance. By passing about 50 yards off the south beach, a least depth of 10¼ fathoms can be carried into Clarno Cove, where good all-weather anchorage is available in about 12 fathoms, soft mud bottom.

(79) The small unnamed bay south of Clarno Cove is entered by a narrow, crooked channel with a least depth of 1 fathom, between ledges that extend out from both shores. The middle of this bay provides excellent anchorage in about 4 fathoms.

(80) From Clarno Cove a narrow channel continues west into Aiken Cove, which is shoal and mostly bare except for a small area near the mouth where an anchorage can be found in about 9 fathoms. Favor the north shore in entering from Clarno Cove.

(81) **Cannery Cove**, just northwest of **Cannery Point** (55°06.7'N., 132°08.3'W.), affords good anchorage in 13 fathoms, and the small bight on the northwest side of the cove has small-craft anchorage in 1½ fathoms.

(82) **Port Johnson**, a narrow deep inlet that extends about 3.5 miles in a west direction, is on the west side of Clarence Strait, between Adams Point and Wedge Islands. From the entrance, midchannel courses hold good. There is good anchorage in 15 fathoms about 2.4 miles above the entrance. Water is available from a stream on the north shore about 0.2 mile below the head of the inlet. Anchorage in about 11 to 14 fathoms, but with limited swinging room, is at the head, and from this shore a trail through a divide leads to North Arm of Moira Sound.

(83) **Scraggy Point** and **Inner Point**, on the north and south sides, respectively, at the entrance to Port Johnson, present no characteristics of interest to the navigator.

(84) **Dolomi Bay** is a small arm on the north side of Port Johnson, about 1.3 miles west of Inner Point. The cove on the west side and near the head of the bay has a rock, covered 5 feet, near its center. Dolomi Bay is very restricted; the chart is the best guide.

(85) **Paul Lake**, about 0.9 mile north-northwest of Dolomi Bay, has a high prominent mountain near its head. The summit is grass covered, the slopes are uniform, and it is not often clouded.

(86) **French Harbor** and **Dutch Harbor** are locally known small-boat anchorages behind Wedge Islands, 2 miles northeast of the entrance to Port Johnson. They do not furnish good anchorages for strangers, and the approaches are rocky.

(87) **Wedge Islands** are a group of low islands and rocks 2 miles northeast of the entrance to Port Johnson. From the larger island, rocks, bare and awash, extend for about 0.6 mile to the south; shoal and irregular bottom extends about 1 mile to the southwest. A 2-fathom spot is 1 mile to the south-southwest of this island. Rocks awash, marked by kelp, are 0.5 mile northwest from the north end of the larger island. A submerged rock with a least depth of 3 feet and marked by kelp is 0.2 mile north of these rocks. A shoal with 7½ fathoms over it is 0.8 mile to the north of the north end of large Wedge Island. A channel 0.3 to 0.5 mile wide, with a least midchannel depth of 30 fathoms, is about 0.6 mile west of large Wedge Island; its direction is **030°**. This course is within 0.2 mile of dangerous shoals on either side, and those without local knowledge should not attempt to use the channel.

(88) Foul ground extends 0.3 to 0.5 mile offshore, to the point 4 miles north of Port Johnson. From this point to Windy Point, a distance of 2 miles, foul ground extends 200 yards offshore.

(89)

## Windy Point to Chasina Point

(90) **Windy Point** (55°13.0'N., 131°58.8'W.), low and wooded, is between two small exposed coves with an island close-to on each side. The south cove has midchannel depths of 5 to 9 fathoms but is foul to the west of the small island and near the north shore. The north cove has midchannel depths of 1¾ to 10 fathoms but is foul toward the head. Rocks extend off the point for about 240 yards.

(91) From **Scraggy Point** (55°07.6'N., 132°02.0'W.), the north entrance point to Port Johnson, to Chasina Point, which is the point about 4.5 miles north from Windy Point, the land is thickly wooded and slopes gently for about 0.2 mile from the shore and then rises quickly to a ridge. Two small exposed coves are midway between

Windy Point and Chasina Point. Midchannel depths in the southeast cove range from 5 to 10 fathoms, shoaling to 4 fathoms near the head. The northwest cove has depths in the middle of 5 to 14 fathoms; the west bight has depths of 3 to 5 fathoms; the south bight is foul.

(92) Currents in the vicinity of Wedge Islands to Skin Island are stronger on the flood and reach an estimated velocity of 2 knots during spring tides. Moderate tide rips are set up with the wind against the current north of Wedge Island in the vicinity of Windy Point. (See the Tidal Current Tables for daily predictions in this area.)

(93) **Cholmondeley Sound** is a deep inlet entering Prince of Wales Island between Chasina Point and Skin Island. Its extreme length from the entrance of the sound to the head of **West Arm** is about 16 miles; it has several arms, all of which are deep and bold with heavily wooded mountain slopes ending with steep-to rock shorelines. Cholmondeley Sound's tributaries have not been closely surveyed but are generally free from dangers. The currents in the sound are too weak or variable to be predicted.

(94) **Chasina Point**, about 36 miles north of Cape Chacon and the south point of the entrance of Cholmondeley Sound, is a wooded rounded point without any prominent features. The land is low for a distance of about 0.8 mile and then rises rapidly. It is advisable to give the point a berth of at least 0.3 mile in rounding it.

(95)

## Chasina Island

(96) **Chasina Island** is a low, wooded islet about 0.7 mile west-southwest from Chasina Point, about 0.1 mile offshore. The passage behind the island is foul. A 1-fathom spot is midway between Chasina Point and Chasina Island and about 250 yards offshore.

(97) **Chasina Anchorage**, to the west of Chasina Island, affords a lee only from east to south winds. Anchorage may be obtained on a rocky patch in about 9 fathoms with the northwest corner of Chasina Island bearing about 042° and Skin Island Light bearing about 338°; swinging room is about 250 yards. Anchorage in 17 fathoms, with the light on the same bearing, may be obtained farther offshore.

(98)

### Pilotage, Chasina Island

(99) Pilotage, except for certain exempted vessels, is compulsory for all vessels navigating the waters of the State of Alaska.

(100) Chasina Island is served by the Southeastern Alaska Pilots Association. (See **Pilotage, General** (indexed), chapter 3, for the pilot pickup station and other details.)

(101)

## Skin Island to Clover Point

(102) **Skin Island**, 0.8 mile off the northwest point of the entrance to Cholmondeley Sound, is wooded and about 170 feet high on the southeast side. A reef that uncovers 10 feet is about 450 yards to the southwest of the island. A sunken wreck, with less than 11 fathoms over it and a danger to navigation in this area, is about 200 yards southwest of the south edge of the reef. A group of small islets is between the reef and Skin Island. A rock, awash at low water, is about 0.1 mile off the point on the west side of the island. **Skin Island Light** (55°18'05"N., 132°04'22"W.), 33 feet above the water, is shown from a skeleton tower with a red and white diamond-shaped daymark on the northeast point of the island.

(103) The channel between Skin Island and Prince of Wales Island shore to the west is navigable, but the bottom is very irregular. Passage can be made through the channel without encountering depths of less than 6¾ fathoms, except for a 2½-fathom patch about 0.85 mile 264° from Skin Island Light. The bight southeast of Anderson Point, the south entrance point of Clover Bay, is foul.

(104) **Hump Island**, 3.5 miles inside the entrance to Cholmondeley Sound, about 4 miles south-southwest of Skin Island, is timbered and about 400 feet high and presents a conical appearance.

(105) **Lancaster Cove**, about 1 mile southeast of Hump Island, is the north one of two coves east of an island on the east side of Cholmondeley Sound. It affords good anchorage in 13 to 14 fathoms. It can be entered on either side of the wooded island in its entrance. A bare rock is 0.1 mile north of the northwest end of the island. An islet is close southwest of the island, and a rock with a least depth of 3 fathoms is close east of the island about 55°13'04"N., 132°05'13"W. In 1959, a survey vessel used an anchorage about 150 yards south of the wooded island, in 12 to 20 fathoms, mud bottom, good holding ground. There were no dangers in the anchorage or approach.

(106) **Kitkun Bay** has its entrance west of **Babe Islands**, about 6 miles southwest of Chasina Point, and extends in a general southwest direction from the south side of Cholmondeley Sound. The area was surveyed in 1961. Entrance to the north part of the bay should be made through the west of two channels. The least depth in midchannel is 3½ fathoms. Entrance to the south part of the bay can be made through a narrow channel about halfway down the east shore of the north part of the bay. This channel is foul at the entrance; the foul area is marked by kelp. Currents in the channel and near the entrance are very strong, with tide rips near the entrance. The least depth in the narrowest part of the channel is 1½ fathoms.

(107) **Dora Bay**, on the south side, about 7 miles inside the entrance to Cholmondeley Sound, may be used as an anchorage, but is not recommended. There is an irregular ridge, with a least depth of 7¼ fathoms, in the middle of the bay about 1.1 miles inside the entrance.

(108) **Sunny Cove** is on the north side at the head of the main part of Cholmondeley Sound, about 8 miles west of Chasina Anchorage, and with local knowledge affords anchorage for small craft. Vessels entering Sunny Cove should steer midchannel courses. **Sunny Point** is the rounding point on the east side of the entrance to the cove.

(109) The head of Cholmondeley Sound is divided into two arms known as South Arm and West Arm. West Arm has a straight unbroken north shoreline. Its south shore has two indentations, the first, about 1.5 miles above the confluence of the two arms, is small but furnishes shelter for small craft with anchor depths of 4 to 8 fathoms. The second indentation in the south shore is south-southwest of the most east of the chain of small wooded islets. Anchorage with ample swinging room may be had here behind the islet in 7 to 15 fathoms, soft bottom. Enter the small bay from West Arm by keeping west of the islet. Anchorage may also be had in 7 to 15 fathoms, soft bottom, at the head of West Arm. This anchorage is exposed to strong winds drawing through the low pass from Hetta Inlet.

(110) From the head of West Arm a portage trail leads west about 3.5 miles to the head of Hetta Inlet.

(111) **South Arm** is free of off-lying dangers as far as is known. Vessels entering should steer midchannel courses to the head of the arm to anchorage in 6 to 10 fathoms, soft bottom. Strong winds from Klakas Inlet draw through the low pass at the head of South Arm.

(112) All tributaries of Cholmondeley Sound freeze in their upper reaches during the winter.

(113) To enter Cholmondeley Sound, from a position 0.5 mile northwest of Chasina Island, vessels should steer **219°** to abeam of Hump Island, then steer midchannel courses to the head of West Arm, passing to the north of the chain of wooded islets.

(114) **Clover Bay** has its 0.2-mile-wide entrance between Clover Point and **Anderson Point**, the south entrance point, about 1.5 miles west of Skin Island. A bare rock is about 120 yards north of Anderson Point, and a rock with a depth of ¼ fathom is in midchannel in the entrance. Safe entry can be made on a course **245°**, passing between the midchannel rock and the rock off Anderson Point. Foul ground extends about 0.2 mile east from Anderson Point. An area, small in extent with a least depth of 1½ fathoms, is about 0.9 mile within the entrance and about 125 yards from the south shore; otherwise depths within the bay range from 7¾ to 41 fathoms.

(115) The head of the bay is blocked by small islands. A small cove with depths of 12 to 21 fathoms, except for lesser depths along the edges, is to the north of **King Island**, the largest of the group. A bar with a midchannel depth of 1¾ fathoms stretches across the entrance to the cove from King Island to the rock off the point on the north shore. A ledge extends 50 yards northwest of King Island within the cove.

(116) **Clover Point**, a narrow wooded neck of land about 100 feet high, projects north-northeast for about 0.6 mile. About 1 mile inshore the land rises to a series of knobs and ridges with higher peaks inland. A bank, small in extent with 6¼ fathoms over it, is 0.6 mile northeast from Clover Point.

(117) The cove to the west of Clover Point is blocked by rocks and islets. The open bight 1 mile northwest of Clover Point is deep. A small 2½-fathom patch is in midentrance. The cove that is 1.6 miles northwest from Clover Point has depths of 11 to 12 fathoms until near the head. Rocks extend off the south point of the entrance for 500 yards, and a rock that uncovers 3 feet is in midentrance. A flat area with depths of 11 to 20 fathoms extends about 1.5 miles in a northwest direction from the north entrance point of the cove.

(118)

## Sealed Passage to Moss Point

(119) The east shore of Clarence Strait from Dixon Entrance to Vallenar Point, at the west end of Tongass Narrows, is formed by three large islands, Duke, Annette and Gravina and a number of smaller islands. Between these islands flow Felice Strait and Nichols Passage, which connect Clarence Strait with Revillagigedo Channel.

(120) **Sealed Passage** is an approach to Felice Strait from Clarence Strait and is between Duke Island on the east and Percy Islands and Hotspur Island on the west. On the southeast side of the south end of the passage about 5.2 miles southwest of **Point White**, the west extremity of Duke Island, there are numerous rocks, submerged and awash, of which Hassler Reef and the Bee Rocks are the outermost.

(121) Duke Island, the rocks to south, and Hassler Reef, about 5.2 miles southwest of Point White, have been described in chapter 4.

(122) **Bee Rocks**, about 3.7 miles southwest of Point White, is a group of awash and submerged rocks that is marked by kelp. Passage between Bee Rocks and Hassler Reef to the southwest, and Point White to the northeast, is not recommended without local knowledge.

(123) A shoal with 1¾ fathoms over it is about 2.8 miles south of Point White.

(124) **Percy Islands** are a large number of low wooded islands on the northwest side of Sealed Passage. The passages between these islands are not navigable except for very small craft with local knowledge. Anchorage can be had either northeast or southwest of the southernmost island.

(125)

### Local magnetic disturbance

(126) Differences of as much as 17½° from the normal variation have been observed in the vicinity of the southernmost island at 54°56.0'N., 131°35.5'W.

(127) **Sealing Reef** is a double-headed rock awash about 1 mile east-southeast from the south extremity of Percy Islands.

(128) A pinnacle rock, not marked by kelp, with a least found depth of 5½ fathoms, is 1.5 miles east-southeast from the south extremity of Percy Islands. A group of rocks, some of which are 6 to 8 feet high, are 1.5 miles west-northwest of Point White.

(129) **Hotspur Island**, on the northwest side of Sealed Passage northeast of Percy Islands, is heavily wooded and has its greatest elevation near the north side.

(130) **Werlick Island**, south of Hotspur Island, is low and heavily wooded.

(131) **Vegas Islands**, 1.2 miles east of the south extremity of Hotspur Island and about 0.5 mile off the Duke Island shore, are 160 feet high and heavily wooded. Between them and Duke Island are several rocks.

(132) **Felice Strait** extends from Sealed Passage to Revillagigedo Channel, between Duke Island, Dog Island, Cat Island and Mary Island on the southeast, and Annette Island on the northwest. It offers the most direct route for vessels from the south end of Behm Canal but is little used. There are several dangers, all charted, but those nearest the sailing line are marked or show above water, with the exception of the 1½-fathom depth on Bostwick Reef in 55°02.3'N., 131°18.8'W. No difficulty should be experienced in making the passage through the strait in daytime and with clear weather.

(133) **Currents** in Felice Strait have considerable strength. At Harris Island they have a maximum velocity of about 4.2 knots, diminishing rapidly at short distances away. Around Snipe Island the currents have a maximum velocity of 4.2 knots. (See the Tidal Current Tables for daily predictions for places in Felice Strait.)

(134) **Percy Point** (54°56.8'N., 131°37.1'W.), the westernmost point of Percy Islands and on the north side of the southwest entrance to Sealed Passage, is a small island, 150 feet high, with a bold, rocky shore.

(135) From Percy Point northeast to Harris Island, the shore is free from dangers except close-to. **Cow Island** is a small, wooded island 100 feet high, north of the Percy Island Group. North of Cow Island are two wooded islets; between the islets and Cow Island are two reefs that bare.

(136) **Point Davison** and the west part of Annette Island are low and wooded. There are numerous off-lying islands and reefs for some distance from the main shore. The extremity of Point Davison is a double island with a small wooded patch on it and is conspicuous only from east or west. **Point Davison Light** (54°59'39"N., 131°36'50"W.), 33 feet above the water, is shown from a spindle with a red and white diamond-shaped daymark on the outermost of the small islands off the south end of the point.

(137) **Harris Island** is a small wooded island 90 feet high northwest of Hotspur Island. Along the north shore of this island are considerable quantities of kelp that should be given a berth of at least 150 yards in rounding the island. Fair anchorage in 6 to 12 fathoms, sandy bottom, can be had 0.2 mile northeast of Harris Island. A light is on the north end of the island.

(138) A group of wooded islets are 0.2 to 0.8 mile off **Sextant Point**, the first point northeast of Point Davison. Foul ground extends about 500 yards north and about 700 yards south of these islets. Between the islets and Sextant Point is a clear, deep channel, about 400 yards wide. The main channel into Felice Strait and Tamgas Harbor passes east of the islets and midway between them and Harris Island.

(139) Foul ground extends for 0.4 mile off **Moss Point**, which is 2 miles northeast of Point Davison.

(140)

## Tamgas Harbor

(141) **Tamgas Harbor** has its entrance about 1.5 miles north of Harris Island and is an anchorage suitable for small and moderate-sized craft. The harbor is subject to strong winds in winter. Winds of over 60 knots from northeast to south have been experienced when anchored off **Creek Point**. The depths are generally good except near the southwest shore, which is shoal.

(142) **Survey Point**, east of the entrance to Tamgas Harbor, is indefinite; both it and the southeast section of Annette Island are low and wooded for a distance of 1.5 miles, and then the land rises rapidly to the summit of **Davison Mountain**.

(143) **Ajax Reef**, about 2.5 miles east from Harris Island and about 0.7 mile offshore, extends 0.2 mile in a northeast direction and uncovers 12 feet. It is surrounded by kelp. A light is on the south side of the reef on a rock awash at high water.

(144) **Grass Rock**, 0.4 mile off **Grey Point** on the west side of the entrance, is 15 feet high and mostly bare. A rock, bare at low water and marked by kelp, is about 200 yards south-southeast from Grass Rock.

(145) **Mule Rock**, 0.3 mile from the east shore at the entrance, covers at high water; it may be passed on either side. **Tamgas Harbor Entrance Light** (55°01'19"N., 131°30'50"W.), 30 feet above the water, is shown from a small house on a skeleton tower with a red and white diamond-shaped daymark on the rock.

(146)

### Prominent features

(147) About 1.7 miles northwest of Crab Point is a microwave tower, with red obstruction lights, that is prominent inside Tamgas Harbor. The waterfall at the mouth of the creek at the base of Berry Knoll is visible only at low water. A large prominent rock is on the beach off Tent Point.

(148)

### Anchorages

(149) The best anchorage is in 6 fathoms in the middle of the basin, about 0.5 mile north of Crab Point, taking care to avoid the 3½-fathom spot 0.4 mile northwest of the point.

(150)

### Weather

(151) The climate of Annette is governed by the Gulf of Alaska, topography, and its nearness to the paths of extratropical storms. Its maritime location provides relatively mild temperatures with small daily variations. Periods of subfreezing temperatures seldom exceed 10 days, and a below-0°F reading has occurred only once during the entire period of record. During the summer, while maximums occasionally climb into the 80s, a 90°F

reading is unlikely. Storms moving east across the Gulf of Alaska dump frequent and heavy precipitation with annual amounts similar to those along the Washington and Oregon coasts. Precipitation of some sort falls on an average of about 220 days each year, while snow can be expected on 3 to 5 days per month from December through March. Accumulated snow depths of 1 foot (0.3 m) or more are infrequent and, because of moderating temperatures, snow cover seldom persists beyond a week or two. As a result of topography, Annette averages about 65 percent as much precipitation as Ketchikan, just 20 miles to the north. Winds blow out of the east-southeast through south-southeast. Strong southeasterlies are frequent from October through March with windspeeds attaining 28 knots or more 2 to 4 percent of the time. During summer afternoons, southerlies are common, and conditions with windspeeds of 4 to 10 knots, temperatures between 33°F and 89°F and no precipitation are encountered on about 20 days per month. Thick fogs are infrequent and of short duration. Visibilities of 0.25 miles or less occur on about 15 days each year; conditions are worst from July through October.

(152)

### Routes

(153) In entering Tamgas Harbor, pass about 500 yards west of Tamgas Harbor Entrance Light and keep the east shore close aboard, distant not over 300 yards until about abeam of Tent Point. Then follow a midchannel track into the harbor avoiding the shoals that extend off Crab Point and Yellow Point.

(154)

### Caution

(155) A 1½ fathom shoal, marked by a buoy at its outer extremity, extends about 0.4 mile southeast from Deer Point on the west side, 0.8 mile above Grass Rock. Shoals extend 300 yards offshore between Tent Point and Crab Point and 200 yards off **Yellow Point**, thus narrowing the channel to a width of about 250 yards between these points.

(156)

### Quarantine, customs, immigration and agricultural quarantine

(157) (See chapter 3, Vessel Arrival Inspections, and Appendix A for addresses.)

(158) **Quarantine** is enforced in accordance with regulations of the U.S. Public Health Service. (See Public Health Service, chapter 1.)

(159)

## Wallace Reef to Smuggler Cove

(160) **Wallace Reef**, 2 miles east from Ajax Reef and about 0.5 mile off the Annette Island shore, has a least depth of ¾ fathom over it and is surrounded by kelp.

(161) **Snipe Island** is small and is marked by a light. The island is about 10 feet above the water and has a few grassy patches on the highest part.

(162) **Annette Point**, at the southeast extremity of Annette Island, is low and wooded and has deep water close-to.

(163) **Indian Rock**, 2 miles northeast of Annette Point and 0.7 mile off Annette Island, is a cluster of rocks about 0.3 mile in diameter, several of which bare at extreme low water and are marked by heavy kelp. A lighted buoy marks the west side of the shoal.

(164) **Bostwick Reef** is 1 mile east-northeast of Indian Rock; it is of considerable extent, marked by kelp, and has a least found depth of 1½ fathoms near its northernmost end.

(165) **Ryus Bay** is on the northwest side of Duke Island about 1.4 miles east of Vegas Islands. It is easy of access and well sheltered and affords excellent anchorage for small craft in 10 fathoms, mud bottom.

(166) **Tamgas Reef**, about 0.8 mile off the north shore of Duke Island appears as a five-headed rock. One head shows about 3 feet at high water; the others show at various stages of the tide.

(167) **Niquette Harbor**, east of Ryus Bay, is on the northwest side of Duke Island and is about 0.3 mile wide at the widest part. It extends about 0.5 mile in a southwest direction, narrowing to an inlet that dries, about 0.5 mile long. A submerged rock is 100 yards off the east shore of the narrowest part of the entrance to the harbor, and a rock awash is opposite close to the west shore. Favor the west shore in entering. Anchorage for very small craft may be had in 4 to 6 fathoms in the bight within the entrance. Two rocks, awash, extend about 150 yards north from the point on the south side of the west shore of the bight.

(168) **Dog Bay**, about 1.4 miles east-northeast of Niquette Harbor, is a small open bight with 33 fathoms at the entrance, 17 fathoms near the head, and 13 to 15 fathoms in the southeast corner. Rocks are off the east and west shores, as shown on the chart.

(169) **Dog Island**, immediately east of Dog Bay, is heavily wooded and has a rocky shore. Between Dog Island and Cat Island about 1.8 miles to the northeast are Double Islands, Fish Islands and Village Island.

(170) **Double Islands**, small and wooded, are connected at low water and are surrounded by a considerable area of rocks and reefs that bare.

(171) **Fish Islands**, two in number and surrounded by moderate-sized rocky ledges, are about 150 feet high and heavily wooded.

(172) **Village Island** is low with a sand beach on all sides. During the summer, grass grows rankly around the old grave sites and decaying totem poles on the island.

(173) **Pond Bay**, southeast of Dog Island between it and Duke Island, affords good anchorage when once inside but is little used because of the dangerous approach. The entrance from Felice Strait and Dog Bay, west of Dog Island, bares about 2 feet. A 6-fathom passage leads north of Dog Island into Pond Bay, but it is obstructed by rocks and requires local knowledge to enter safely.

(174) The best approach to Pond Bay is from Revillagigedo Channel through **Cat Passage** between Grave Point and three islets off the southeast point of Cat Island. The best

water leads about 0.3 mile north of Grave Point until up to a reef that extends southwest from a group of small highwater islands off the northeast point of the entrance to the bay; thence it leads about midchannel. It is advisable for strangers to enter at low water and with caution. Rocks in depths of 4½ and 6 feet have been reported in the west end of Cat Passage.

(175) **Beaver Creek**, on the west side of Mary Island, is a small creek, the entrance to which is not readily discerned at high water. A 2¾-fathom spot is 0.3 mile to the southwest of its entrance, with a rock awash between it and the shore.

(176) **Customhouse Cove** is an indentation in the west side of Mary Island that affords good shelter during southeast weather. The anchorage is in the middle of the cove, 300 yards from the bare ledges fringing the shore.

(177) **Giant Point**, the north extremity of Mary Island, has reefs that extend 200 yards north from it.

(178) **Kwain Bay** and **Crab Bay** are on the east shore of Annette Island opposite Mary Island. The former affords fair anchorage for moderate-sized vessels and has an entrance south of the rocks in the center of the bay. Crab Bay is an excellent anchorage for small craft and is used considerably.

(179) **Nichols Passage** is between **Annette Island** on the east and **Gravina Island** on the west and connects Clarence Strait with the southeast end of Tongass Narrows. It offers the shortest route for vessels from Dixon Entrance and the south part of Clarence Strait to Ketchikan. There are several clusters of dangerous rocks in the passage, but they are well marked and easily avoided. The channel generally used by large vessels passes west of Warburton Island and Kelp Rocks. Most small craft when entering or leaving Clarence Strait from the north, or from Moira Sound, use the narrow channel that passes between the Bronaugh Islands and Gravina Island into Nichols Passage.

(180)

### Currents

(181) Vessels bound to Nichols Passage from points across Clarence Strait should take the current into consideration, for the course is rarely made good. In Nichols Passage the flood sets north with a velocity of 0.7 to 2.8 knots, the greatest strength being felt in the vicinity of Walden Rocks. Currents are considerably influenced by the winds. (See the Tidal Current Tables for predictions for places in Nichols Passage.)

(182) The southwest end of Annette Island on the east side of Nichols Passage, from Point Davison to Yellow Hill, is about 200 feet high and wooded. The shoreline is irregular and broken by numerous small bights, islands and rocks. **Yellow Hill** is a yellow-topped hill 1.5 miles south from Metlakatla. The summit is formed by several bare, rounded knolls of approximately equal elevation.

(183) **Hid Reef** is about 2 miles off the west shore of Annette Island at the south entrance to Nichols Passage. On the reef are three distinct clumps of rocks, bare at about half tide with narrow passages between them. The outermost rock is 2.8 miles southwest from **Cedar Point** (55°05.8'N., 131°36.4'W.) and is marked by a lighted whistle buoy.

(184) **Canoe Cove** indents the west shore of Annette Island about 3 miles south of Cedar Point. The cove is used by small boats and is entered through the north passage.

(185) **Smuggler Cove**, immediately south of Cedar Point, is open and exposed. In the upper part of the cove is a beach of fine clear sand 200 yards long. The microwave tower close east-southeast of Smuggler Cove is prominent from the cove and Nichols Passage.

(186)

## Dall Head to Dall Bay

(187) **Dall Head**, the south extremity of Gravina Island, is the west headland at the south entrance to Nichols Passage. It is low and wooded. At a distance of 1.5 miles north of Dall Head the land rises rapidly to the high mountains of **Dall Ridge**, with its high and remarkable peaks, and forms a conspicuous landmark from Clarence Strait and Dixon Entrance in clear weather. The south end of Dall Ridge is unusually rugged and broken. The southernmost summit is crowned with a narrow cap of trees, below which for 600 feet are bare cliffs of gray and brownish rock. Several rounded hills covered with dead trees show white against the mountains of Dall Ridge. At the south end of Dall Ridge are two large landslides facing south.

(188) **Bronaugh Islands**, which extend from 0.3 to 2 miles from Dall Head, are low and wooded with rocks and reefs surrounding them. The easternmost island of the group, known as **Point McCartey**, is bare on the south and east edges. It is marked by **Point McCartey Light** (55°06'49"N., 131°42'26"W.), 44 feet above the water and shown from a skeleton tower with a red and white diamond-shaped daymark.

(189) A rock, bare at half tide, is 0.7 mile southwest of Point McCartey Light. Several other similar rocks are between this one and the Bronaugh Islands. A rock, which uncovers 2 feet and has deep water close to it, is about 0.3 mile east-southeast from Point McCartey. This rock is marked by a buoy. A shoal, covered 25 feet, is about 0.5 mile southeast of Point McCartey Light.

(190) Banks and broken ground, with least found depths of 7 to 15 fathoms, are about 0.9 mile northeast from Point McCartey. This area should be avoided.

(191) The narrow passage between Bronaugh Islands and Gravina Island has a least depth of 30 feet and is used considerably by small craft. It should be used only with local knowledge.

(192) **Dall Bay**, on the west side of Nichols Passage, about 1.5 miles north of Dall Head, has many dangers that are shown on the chart. It offers good anchorage in 8 fathoms, mud bottom, between the two islands well inside the bay. There is also small-craft anchorage farther in, depth 3 fathoms, soft mud bottom. Local knowledge is essential

for entering. A privately maintained mooring float is near the head of the bay. The bay is used for storing fish traps.

(193)

## Warburton Island to Sylburn Harbor

(194) **Warburton Island** is about 2.8 miles northeast of Point McCartey and 1.4 miles from the west shore of Annette Island. It is about 0.1 mile in diameter, 130 feet high and round topped, and has steep, rocky shores. A rock with 1½ fathoms over it is about 200 yards northwest of the island.

(195) **Warburton Island Light** (55°07'56"N., 131°38'01"W.), 35 feet (10.6 m) above the water, is shown from a skeleton tower with a red and white diamond-shaped daymark on the east side of the island.

(196) **Kelp Rocks** are four widely spaced patches surrounded by deep water, northwest of Warburton Island Light. The northeasternmost patch is marked on its northeast side by a buoy, and the westernmost patch by a lighted bell buoy on the west side. The northeasternmost rock is on the range of the waterfall in Port Chester and the north end of Gull Island.

(197) **Port Chester** is an extensive bay indenting the west shore of Annette Island, east of Warburton Island. It is encumbered by numerous islands and reefs, of which the southernmost is **Gull Island**, known locally as **Crow Island**, 150 feet high and wooded. About 0.4 mile west-southwest of Gull Island is a rock awash at highest tides. Surrounding it and extending to the islet east are extensive ledges with bare heads; the west extremity of these ledges is marked by a lighted buoy. Another ledge with bare heads extends about 0.6 mile east from Gull Island. The bare head closest to Gull Island in this ledge is known locally as **One-Tree Island**. A lighted buoy is on the east side of the 1¼-fathom rock lying about 0.7 mile east-southeast of Gull Island. **Village Point**, on the south side of the entrance to Port Chester, is low and sandy, with a gravel beach on the east side. West of Village Point are extensive reefs that bare to a distance of 0.2 mile offshore. A light is on the pier on the west side of Village Point.

(198) **Metlakatla** (55°07.7'N., 131°34.6'W.) is a large native American community on the south side of Port Chester about 16 miles south of Ketchikan, through Tongass Narrows and Nichols Passage.

(199) Metlakatla has a cold storage plant, a cannery, a sawmill and an oil terminal. The cold storage plant and a large white church with two square towers are prominent from Nichols Passage.

(200) The waters surrounding Annette Island, including islands off the eastern shore—Ham Island, Walker Island, Lewis Island, Spire Island—and Hemlock Island off the western shore, are included in the **Annette Islands Reserve**. The reserve is part of the Metlakatla Indian Community and extends outward 3,000 feet from the shoreline of the islands. Commercial, subsistence, and sport fishing are restricted to members of the community—see **25 CFR 241.1** through **241.6**, for limits and regulations. These regulations are not carried in this Coast Pilot.

(201)

### Pilotage, Metlakatla

(202) Pilotage, except for certain exempted vessels, is compulsory for all vessels navigating the inside waters of the State of Alaska. (See Pilotage, Alaska, indexed as such, chapter 3, for details.)

(203) Vessels en route Metlakatla meet the pilot boat about 1 mile east of Point McCartey Light (55°06.8'N., 131°40.5'W.).

(204) The pilot boat, a tugboat, can be contacted by calling "METLAKATLA PILOT BOAT" on VHF-FM channels 16, 13 or 12.

(205)

### Quarantine, customs, immigration and agricultural quarantine

(206) (See chapter 3, Vessel Arrival Inspections, and Appendix A for addresses.)

(207) **Quarantine** is enforced in accordance with regulations of the U.S. Public Health Service. (See Public Health Service, chapter 1.)

(208)

### Wharves

(209) Metlakatla has an oil company pier, a city pier, a state ferry terminal, a packing company wharf, a barge terminal, a barge ramp, a seaplane float and public and privately owned small-craft facilities.

(210) **Annette Island Packing Company Wharf** (55°07'48"N., 131°34'19"W.): about 300 yards southeast of Village Point; 390-foot face, southwest side 70 feet long, northeast side 120 feet long; 23 feet alongside; deck height, 26 feet; a 1-ton derrick, ten forklifts up to 3 tons; ice for fishing vessels and water are available; receipt of seafood; owned by the City of Metlakatla and operated by the Annette Island Packing Company.

(211) **Metlakatla City Dock** (55°07'42"N., 131°34'07"W.): about 200 yards southeast of Annette Island Packing Company Wharf, close east and parallel to the breakwater protecting the small-craft basin to the west; 400-foot face; southeast side 70 feet long, northwest side 55 feet long; 35 feet alongside; deck height, 26 feet; water and electricity are available; mooring cruise ships; owned and operated by the City of Metlakatla.

(212) **Metlakatla City Barge Ramp**: close south of the City Dock; adjustable transfer bridge; 15 feet reported alongside the outer end of the ramp and the inshore is dry; 22½-ton and 9-ton forklift trucks; water and electricity are available; receipt and shipment of containerized and roll-on/roll-off general cargo; owned by the City of Metlakatla and operated by Boyer Alaska Barge Line, Inc.

(213) **City of Metlakatla Fuel Transfer Dock** (55°07'27"N., 131°33'27"W.): about 800 yards southeast of the City Dock; three dolphins providing 200 feet of berthing space; 15 feet alongside; receipt of petroleum products by barge; owned by the City of Metlakatla and

operated by Annette Island Gas Service and Metlakatla Power and Light.

(214) **State of Alaska, Metlakatla Ferry Terminal Dock** (55°07'05"N., 131°32'49"W.): about 1 mile southeast of the City Dock; steel transfer bridge with five dolphins providing 280 feet of total berthing space; 24 feet alongside; passenger and vehicles; owned and operated by the State of Alaska.

(215)

### Supplies

(216) Gasoline, diesel fuel, distillates and water are available at the fuel facility. Provisions, fishing supplies, and limited amounts of marine supplies can be obtained in Metlakatla. Additional supplies may be obtained in Ketchikan 16 miles north.

(217)

### Repairs

(218) There are no provisions for overhauling vessels in Metlakatla. During the fishing season, the machine shop at the Packing Company Wharf is available for minor repairs to small craft. Extensive repairs for small craft are available in Ketchikan, 16 miles to the north.

(219)

### Small-craft facilities

(220) A small-craft basin, protected by a breakwater, is close southwest of the City Pier. In 2010, the controlling depth was 10 feet in the entrance channel and basin with lesser depths in the southwest corner of the basin and along the edge of the basin about 100 yards southeast of the entrance light. The entrance is marked by a light on the northwest end of the breakwater. There is 1,100 feet (335 m) of berthing space along the floats. The basin is under the control of the **harbormaster** who monitors VHF-FM channel 16 and can also be contacted by telephone at 907-886-4646. A combination seaplane and small-boat float is on the northeast side of Village Point.

(221) Another small-craft basin, protected by breakwaters, is 0.3 mile west of Village Point. In 2010, the controlling depth was 13 feet in the entrance, thence 12 feet in the west section of the basin and 9 feet in the east section except for lesser depths along the edges. The entrance is marked by a light on the end of the northwest breakwater and daybeacons just off the end of the southeast breakwater.

(222)

### Communications

(223) The Alaska State Ferry System has scheduled ferry service to Metlakatla. Seaplanes from Ketchikan also make scheduled trips to the community. Metlakatla is connected with Annette by highway. Telephone and radiotelephone communication is maintained with other states and parts of Alaska.

(224) **Scrub Islands**, known locally as the **Two Sisters**, about 0.8 mile east of Gull Island, have two scraggy clumps of trees and are surrounded by ledges, mostly covered at high water. A lighted buoy marks the northeast side of the ledges.

(225) **Hub Rock**, known locally as **Devils Rock**, about 1 mile north-northeast of Village Point, is a small bare ledge about 6 feet above high water marked by a light. A 1-fathom spot is about 0.3 mile north-northeast from Hub Rock.

(226) **Martin Rock**, awash at low water, is 0.2 mile northwest of Hub Rock; it is not marked by kelp.

(227) **Murdo Island**, about 1.1 miles north of Village Point, and locally known as **Battleship Island** from its former vegetation, is covered with grass and numerous trees. Extensive ledges extend south, west and north from the island. A daybeacon is 0.8 mile northwest of Murdo Island.

(228) **Fillmore Rock** is about 0.3 mile north-northwest of Murdo Island and bares 1 foot at lowest tides.

(229) **Lively Rock** is about 0.5 mile north from Murdo Island and has 5 feet over it at low water. It is marked by a lighted buoy close northeast of the rock.

(230) **Hemlock Island**, close to the north shore of Port Chester, is wooded and fringed with reefs. During lowest tide, it is connected at its north corner with Annette Island.

(231) Leading to Port Chester are three channels, of which the south one, between Gull Island and Village Point, is of chief importance; the dangers are shown on the chart. Enter on a **085°** course with Warburton Island Light directly astern. The second entrance is the narrow passage between Murdo and Gull Islands; it is seldom used.

(232) The north entrance leads from off Driest Point to midway between Hemlock Island and the lighted buoy marking Lively Rock, then south-southeast passing east of Scrub Island Light 7, then south-southwest to Port Chester.

(233) Port Chester does not afford good anchorage. During southeast gales, winds blow with great violence across it, and williwaws of 60 to 70 knots sweep down from **Purple Mountain** and across the anchorage. Anchorage is to be had in 14 fathoms, mud bottom, about 0.5 mile east of the Packing Company Wharf.

(234) **Driest Point**, on the northwest side of Port Chester and separating it from Sylburn Harbor, is a narrow, rocky stretch of land, 250 feet high, and wooded down to the high-water line. Foul ground extends about 0.5 mile north from the point. **Driest Point Light 4** (55°10'36"N., 131°36'23"W.), 29 feet above the water, is shown from a spindle with a red triangular daymark on the west extremity of the point.

(235) **Sylburn Harbor** is a small bay north of Driest Point, the south end of which affords fair anchorage for small craft in 7 to 18 fathoms. The easternmost branch of the harbor is known locally as **Japan Bay**. About the middle of the outer entrance to Sylburn Harbor is a large double-headed rock that is covered several feet at high water. Strangers entering the harbor are advised to wait for low water when the dangers are visible. A **159°** course, with the middle of Blank Inlet astern and the middle of the south bight ahead, leads midway between the foul ground off Driest Point and the rock in the middle of the outer entrance.

(236)

## Seal Cove to Annette Bay

(237) **Seal Cove** (55°11'N., 131°43'W.) is on the west side of Nichols Passage, 4 miles north of Point McCartey. It has depths of about 30 to 40 feet but is suitable only for small craft because of its narrow entrance. A reef, mostly bare at half tide, extends across the entrance, through which are two channels. The north one has a depth of 8 feet and width of 75 yards, but it is full of boulders and dangerous. The south entrance is generally used. It is close to the south shore and has a depth of about 3 to 11 feet. The channel is narrow and has thick kelp and strong currents. Caution is advised when entering Seal Cove by the north or south entrance. **Seal Cove Rock**, covered 1¼ fathoms and surrounded by kelp, is about 0.4 mile east of the highest part of the reef in the entrance to Seal Cove.

(238) **Bostwick Inlet**, immediately north of Seal Cove, is on the west side of Nichols Passage, 6 miles north of Point McCartey. It affords no shelter in southeast weather. The south shore is generally foul, and the upper part of the bay bares for 1.2 miles from the head. In entering, follow the north shore at a distance of about 0.2 mile. A rock awash at high water is on the southwest side of the channel at about 55°13.2'N., 131°44.0'W.

(239) **Blank Inlet**, about 4 miles north of Bostwick Inlet and west of Gravina Point, the east extremity of Gravina Island, extends 3 miles northwest into the shore of Gravina Island. It is open to the sea from Nichols Passage and affords no sheltered anchorage. Two rocks awash are almost in the center of the inlet.

(240) **Blank Islands**, two in number, 200 feet high and wooded, are near the north side of the entrance to Blank Inlet. The south shoreline is bare rock for 50 to 100 yards outside the trees, and the shore is bold. Small craft can find good anchorage in the bight on the north side of the islands. **Blank Islands Light** (55°15'59"N., 131°38'23"W.), 37 feet above the water, is shown from a skeleton tower with a red and white diamond-shaped daymark on the southeast extremity of the south Blank Island.

(241) **Walden Rocks** are a group of bare rocks at the north entrance to Nichols Passage. The group at its east end shows about 10 feet at high water, and at that time the smaller rocks are covered. About 150 yards west of the group is a rock, covered 0.8 fathom and showing kelp. The rock is marked by a light. Kelp-marked rocks are north of the group. A rock, covered 0.8 fathom, is in about 55°16'29"N., 131°36'35"W. and about 500 yards north of the tallest rock. Another rock that uncovers 6 feet is about 475 yards north-northwest of the tallest rock in about 55°16'26"N., 131°36'44"W. About 0.6 mile south of Walden Rocks is a rocky ledge that uncovers 12 feet; between it and Annette Island are a number of rocks that bare.

(242) **Walden Point** offers considerable shelter for small craft directly offshore. **Bailey Rock** covers at high water, is marked by a daybeacon, and is about 1 mile south of Walden Point.

(243) **Annette Bay**, at the northwest end of Annette Island, is about 0.8 mile wide at the entrance and narrows to a small stream; it is about 3 miles long, has deep water, and does not afford anchorage for vessels. Small craft can anchor near its head in 7 to 8 fathoms. **Race Point**, the north extremity of Annette Island, and the northeast point at the entrance to the bay, is wooded and has a height of about 150 feet. A ledge with a rock awash extends 450 yards northwest of the point. The point should be given a berth of over 0.3 mile.

(244) The west shore of Gravina Island from Dall Head to South Vallenar Point is heavily timbered, bold, and rocky. Close to shore are many large boulders and rocks, and the bottom is rocky and uneven. The 100-fathom curve is from 0.5 to 1 mile offshore, and it is advisable to give the coast a berth of that distance.

(245) Tidal currents are usually strong close to shore, especially on the flood, reaching an estimated velocity of 2 knots. Small tide rips are found off the more prominent points when the wind is opposed to the current. West of Bronaugh Islands moderate tide rips are set up on a flood current with a north wind. Around South Vallenar Point, an estimated velocity of 2.5 knots is reached on the flood and 1.5 knots on the ebb, with moderate tide rips when wind and current are opposed. West of Vallenar Point the flood current is estimated at 3 knots and 1.5 knots on the ebb with strong tide rips on the ebb during a southeast storm.

(246) Dall Head has been described with Nichols Passage.

(247)

## Nehenta Bay

(248) Rocks and islands extend about 0.6 mile offshore for a distance of 1.2 miles northwest from Dall Head. A small open bight, foul near the head, with depths of 6 to 7 fathoms in the entrance, is 1.4 miles northwest from Dall Head. A small rocky islet is off the south shore of the entrance. A rock awash is 400 yards off the wooded islet south of the entrance; it is 1.5 miles west-northwest of Dall Head.

(249) **Nehenta Bay**, open to the south, is 2.5 miles northwest of Dall Head. Depths of 12 to 16 fathoms were obtained in the channel west of the small rocky islet in the middle of the entrance that marks the end of the chain of rocks and rocky islets that extend north from the island at the south entrance point. Foul ground extends 0.1 mile from the head of the bay, and a 6-foot spot is 650 yards 212° from the midchannel rock. Depths of 7¾ to 14 fathoms were obtained in the middle of the bay, while depths of 14 fathoms were obtained in the small bight east of midchannel rock. The narrow arm, 0.4 mile long in a northwest direction on the northwest side of the bay, has a depth of 3½ fathoms at the entrance and 2¼ fathoms halfway to the head. A reef extends from the northeast

shore to within 50 yards of the southwest shore of this arm.

(250) **Phocena Rocks**, the highest 25 feet, are 275 yards offshore, west of the northwest point of the entrance to Nehenta Bay.

(251)

## Phocena Bay to Vallanar Bay

(252) **Phocena Bay** (55°10.8'N., 131°48.5'W.), 3.6 miles northwest from Dall Head, open to the south, has a 5¼-fathom spot about midentrance and depths of 9 to 17 fathoms just within the entrance. Foul ground extends about 350 yards off the north entrance point. The north end of the cove is foul for about 0.1 mile from the shore, to the south is an area approximately 200 yards wide, with depths of 1 to 3 fathoms, where fishermen find fair-weather anchorage. The bight to the east of the south entrance point has 7 fathoms at the entrance and shoals rapidly to the head. The small cove immediately west of the north entrance point to the cove is foul.

(253) **Open Bay** (55°11'45"N., 131°49'30"W.), 5 miles northwest from Dall Head, is open to the west and northwest. Depths of 6 fathoms are found at the entrance, 1¾ fathoms 150 yards within, and shoal water to the head.

(254) **Grant Cove**, about 14.5 miles north-northwest of Dall Head and 1.7 miles south-southeast of South Vallenar Point, is exposed to the west. The cove shoals from depths of over 20 fathoms at the entrance to depths of 10 fathoms at the edge of the flat 300 yards from the head. Give the shore south of the south entrance point to the cove a berth of about 0.3 mile. A mooring log is anchored near the head of the cove in 10 fathoms.

(255) The small cove 0.8 mile north-northwest of Grant Cove is open, exposed, shallow, and foul. A rock with a depth of about 1 fathom is about 300 yards west of the north entrance point to the cove. Another rock, which uncovers 3 feet, is about 200 yards south of the north entrance point; the area north of this rock should be avoided. The small cove 1.1 miles north-northwest from Grant Cove bares at low water, with the exception of a very narrow opening 200 yards long midway in the entrance that has depths of about 2 fathoms. A large kelp-marked shoal is about 0.5 mile west-southwest of the cove. A rock with a depth of about 3 feet is near the south end of this shoal.

(256) **South Vallenar Point**, about 1.7 miles north of Grant Cove, is near the northwest end of Gravina Island on the northeast side of Clarence Strait.

(257) A ridge extends about 0.8 mile north from South Vallenar Point. The bottom is rocky and very irregular. A rock, 5 feet high, is about 0.2 mile north of the point.

(258) **Vallenar Bay**, between South Vallenar and Vallenar Points, affords good shelter from winds drawing up the strait. A foul area with several rocks, some awash and others that uncover, extends about 0.5 mile north from the south shore of Vallenar Bay about 0.2 mile east of the 5-foot high rock north of South Vallenar Point. A mudflat that dries extends about 0.4 mile from the head of the bay. Anchorage in about 14 fathoms can be found 0.7 mile from the head of the bay about 350 yards off the east shore.

(259) Vallenar Point is described in chapter 4.

(260)

## Kasaan Bay to Harris River Bay

(261) **Kasaan Bay**, 47 miles north of Cape Chacon, has its entrance on the west side of Clarence Strait, between Island Point and Grindall Island, where it is about 4.0 miles wide. It extends about 17.5 miles northwest to Karta Bay at its head. About halfway up the bay, in the middle, are several islands. The shores of the bay and islands are steep-to and heavily wooded. A high, steep mountain range extends along the north shore of the bay almost to the head. Fog often prevails in the south part of Clarence Strait, while it is clear in Kasaan Bay. During southeast stormy weather, clouds and mist travel low along the north shore, while the south shore is generally free from low-flying scud. During southeast storms the sea at the entrance to the bay is rough and treacherous for small craft. Temporary anchorage while waiting for the fog to lift may be had on an extensive bank, 0.6 to 1.2 miles south-southwest from Grindall Point in depths of 8 to 14 fathoms. All known dangers are shown on the chart. Midchannel depths are generally good.

(262) **Currents** in Clarence Strait from Clover Bay to High Island are most noticeable on the flood and with a south wind attain an estimated velocity of 2 to 2.5 knots. From Island Point south there is generally a south eddy close to shore during flood tides. Off Island Point and the east end of High Island, moderate tide rips are formed when the wind is against the current.

(263) **Island Point**, the south point at the entrance to Kasaan Bay, is rounded and wooded and has an elevation of 228 feet. A small rocky islet is close to the north shore and two small rocks are close to the east shore of the point. The shoreline is grayish-white rock about 25 feet high. Moderate tide rips are encountered off the point.

(264) The small cove to the west of Island Point has depths of 22 fathoms at the entrance shoaling to 6 fathoms near the head. It is used as an anchorage by fishing boats but is exposed to the north.

(265) **Twenty Fathom Bank** is 2 miles east-southeast of Island Point. The bottom is rocky and has a least depth of 17 fathoms. The bank is used extensively by fishermen engaged in trolling.

(266) **High Island**, about 1.4 miles north of Island Point, is wooded. From the south there appears to be twin summits on the island, but they merge into one from the east and again become visible from the northwest. The slope of the island is uniform. The northeast and south shores are abrupt and consist of gray rock, 20 to 40 feet high.

(267) **High Island Light** (55°24'03"N., 132°09'51"W.), 40 feet above the water, shown from a skeleton tower with a red and white diamond-shaped daymark on the

northeast side of the island, marks the entrance to Kasaan Bay. A rocky islet, 43 feet high and with a few trees on it, is off the southeast end of the island.

(268) **Patterson Island**, about 100 yards west of High Island with foul ground between, extends west about 1.3 miles. The island is timbered and has three summits; the highest is at the east end. A bight makes into the south shore of the island near the west end in the depression between the west summit and the east ridge. It is used as an anchorage during north weather but affords no protection during southeast weather. Several rocks that cover at high water are at the entrance. The outermost rock, which bares at half tide in 55°23'38"N., 132°11'57"W., is about 0.25 mile east-southeast from the west point of the entrance to the bight. A house is at the head of the bight.

(269) A rock with 1 fathom over it in 55°23'38"N., 132°10'51"W., is about 0.4 mile south-southwest from the easternmost point of Patterson Island, and it is not always marked by kelp; otherwise the passage south of the island is clear.

(270) **Grindall Island**, the north point of the entrance to Kasaan Bay, is about 4.2 miles north-northeast from Island Point. It is heavily wooded and has two knobs near the southwest end; the west knob is the highest. The east part of the island is low. **Approach Point** is the east extremity of the island.

(271)

### Local magnetic disturbance

(272) Differences of as much as 5° from the normal variation have been observed on Grindall Island in the vicinity of Approach Point.

(273) **Grindall Point**, the southeast end of Kasaan Peninsula, has a symmetrical rounded hill that is visible in every direction. Being separated from the higher land of the peninsula, it forms an excellent landmark. From the upper reaches of Kasaan Bay it could possibly be mistaken for the hill on Grindall Island, which it obscures from view.

(274) **Grindall Passage** is frequently used by those with local knowledge. It is safe for steamers, though the clear part of the channel is only 150 yards wide in the narrowest part. Islets and rocks, some that bare, extend about 825 yards west of the southwest side of Grindall Island to 55°26'39"N., 132°09'34"W. A rock with a depth of 2½ fathoms is in the middle of the passage in about 55°27'01"N., 132°09'07"W., 250 yards north-northwest of the wooded islet off the west end of Grindall Island. A patch of foul ground is on the west side of the south entrance to the passage. This foul ground will be cleared by keeping east of the range formed by two prominent points, one on either side of the cove on the west side of the passage. The north point has a wooded islet close by that should not be mistaken for the point. Pass close to the south point of the cove to avoid the 2½ fathom spot in the middle of the passage. The north entrance is clear.

(275) A good anchorage for small vessels in north weather may be had in what is locally called **Grindall Anchorage**, the small cove at the end of Grindall Point. Anchor in 5 to 12 fathoms, soft bottom. In south weather fair protection can be found directly across the pass off a U.S. Forest Service cabin. The U.S. Forest Service maintains a mooring buoy in the small cove close to the cabin. Fresh water may be obtained here. The current floods east through Grindall Passage, ebbs west, and is of moderate strength.

(276) **Trollers Cove** is back of a chain of islands about 1.4 miles west from Island Point. The cove has depths of 4 to 6 fathoms. It is considered a good small-boat anchorage and is used by those fishing on Twenty Fathom Bank. Three channels may be used in entering. The channel east of the islands bares, is foul, and should be used only by those with local knowledge. The channel in the middle of the chain of islands has a depth of 2½ fathoms. The channel west of the island is best.

(277) Round the west island at a distance of about 125 yards and then follow a midchannel course to the south of the islands. Pass about 50 yards south of the south shore of the east island to avoid a rock awash that is about 100 yards south of the island. When abeam the southeast end of the island, anchor in about 4 fathoms.

(278) The small cove west of the west island has three rocky islets and several rocks marked by kelp in the center. It is not recommended as an anchorage.

(279) **Skowl Arm** and Polk Inlet, its west arm, have a combined length of about 14 miles. The head of the inlet is only about 3 miles from the head of Cholmondeley Sound, though the intervening land is high. **Skowl Point**, the south point at the entrance to Skowl Arm, is the northern-most tip of **Skowl Island**.

(280) **Skowl Point Light** (55°25'39"N., 132°16'11"W.), 15 feet above the water, is shown from a skeleton tower with a red and white diamond-shaped daymark on the outlying bare rock about 300 yards north of the point at the entrance to Skowl Arm. Fishing boats find good protection close to the shore immediately west of Skowl Point during southeast storms.

(281) On the north side, about 3.5 miles up the arm, is the abandoned Haida village of **Old Kasaan**. No evidence of the village remains; other than a few weathered totem poles and a few graves. The village site is part of **Old Kasaan Village Historical Area**, administered by the U.S. Forest Service. In front of the village site is a ledge, covered at high water, that extends about 100 yards offshore.

(282) **Smith Cove**, the large bay east of Old Kasaan village site and about 2 miles west of **Kasaan Point**, affords good anchorage in 10 to 20 fathoms, soft bottom. It should be entered with caution, taking care to avoid the rocks and shoals off the two small wooded islets at the entrance and inside the bay. In 1998, a dangerous rock was reported in the east part of Smith Cove on the west side of the narrow channel about midway between the two islets in about 55°26.4'N., 132°19.8'W. A seaplane float is on the northwest side of Smith Cove.

(283) **Saltery Cove** is a small bay, about 1 mile long, in the southeast shore of Skowl Arm, about 2.5 miles west of Skowl Point and close east of McKenzie Inlet. A group of islands, surrounded by foul ground, is on the east side of the cove; this foul ground extends into the cove about 0.5 mile from the east shore. The channel east of the group of islands in the entrance is the one mostly used. A well-protected anchorage for small craft in about 4 to 9 fathoms, mud bottom, is near the head of the cove. Numerous floating docks and a ¾-fathom rock in about 55°24'06"N., 132°19'43"W., are at the west side of the head of the cove.

(284) **McKenzie Inlet**, the south branch of Skowl Arm, has its entrance about 3.7 miles west of Skowl Point. The inlet extends about 5 miles in a south direction. **McKenzie Rock**, bare, is about 0.5 mile west of **Khayyam Point**, the east point at the entrance; there is no safe channel between. A dangerous submerged rock is immediately north of McKenzie Rock. A rock that uncovers 4 feet in about 55°24'11"N., 132°21'59"W., and a rock awash immediately to the northwest are about 400 yards from the east shore, 0.5 mile south of McKenzie Rock. The only good anchorage in Skowl Arm for vessels of any size is in McKenzie Inlet, about 500 yards north of East Sentinel Island, in 28 fathoms, mud bottom.

(285) About 1 mile inside the entrance, the channel leads between **East Sentinel Island** and **West Sentinel Island**, two rounded wooded islands. Kelp extends from the islands a short distance into the channel, which is narrow and has a depth of about 5 fathoms. A careful midchannel course between the islands leads through safely; south of the islands the inlet is clear. There is good anchorage near the head of the inlet on the northwest side of **Peacock Island**, in depths of 7 to 11 fathoms, soft bottom.

(286) **Paul Bight**, on the west side of the entrance to McKenzie Inlet, affords anchorage for small craft in 3 to 5 fathoms. A group of bare rocks is off the north point at the entrance. In entering, favor the south point. A depth of 3 feet is available in the entrance.

(287) **Polk Inlet**, the west arm of Skowl Arm, is entered about 4.7 miles above the entrance to Skowl Arm and extends west and south for about 9.3 miles. The entrance to the inlet is foul, and extreme caution must be exercised when entering. The current in the entrance to the inlet is weak.

(288) **Black Rock** bares12 feet and is about 1 mile north from Kasaan Point in 55°27'36"N., 132°17'08"W. The range formed by the northeast tangent of **Daisy Island**, 1.3 miles northwest of Black Rock, and the rocky islet southeast of Daisy Island clears Black Rock by a distance of about 0.1 mile.

(289) **Kasaan Island**, low and wooded, and **Round Island**, a small wooded islet northwest of Kasaan Island, are the most noticeable of the islands in the middle of Kasaan Bay. A reef that uncovers 4 feet is about 0.6 mile 162° from the west end of Kasaan Island in 55°29'36"N., 132°22'33"W. The channel south of this reef and south of Kasaan Island has been found clear of dangers. The entrances at both ends of the channel are clear, with the exception of a 2½-fathom shoal extending about 260 yards northwest of **Berry Island** to 55°30'31"N., 132°23'44"W. and a 5-fathom shoal about 0.8 mile 125° from the east end of Kasaan Island in 55°28'56"N., 132°18'05"W.

(290) Anchorage for small boats is to be found in the landlocked inlet on the northeast side of Kasaan Island in 7 to 10 fathoms, soft bottom. This is called **Happy Harbor** locally. The entrance is 2 feet deep, and caution is necessary in entering. A shoal, covered 1¼ fathoms and marked by kelp, extends 300 yards north of a rock awash off the northeast entrance point. After entering the narrow channel, favor the east side until through the entrance.

(291) The lagoon on the south side of Kasaan Island is sheltered but subject to strong winds drawing through from the north. The channel is very narrow and has a controlling depth of 4 feet.

(292) A small cove, known locally as **Linney Bay**, 0.6 mile west of Daisy Island, is used regularly for storage of log rafts. Excellent shelter is afforded in all weather, but center depths and bottom do not favor good anchorage. A rock with 1¼ fathoms over it in about 55°28'30"N., 132°20'35"W., is just east of the center of the entrance, but depths throughout the greater part of the bay are 10 to 24 fathoms with no known dangers.

(293) The small bay about 1.7 miles south of the west end of Kasaan Island affords anchorage for small boats in depths of 8 to 12 fathoms. A reef, which bares, extends about 200 yards southeast from the small island in 55°28'42"N., 132°32'46"W., at the southwest side of the entrance, and another reef with a dangerous rock at its end extends about the same distance to the northeast. When entering the bay, favor the east point. A least depth of 3½ fathoms was obtained in the entrance.

(294) **Kasaan** is a village on the north shore of Kasaan Bay about 10 miles northwest of Grindall Island. The former cannery wharf here has a face 125 feet long with a depth of 32 feet alongside. Some of the pilings under the wharf are badly deteriorated, and some are broken off. Neither water nor supplies are available. The cannery building fronting the wharf is in poor condition as the cannery has not been in operation since 1954. A state-maintained small-craft and seaplane float, with 224 feet of berthing space, is about 25 yards north of the cannery wharf. In 1976, 10 to 25 feet was reported alongside the float. The state-operated radio station in Kasaan maintains radiotelephone communications with Ketchikan. **Kasaan Light** (55°32'05"N., 132°23'46"W.), 12 feet above the water, is shown from a skeleton tower with a red and white diamond-shaped daymark on shore, south of the cannery. The point west of the village is foul and should be given a berth of at least 150 yards.

(295) **Coal Bay**, on the south shore of Kasaan Bay about 3.8 miles southwest of Kasaan and 1.5 miles southeast of Outer Point, affords good anchorage in 15 fathoms except in north weather. It is probable that winter gales from the northwest blow hard into the bay. A reef that bares extends about 0.3 mile in a north direction off the

west point of the entrance to the bay. A rocky shoal, with 1¾ fathoms over it in about 55°30'35"N., 132°29'24"W., is about 0.4 mile east-northeast from the same point.

(296) **Kina Cove**, about 0.5 mile west of Coal Bay, affords good anchorage in 7 to 10 fathoms, 0.8 mile inside the entrance. In entering, follow a midchannel course. A reef is about 100 yards off the west shore about 0.1 mile south of the west point of the narrow entrance to the inner bay.

(297) **Karta Bay**, at the head of Kasaan Bay about 2 miles northwest of Sandy Point, affords good anchorage in 10 to 12 fathoms, with a clearance of about 430 yards. **Mound Point** (55°34.6'N., 132°34.0'W.), on the north side of the entrance to Karta Bay, is prominent. A shoal with a depth of 2.7 fathoms in 55°33'59"N., 132°32'11"W., is about 1.1 miles east-southeast from the point. A number of shoals with less water over them are farther inshore in the direction of Sandy Point.

(298) The head of Kasaan Bay is separated from the main part of the bay by a chain of wooded islands and affords secure anchorage in 5 to 8 fathoms. In heavy southeast weather the northeast part of this inner bay affords the only secure anchorage in 7 to 12 fathoms, soft bottom. The best entrance is between the fourth and fifth islands counting from east. This passage is 225 yards wide, but the channel is less than 50 yards wide between the 3 fathom curves, with a depth of 4 fathoms midchannel.

(299) **Twelvemile Arm**, a narrow inlet entered between Sandy Point on the north and Outer Point on the south, extends southwest about 13 miles from near the head of Kasaan Bay. The depths are generally good.

(300) **Sandy Point** (55°33.2'N., 132°31.4'W.), the north point at the entrance to Twelvemile Arm on the west shore, is low and wooded. A reef about 300 yards wide extends off the point in a southeast direction for about 500 yards. The approximate center of the reef is marked by a flat islet 5 feet high. The immediate vicinity of this reef is shoal and rocky. For 1 mile to the southwest, the shoreline forms two small bights and is marked by rocks and islets. Beyond this point the shore is comparatively clear to Loy Island and the entrance to Hollis Anchorage, except for log rafts moored close ashore in the vicinity of **Pellett Point**, 2.4 miles southwest of Sandy Point.

(301) **Outer Point** is a rocky, wooded promontory, on the south shore at the entrance to Twelvemile Arm. A small island with a lone tree on it is just off the point to the northeast in Kasaan Bay. Reefs extend about 150 yards offshore on the Twelvemile Arm side. A 4-fathom spot is about 300 yards northwest of the point.

(302) **Jarvis Island** is about 1.1 miles southwest of Outer Point along the southeast shore of Twelvemile Arm. The shoreline is abrupt like the general shoreline. About 0.3 mile northeast of Jarvis Island is a small grass-covered rock about 0.3 mile from shore. A rock with ½ fathom over it is in about 55°30'44"N., 132°32'44"W., and about 250 yards northwest of this rock. About 1.5 miles southwest of Outer Point and 0.2 mile west of Jarvis Island is a small island, with a reef about 50 yards in diameter, just off the northwest shore. It is wooded and about 200 feet high to the tree tops. To a ship entering Twelvemile Arm, this reef appears as two rocks awash, except at very low water. At high water the reef is covered. **Jarvis Island Light 1** (55°30'24"N., 132°33'37"W.), 12 feet above the water, is shown from a spindle with a green square daymark on the north side of the reef.

(303) **Loy Island** is to the northeast of the entrance to Hollis Anchorage on the west shore of Twelvemile Arm. The water toward the center of the arm from the island is clear. Behind the island the bottom is foul and full of reefs. The bight is hardly large enough for anchorage, and the rocks render it of no value as such.

(304) A ferry terminal is in **Clark Bay**, about 0.4 mile north-northwest of the northeast point of Loy Island. The terminal has berthing space, with dolphins, of about 235 feet and a reported depth alongside of about 25 feet.

(305) **Hollis Anchorage**, on the west side of Twelvemile Arm, affords good anchorage in 3¾ to 9½ fathoms. The anchorage is somewhat constricted by a rocky ledge that extends west about 200 yards from the west end of the island on the north side of the entrance and by the extensive flat in the northwest part of the anchorage that extends off the mouth of **Maybeso Creek**. In entering Hollis Anchorage, avoid the gravel reef that uncovers 9 feet making off from the south shore to the center of the channel and the rock that uncovers 3 feet in about 55°28'48"N., 132°39'11"W., and about 80 yards off the north shore opposite the reef.

(306) The approach channel to Hollis Anchorage has a depth of 3.8 fathoms. The small arm of Hollis Anchorage that extends northeast has been cleared by wire drag to a depth of 2 fathoms. The usable area of the arm is very limited and is suitable only for small vessels. The 2-fathom area is only 45 yards wide at the entrance to the arm. The shoal area on the northwest side of the arm extends with depths of 5 to 10 feet for two-thirds of the distance across the entrance.

(307) **Hollis** is on the peninsula on the north side of the anchorage. A small-boat float, with a seaplane float at its southwest end, and a surfaced launching ramp are near the southeast end of the peninsula.

(308) **Althouse Point** is the south point at the entrance to Hollis Anchorage. A rocky shoal with ¾ fathom over it is in about 55°28'03"N., 132°38'39"W., and about 550 yards south of the point and 250 yards offshore.

(309) **Harris River Bay**, at the mouth of **Harris River**, is bare, but at high tide small craft can cross into the river.

(310) Midchannel courses lead in good water through Twelvemile Arm. Numerous rocky reefs at the points do not extend more than 60 yards offshore with the exception of a rock awash about 200 yards off the west shore in about 53°23'26"N., 132°42'40"W. A log boom is east of the rock. An islet and foul area, in 55°22'26"N., 132°43'44"W., are near the center of the arm near the head. Numerous islets and rocks are about 300 to 600 yards southwest of the islet.

(311)

## Caamano Point to Cabin Cove

(312) **Caamano Point**, marked by a light (55°29.9'N., 131°58.9'W.), is the south extremity of Cleveland Peninsula and the west point at the west entrance to Behm Canal; ledges extend southeast from the point. Caamano Point and light and Behm Canal are described in chapter 4.

(313) The west coast of **Cleveland Peninsula** from Caamano Point to Lemesurier Point, a distance of 20.5 miles, is rocky, bold, and heavily wooded and has deep water close inshore. The shore is fringed with kelp and has many dangers, but none are more than 0.5 mile offshore. Very often a following sea will be encountered along this section of the coast; mariners are cautioned to guard against being set onto these dangers.

(314) Launches may find anchorage in any of the several shallow bights that indent the west coast of Cleveland Peninsula between Caamano Point and Lemesurier Point. These bights, however, are surrounded with many dangerous rocks, and their use during stormy weather is attended with extreme danger.

(315) **Lee Rock** (55°42.2'N., 132°14.2'W.), close off the west coast of Cleveland Peninsula, about 15.9 miles and 6.4 miles north of Caamano Point and Ship Island, respectively, is about 20 feet high and the westernmost of three rocky wooded islands at the entrance to a small cove. Anchorage may be made in the center of the cove, 0.2 mile from its head in 8 to 14 fathoms. Passage can be made between Lee Rock and the two east islands in 7 to 9 fathoms. There is no safe passage between the two east islands or between the islands and the shore. A reef 200 yards. South of the easternmost island and 100 yards offshore bares 10 feet.

(316) **Cabin Cove**, indenting the west coast of Cleveland Peninsula, about 3.2 miles north of Ship Island, is shoal and should not be entered.

(317) A rock (55°38.5'N., 132°12.5'W.), about 3 feet (0.9 m) high, is about 400 yards (366 m) offshore 2.6 miles north of Ship Island. Midchannel depths between the rock and the shore are 8 to 14 fathoms (14.6 to 25.5 m).

(318)

## Niblack Point to Ship Island

(319) **Niblack Point** (55°33.1'N., 132°07.1'W.) is 5.5 miles northwest of Caamano Point.

(320) **Ship Island**, 0.3 mile offshore on the east side of Clarence Strait, is about 4 miles northwest of Niblack Point and 14.5 miles above Guard Islands. The island is 35 feet high and has a few scraggy trees on it. A ledge extends a short distance from the south end. **Ship Island Light** (55°35'56"N., 132°12'11"W.), 40 feet above the water, is shown from a skeleton tower with a red and white diamond-shaped daymark on the highest part of the island. Passage may be made in 10 to 15 fathoms midway between the island and the mainland.

(321)

## Meyers Chuck to McHenry Ledge

(322) **Meyers Chuck**, a good anchorage for small craft, is about 1.6 miles southeast of **Lemesurier Point** (55°45.9'N., 132°16.9'W.) and immediately east of **Meyers Island**. A light is on the north side of the island. The harbor is entered between the light and a buoy; the buoy marks the end of a reef extending southeast of a small island north-northwest of Meyers Island. Meyers Chuck is a small settlement along the east shore of the harbor. A lighted microwave tower at the settlement is visible from Clarence Strait.

(323) A state-operated float with about 384 feet of berthing space and a reported depth of 12 feet alongside the northeast end, and 25 feet alongside the rest is at the northeast side of the harbor; a seaplane float extends northwest from the float near the approach pier. Care should be taken to avoid the reef that bares about 25 feet northwest of the head of the approach pier. A private float, south of the state float, has water available during the summer. A 56-foot boat grid is available just inside the state-operated float.

(324) Mail and supplies are received weekly by seaplane from Ketchikan. Seaplane transportation to Ketchikan is available upon request.

(325) Anchorage for small craft can also be had in the narrow arm between Meyers Chuck and the mainland. This arm, however, freezes over in the winter and the outer harbor does not.

(326) To enter, give the west point of Meyers Island a good berth to avoid a submerged rock with 4 to 6 feet over it, which is reported to be about 150 yards off this point. Pass midway between the light and the daybeacon and turn southeast into the harbor.

(327) **Misery Island** is 0.5 mile northwest from Meyers Chuck. The west shore is faced by almost perpendicular cliffs about 40 feet high. Two rocks, marked by a buoy, are south from the island; the outermost, distant about 300 yards, bares 4 feet, and the inner rock bares 9 feet. A small rock, marked by kelp, two rocks awash, and a reported submerged rock with about 4 feet over it extend from about 300 to 600 yards east from near the south point of Misery Island. There is reported to be 3 to 4 fathoms in the passage between the north end of Misery Island and the mainland. Favor the mainland shore.

(328) **Lemesurier Point**, the south point at the entrance to Ernest Sound, and also the southwest entrance point to Union Bay, is long, low, and wooded; its shores are bold. Ernest Sound and Union Bay are described later in this chapter.

(329) **Lemly Rocks**, 0.2 mile off Lemesurier Point, are about 3 feet high. At low water there are three rocks close together with submerged rocks between them.

(330) **McHenry Ledge**, with a depth of ¼ fathom and showing kelp, is 0.7 mile 320° from Lemly Rocks; it is marked by a lighted bell buoy 0.1 mile northwest of

it. There is a good passage between McHenry Ledge and Lemly Rocks, but the currents have considerable velocity; strong tide rips have been reported. A number of groundings have occurred on Lemly Rocks in attempting the passage in thick weather.

(331)

## Streets Island to Windfall Harbor

(332) The west shore of Clarence Strait along the east side of Kasaan Peninsula from Grindall Island to Windfall Harbor, a distance of about 12 miles, is rocky, abrupt, and wooded and rises rapidly to peaks. The shore close-in is paralleled by kelp beds that give a good indication of the many dangers along this section of the coast; mariners are advised to exercise caution. Occasional beaches do exist, and these are covered by rocks ranging from pebbles to large boulders. Almost all contain a large number of deteriorating cut timber. Among the small inlets and indentations along this coast, Lyman Anchorage and Windfall Harbor are the largest.

(333) **Streets Island** is a low rocky islet, 0.4 mile from the west shore of Clarence Strait and about 2.3 miles north-northwest from Approach Point, Grindall Island. Kelp extends a short distance from the ends of the island. A shoal area, with a depth of 3½ fathoms near its outer end and with lesser depths inside, extends east-northeast for about 0.3 mile from the east side of Kasaan Peninsula towards Streets Island. A narrow channel with a controlling depth of 15 fathoms is between the outer end of this shoal and the island. However, this passage is not recommended without local knowledge.

(334) **Lyman Anchorage** is on the southwest shore of Clarence Strait about 6.5 miles northwest of Streets Island. Its outer part is an open bight about 1 mile wide at its entrance. The inner harbor extends 0.6 mile to the southwest from the head of the main bay, is about 200 yards wide and has a controlling depth of ½ fathom in its narrow approach. It offers excellent shelter in all weather for small craft in 4 to 5 fathoms, mud bottom.

(335) **Lyman Point** is the east point of the entrance. Rocky shoals are north and northeast of the point.

(336) **Lyman Rock** is a submerged rock near the middle of Lyman Anchorage.

(337) **Hadley** is a settlement on the south side of Lyman Anchorage E of Sawmill Point. It was formerly a shipping point for the abandoned mines in the vicinity.

(338) **Figgins Point** is a very bluff point about 0.8 mile north of Lyman Anchorage. Rocks that bare are about 150 yards off the point.

(339) **Windfall Harbor**, about 4 miles northwest of Lyman Anchorage, is a narrow, crooked inlet that extends southwest for about 1 mile. Its entrance is obstructed by rocks, reefs and islands. It is a poor anchorage and should be avoided by all except small craft with local knowledge.

(340)

## Tolstoi Point

(341) From Windfall Harbor to Tolstoi Point small rocks and islets extend offshore for about 300 yards. **Tolstoi Point** (55°40.2'N., 132°23.5'W.), 9 miles above Lyman Point, is high, bluff, and wooded and has a low, bare rock close to its north end and a similar rock at its west end.

(342)

### Local magnetic disturbance

(343) Differences of as much as 3¼° from normal variation have been observed at Tolstoi Point.

(344)

## Tolstoi Bay

(345) **Tolstoi Bay** has its entrance west of Tolstoi Point and extends in a general south direction for about 4 miles. The east shore is high and steep; the head of the bay is flat, and the land is low and marshy. Near the east shore at the head of the bay is a wooded islet, and south of it is a line of rocks, some of which are covered at high water. There is anchorage in about 10 to 15 fathoms in midchannel west of the wooded islet, protected from all directions except from north, from which direction the wind and sea come home, making the anchorage uncomfortable. Southwest winds draw through with considerable force. A midchannel course leads to the anchorage. There are several private mooring buoys in the bay.

(346) On the west side of Tolstoi Bay about 1.2 miles south of the entrance is a small harbor marked by a wooded islet 150 yards offshore. The entrance is obstructed by an islet in midchannel and a rock that shows at low water off its east side, leaving a clear channel less than 100 yards wide on the northeast side of the islet. The anchorage is in about 7½ fathoms near the middle. In entering, pass south of the outlying wooded islet.

(347) There is no safe passage inside the group of small islands close to the west point at the entrance to Tolstoi Bay, although entering from southeast, between submerged rocks, one can find a constricted anchorage for small craft in 6 to 7 fathoms.

(348)

## Thorne Bay to Narrow Point

(349) **Thorne Bay** (55°39'54"N., 132°29'32"W.) has its navigable entrance on the north side of a large island obstructing its mouth, 2.5 miles west of Tolstoi Point. The entrance is marked by lights and daybeacons. A shoal area is close to the north shore of the channel leading into Thorne Bay, north of the large island, and extends over one-half of the way into the channel from the main shore toward the island. This area is thick with kelp; however, the kelp is towed under when the current runs strong. This current causes numerous eddies and rips through the entrance. After passing this shoal area, follow a midchannel course to the entrance to Thorne

Bay proper. Thorne Bay is about 0.4 mile wide with an arm that extends about 1.5 miles southeast and a larger arm that extends about 2 miles northwest. In rounding the north point, between the entrance channel and Thorne Bay proper, follow a course slightly south of midchannel to avoid a gently sloping sandbar that extends southwest from the point. After this point is cleared, Thorne Bay is clear and has depths of 4¼ fathoms or more to a line running southwest from the lumber camp float in the small cove in the north shore of the bay. Midbay, on a line with the float bearing 052°, is a shoal with a least depth of 1 fathom. Northwest of this line the bay shoals gently to the head. A fan-shaped shoal area extends about 0.25 mile from the mouth of the Thorne River.

(350) Floating logs and deadheads may be encountered in the bay and off the entrance; caution is advised. Reefs and rocks in the entrance and out into Clarence Strait are usually covered with kelp; this kelp may be towed under by the existing currents.

(351) A municipal harbor is on the north side of the bay about 1.5 miles above the mouth. A smaller harbor is on the south side of the bay approximately 1 mile above the entrance.

(352) The bight south of the large island in the entrance to Thorne Bay affords a good anchorage in 14 to 20 fathoms; the channel to it favors the main south shore. A large reef, covered with kelp, extends almost midway into this channel from the large island. The small cove in the north shore of the bay, about 2.3 miles west-northwest of the island in the entrance, has depths of 2 to 3 fathoms. In 2002, a small-craft harbor, seaplane floats, fuel floats and a transfer bridge were along the north side of the Bay. Boyer Alaska Barge Line and Petro Alaska, Inc., operate the steel transfer bridge; 200 feet with dolphins; 10 feet reported alongside; receipt and shipment of conventional and containerized general cargo, receipt of petroleum products; owned by Boyer Towing, Inc.

(353) **Tolstoi Island**, about 2 miles northwest of Tolstoi Point, is low and flat, with a few scrubby trees.

(354) **Snug Anchorage** is about 1 mile west of Tolstoi Island. It is about 1.2 miles long and from 0.1 to 0.2 mile wide. An islet is in the center of the bight at the head of the anchorage. In entering, pass south of the islands off the entrance, then favor the west shore to avoid the rock awash that is about 300 yards south of an island off the north point of the entrance. The channel passes to the southwest of the small islets that are close to the north shore. Depths of 4 to 5 fathoms were obtained in the narrowest part of the channel, and depths of 3 to 16 fathoms were found at the head of the cove. In the small cove east of Snug Anchorage, depths of 12 to 15 fathoms were found. Rocks are along the west side and near the head of this cove. Irregular depths indicate the necessity for caution in Snug Anchorage and the cove to the east.

(355) **Forss Cove** is about 1.8 miles north-northwest from Tolstoi Island. A narrow channel 0.3 mile long in a southwest direction and in places less than 50 yards wide opens into a bight 0.5 mile long in a northwest direction and 0.2 mile wide, in which there are numerous small islets. A midchannel course should be followed until about 150 yards before the entrance opens into the cove. The southeast shore should then be favored to avoid a large reef and shoal area. The bottom comes up to about 1¼ fathoms at this point. Anchorage in 14 fathoms can be obtained 100 yards northwest of the large island southwest of the entrance. The north part of the cove has numerous reefs and shoal areas and should not be entered.

(356) From Forss Cove to Narrow Point there are numerous small bights, exposed to south winds, in which there are rocks and small islets.

(357) **Narrow Point**, about 7.5 miles north-northwest of Tolstoi Point, shows as a wooded knob just above the wooded shore in its vicinity. **Narrow Point Light** (55°47'27"N., 132°28'35"W.), 35 feet (10.6 m) above the water, is shown from a skeleton tower with a red and white diamond-shaped daymark on the point.

(358) A small cove, open to the southeast, is 5.5 miles northwest of Narrow Point. It is rocky in the north part.

(359)

## Ratz Harbor

(360) **Ratz Harbor**, about 7 miles north-northwest of Narrow Point, is a small anchorage that is little more than 0.5 mile long and 0.2 mile wide. It affords shelter from all winds except from north to northeast, and these probably blow home with some force. Williwaws from the southeast at times strike with great force in this anchorage. The northwest point at the entrance is a ledge with an islet near the shore and two heads, each with a single scrubby tree, near its southeast end, all connected at low water. **Ratz Harbor Entrance Light** (55°53'16"N., 132°35'53"W.), 20 feet above the water, is shown from a skeleton tower with a red and white diamond-shaped daymark on the outer head or islet. From the southeast point at the entrance, a ledge covered only at high water extends 175 yards northwest and has two rocky heads. The width of the channel between is about 230 yards.

(361) A careful midchannel course carries in clear. Depths of 4 to 11 fathoms were found at the entrance and 4 to 13 fathoms inside. The usual anchorage is in the middle of the south part of the harbor. There is a flat in the west indentation of the harbor and a few stub pilings on the southeast side of the harbor.

(362)

## Luck Point to Etolin Island

(363) The shoreline from Ratz Harbor northwest to **Clear Creek**, a distance of 6.3 miles, is practically straight. A small rock, 20 feet high, is 450 yards to the northeast of the mouth of the creek.

(364) **Luck Point** (55°59'N., 132°44'W.), on the west side of Clarence Strait opposite Point Stanhope, is a rounding point without marked features. Here the shoreline turns west-northwest and changes from a steep, rocky formation to a boulder beach about 100 yards wide. About 0.4 mile

west-northwest from Luck Point, a narrow ledge extends offshore for about 0.3 mile. From about 0.7 mile northwest of Luck Point to Coffman Cove, the coast is fringed with bare, awash, and submerged rocks. The outermost rock is about 0.3 mile from the shore.

(365) **Etolin Island**, on the northeast side of Clarence Strait near its head, separates Ernest Sound from Stikine Strait. The coast is bold, rocky, and densely wooded and is broken by numerous inlets and off-lying islands.

(366)

## Onslow Island to Stone Islands

(367) The Onslow Islands, on the north side at the entrance to Ernest Sound, are five wooded islands and numerous small ones, the largest of which is **Onslow Island**, 3.5 miles long and about 350 feet high.

(368) The west shore of Onslow Island is indented with small bays filled with ledges and rocks. Small rocks and islets extend offshore 0.1 to 0.5 mile. An inlet about 0.5 mile long, opening from the south and extending east, is about 1.8 miles from Ernest Point. It is unsurveyed, but it is reported that 8 feet can be carried through the narrow neck near high water and that 4 fathoms, mud bottom, are obtained within. Rocks awash and kelp are in the entrance, and tide rips extend off the point.

(369) **Ernest Point** (55°51.1'N., 132°22.1'W.) is the southernmost point of Onslow Island and is the northwest point to Ernest Sound. Foul ground extends for 0.5 mile south-southeast of the point.

(370) **Onslow Point**, about 2.1 miles east-southeast of Ernest Point, consists of a large and small islet with a large bare rock to the southeast; deep water is close southwest of the point. Reefs and foul ground connect Onslow Point with **Eagle Island**, a large wooded island north of Onslow Point. The cove on the southeast side of Eagle Island is foul. Tide rips form off Onslow Point.

(371) **Muffin Islands** are a group of four small wooded islands about 0.4 mile east of Eagle Island. The channel between Eagle Island and Muffin Islands is clear. Reefs extend offshore about 0.6 mile to the north and northwest of the Muffin Islands.

(372) The southeast and east shores of **Stone Islands**, about 0.6 mile north of Eagle Island, are foul; rocks extend offshore 0.2 to 0.5 mile. The small bight between the Stone Islands affords shelter for very small craft to the southeast of the wooded island in the entrance. Anchorage may be obtained in 5 fathoms, mud bottom; the channels leading to it are tortuous. The cove in the north shore of the larger Stone Island is completely filled by flats. No fresh water was found here.

(373) The channel between Onslow Island and Eagle Island is clear except for reefs that make out from each side of the channel about 1 mile north from the south end of Eagle Island. The end of each reef is marked by a rock; the rock on the east side of the channel uncovers 8 feet, and the rock on the west side uncovers 6 feet. Midchannel courses are good, but, when passing between the two rocks, slightly favor the east side. The cove on the west side of the channel to the south of the north end of Eagle Island has depths of 3½ fathoms in the middle and 12 fathoms, mud bottom, at the entrance. Water may be obtained from a small stream at the head.

(374) The channel between Onslow and Stone Islands is irregular, depths of 6 fathoms being found near the south end. A wooded island is in the passage with deep water between it and the larger Stone Island. Rocks awash are 0.1 mile east and 0.2 mile southeast, respectively, of the wooded island. In passing, favor the larger Stone Island. The channel between Onslow Island and Carlton Island to the north is foul and bares. The passage north of Carlton Island has depths of 5½ to 7 fathoms and from the south passes east of the rock that uncovers about 8 feet and is 500 yards east of Carlton Island.

(375) A dangerous rock that uncovers about 6 feet is in midchannel in the passage north of Stone Islands. Keep Stone Islands close aboard about 100 yards distant when this rock is covered. A dangerous ledge, which uncovers, extends more than halfway from Etolin Island toward east Stone Island. Rocks awash are just off the north end of the east Stone Island. These dangers render this passage hazardous except at low water.

(376) These channels are small-boat passages and are not suitable as anchorage because of the rocky bottom and the currents that vary in strength from 2 to 4 knots and often are considerably strengthened by a moderate breeze.

(377)

## Dewey Anchorage

(378) **Dewey Anchorage**, on the northeast side of Clarence Strait opposite Ratz Harbor, can be used as a summer anchorage, but the bottom is irregular and rocky; there are several dangers in the entrance and the protection is poor. **Gull Point**, the northwest extremity of Onslow Island, is the southeast point at the entrance. A rock awash is about 200 yards northwest of the point, and a reef, marked by kelp and covered by 1½ feet of water, is 0.6 mile southwest of it. **Carlton Island**, flat and timbered, is the larger island northeast of Gull Point; a shoal extends 350 yards southwest from its west end. **Mabel Island**, about 0.2 mile in diameter, is about 0.8 mile northwest of Gull Point; a reef covered at half tide and without kelp is 0.6 mile south-southwest of the island; two reefs that bare are about 0.8 mile to the northwest. The channel between the reefs to the northwest has a least depth of 17 feet; a rock awash is 0.1 mile south of the east reef. A 9-foot spot is 1.3 miles northwest of Mabel Island. **Center Island**, about 0.1 mile in diameter, is about midway between Mabel Island and the north shore of Dewey Anchorage. A shoal with a least depth of 23 feet is between Center and Mabel Islands. A reef extends about 75 yards off the northeast side of Center Island; a rock awash is just off the end of the reef. A shoal with a least depth of 20 feet is 0.5 mile southeast of Center Island. The area between

Center Island and the north shore of Dewey Anchorage is shoal and has a least depth of 21 feet.

(379)

**Caution**

(380) There may be other dangers that are not charted.

(381) **Split Island**, small and wooded, is 0.3 mile to the south of the south extremity of **Kelp Point**, the northwest entrance point of Dewey Anchorage. A reef is close to the east end of the island. **Double Island**, small and wooded, is about 0.2 mile south of Split Island. A small wooded islet is 0.1 mile southeast of Double Island, and foul ground extends to the northeast; the channel between is foul.

(382) To enter Dewey Anchorage from south, stand in on the line of the east sides of Mabel Island and Center Island until abreast of Gull Point, and then pass midway between Mabel Island and Carlton Island, taking care to avoid the 14-foot shoal 0.5 mile northwest of Carlton Island. Anchor 0.4 to 0.5 mile north-northwest of Carlton Island in 15 to 18 fathoms.

(383) From west, pass 0.5 mile south of Double Island and head for the north end of Center Island. When abeam the west end of Mabel Island, proceed with caution to the anchorage. The chart is the guide.

(384) Small craft can find better anchorage 0.5 mile east of Carlton Island in 6 to 8 fathoms, hard sand bottom. This anchorage can be entered from west, passing north of Carlton Island, or from southeast, using one of the passages described previously.

(385)

## McHenry Anchorage to Quartz Rock

(386) **McHenry Anchorage**, about 7.5 miles north of Ernest Point (55°51'N., 132°22'W.), has a clear width of about 700 yards and a length of about 1 mile from Avon Island to a small island at its head. It is sheltered except from west, and small vessels can anchor in the southeast part of the harbor with shelter from all winds. **Avon Island**, on the north side of the entrance, is small, wooded, and close to shore; it should be given a berth of over 250 yards. A reef extends about 400 yards in a southeast direction from the southeast side of Avon Island. A rock, with 14 feet over it, is 0.5 mile west-southwest of Avon Island in 55°58'14"N., 132°28'30"W.

(387) To enter McHenry Anchorage, keep Avon Island aboard, distant 450 yards (411 m), and anchor in the middle in about 8 fathoms (14.6 m). A small vessel can follow a midchannel course and anchor 250 yards (229 m) west of the wooded island in the southeast end of the harbor in 5 to 7 fathoms (9.1 to 12.8 m).

(388) **Quartz Rock** is the extremity of the reef, awash at high water, about 0.3 mile west from the point northwest of McHenry Anchorage.

(389)

## McHenry Inlet to Kashevarof Passage

(390) **McHenry Inlet** has its entrance 5 miles east of Point Stanhope (56°00.9'N., 132°36.5'W.) and 2.5 miles north from McHenry Anchorage. It is horn-shaped, about 4 miles long and about 0.4 to 0.8 mile wide. Foul ground extends about 1.5 miles in a west direction from the southeast entrance point. **Range Island**, the small wooded island in midchannel at the entrance, is the most north of the group off this point and is about 0.4 mile to the southwest of a small rocky islet off the northwest point of the entrance, with a clear channel between. A 2-fathom spot is 1.2 miles 310° from Range Island. A long narrow ridge, with depths of 3¼ to 10 fathoms with deep water on each side, is in midchannel in the direction of the channel, 0.6 mile east-northeast of Range Island.

(391) **McHenry Islet**, a small rocky islet, is 1.6 miles 082° from Range Island. Foul ground extends in a southwest direction from this islet for about 0.1 mile and to the northwest extends to the north shore of the bay.

(392) **Nut Rock** is about 700 yards 220° from McHenry Islet. A rock awash is 550 yards 073° from McHenry Islet.

(393) In entering, pass about 0.1 mile north of Range Island, then turn between McHenry Islet and Nut Rock, favoring Nut Rock, and follow the trend of the channel favoring the southeast shore until past the rock awash northeast of McHenry Islet; then follow midchannel courses. Anchorage may be had in 12 to 19 fathoms beyond the turn in the channel. Foul ground extends about 0.3 mile from the head of the inlet.

(394) **Jadski Cove**, on the north side of McHenry Inlet, has its entrance about 1 mile northeast of Range Island. A depth of about 10¼ fathoms was found in the bight in the northwest end of the cove, but the approaches are foul.

(395) **Burnett Inlet**, about 5 miles northeast of Point Stanhope, extends in a north direction for about 7 miles, with an average width of 0.2 mile. **Fawn Island**, wooded, is on the west side of the channel at the entrance. Three small wooded islands and some rocks extend 0.2 mile off the north shore of Fawn Island. A small wooded islet, with a rock awash 150 yards off its north end, is 0.3 mile west of Fawn Island. A 3¼-fathom spot is 0.8 mile southwest and a 2¼-fathom spot is 0.5 mile southeast of Fawn Island close to the east shore. A midchannel entrance between Fawn Island and the east shore is safe from hazards. There is an anchorage for deep-draft vessels off the small cove on the east side of Burnett Inlet about 0.7 mile due east of Fawn Island. To safely reach this anchorage area, approach from the south on a course that is tangent to the east edge of Fawn Island. At a distance of 0.3 mile from Fawn Island come right to 070° and proceed to the anchorage area about 0.4 mile offshore in a depth of about 20 fathoms, mud bottom.

(396) Rocks extend from 50 to 100 yards off the east and south shores of **Cannery Point**, the west point of the entrance. A reef, bare at low water, is about 300 yards

off Cannery Point. The channel between it and the point is too narrow for ships to use. Two shoals separated by depths of 12 fathoms are almost in midchannel between Cannery Point and South Burnett Island. The north shoal, about 300 yards long in a north direction, has a least depth of 1¼ fathoms near its north end; the south shoal, about 100 yards to the south, is narrow and has a least found depth of 6¼ fathoms. The 1¼-fathom spot is marked by a buoy. The channel between the shoals and the reef to the west has depths of 10 to 37 fathoms.

(397) The small cove behind Cannery Point has depths of 6 to 7 fathoms in the middle, with swinging room of about 150 yards, and is used by fishing craft for an anchorage.

(398) **North Burnett Island** and **South Burnett Island** are close to the east shore of Burnett Inlet near the entrance. The passage between the midchannel shoal and South Burnett Island has a least depth of 17 fathoms. **Deadman Island**, about 0.4 mile north-northeast of Cannery Point, is at the north end of the bight off the northwest shore near the entrance. A narrow shoal with depths of 6¼ fathoms is midway between Deadman Island and North Burnett Island. The channel west of this shoal has depths of 10 to 27 fathoms but leads over a 4¼-fathom spot and probably less water. The channel east of this shoal has depths of 20 fathoms.

(399) The depth of the inlet remains greater than 10 fathoms until about 1 mile south of the narrows. There are minimum depths of 1 fathom at the narrows, which is obstructed by kelp. The inlet above the narrows, about 3.5 miles above Deadman Island, is quite deep and clear. At periods of low water, the upper part of the inlet shoals to less than 5 fathoms with an even muddy bottom. There is a prominent waterfall on the east shore 3 miles above the entrance. The inlet is too deep for secure anchorage.

(400) **Mosman Inlet**, about 4 miles northeast of Point Stanhope, makes north-northwest into Etolin Island for about 6 miles, with an average width of about 0.2 mile. A depth of 4 fathoms is on the east side of the entrance, about 0.5 mile south-southeast of **Marble Point** in 56°03'50"N., 132°31'190"W. There are two rocks on the east side about 0.8 mile above Marble Point, the east point at the entrance. A reef extends from the north end of the islet lying 1 mile north-northwest of Marble Point to the west shore. This reef obstructs the north approach to the coves on the west side of the entrance to the inlet. Above this area, the inlet is deep and free of obstructions.

(401) **Cooney Cove** is a narrow inlet to the northeast of Rocky Bay. It is exposed to the south, the approach is foul, and there are rocks near the head.

(402) **Rocky Bay**, to the north of Point Stanhope, is studded with rocky islets and rocks awash. **Streets Lake** has its outlet in the middle bight at the head of Rocky Bay. A rock with ½ fathom on it is 2.5 miles 060° from Point Stanhope in 56°02'07"N., 132°32'31"W.

(403) **Point Stanhope** is the south extremity of a group of islands. A rock with a depth of 1.3 fathom over it, marked by a buoy, is 0.8 mile south-southwest of the point. There are several available passages among these islands for small craft bound for Rocky Bay. **Three Way Passage**, having its entrance about 1.3 miles northwest of Point Stanhope, is the best. It has a depth of about 2½ fathoms, is narrow, leads close to several dangers and requires local knowledge for its safe navigation.

(404) Anchorage may be obtained by small craft drawing less than 4 feet in the channel just east of Three Way Passage. The widest part of the channel is about 150 yards and is entered by way of Three Way Passage. There is an anchorage for very small craft in the cove, 2.6 miles northwest from Point Stanhope. The channel that leads from the head of the cove to Rocky Bay bares in spots and is suitable only for boats drawing about 1 to 3 feet, with local knowledge and making passage at high water only.

(405) The Etolin Island shore from Point Stanhope north-northwest to Point Harrington, a distance of about 10.5 miles, is rocky and generally foul. A fringe of islands parallel the coast about 0.6 mile off to Point Harrington. It comprises **Abraham Islands**, **Screen Islands**, **Marsh Island**, **Observation Island** and **Steamer Rocks**, which is a wooded islet about 100 feet high with a rock 12 feet high that marks the south-southeast extremity of a ledge that connects them. It is advisable for vessels navigating the strait to give the shore a berth of at least 1.5 miles and pass west of Lincoln Rock West Light. The passage east of the islands may be used by small craft. The chart shows the known dangers.

(406) **Lincoln Rock West Light** (56°03'24"N., 132°41'51"W.), 58 feet above the water, is shown from a skeleton tower with a red and white diamond-shaped daymark on **Lincoln Rock**. A 35-foot white square tower on a house, 0.3 mile 062° from Lincoln Rock West Light, is prominent on an islet; it is the site of a former lighthouse.

(407) **Abraham Islands** are 0.6 mile off the west shore of Etolin Island. The largest island is 150 feet high and wooded.

(408) **Johnson Cove**, to the east of the north end of Screen Islands, offers anchorage for two or three small craft of less than 4-foot draft to those with local knowledge. Strangers should not attempt entrance. Swinging room is limited by ledges and rocks on the west side of the cove, rocks and pilings to the northeast and shoal water toward its head. Several islands are off the entrance, all connected by ledges and foul areas. Entrance should only be made south of the rock, awash, 150 yards off the southeast end of the large island near the entrance and east of the rock, awash at high water in midchannel at the entrance. Water may be obtained from streams that empty into the cove.

(409) **Steamer Bay**, east of **Point Harrington**, affords anchorage at its head, but the holding ground is not good and southeast winds draw with considerable force through **Porcupine Creek**. It is open to northwest. The bay is 1 mile wide at its entrance, gradually contracting near its head to less than 0.2 mile, then again widening into a basin about 0.3 mile long, into which Porcupine Creek empties. For a distance of about 2 miles from Point

Harrington both shores of the bay have some rocks and ledges close inshore with the exception of a reef about 300 yards northwest of the east shore near the U.S. Forest Service cabin, approximately 1.2 miles from the head.

(410)

### Local magnetic disturbance

(411) Differences of as much as 3° from the normal variation have been observed at Point Harrington.

(412) The bay is easy to access; a midchannel course leads fair into the inner basin. The best anchorage is probably near the middle of the basin, favoring the east shore, in about 16 fathoms. Small craft may find better bottom by anchoring in 10 fathoms close to the east shore in a cove, just past the Forest Service cabin on the beach and south of **Independence Island**. A bare rock, 12 feet high is near the shore on the northeast side of the basin.

(413) **Mariposa Rock**, with 1.6-fathoms over it and marked by a buoy off its northwest side, is 0.6 mile 312° from Point Harrington.

(414) **Kindergarten Bay**, the deep cove 2 miles north of Point Harrington, is used extensively as an anchorage for small craft. It is one of the best anchorages in the area and affords protection in all weather, although at times strong winds will blow down from the hills. It was reported that the north side of the bay appeared to be clear. Enter midchannel, passing south of the wooded islet, and anchor in 5 to 7 fathoms, soft bottom. Mariners are cautioned to avoid a large rock, covered 4 to 6 feet at high tide, that was reported close southwest of the largest islet near the head of the bay.

(415) **Steamer Point**, 3 miles north of Point Harrington, is bold, steep, and heavily wooded. Deep water extends close to the point. **Steamer Point Light** (56°13'23"N., 132°42'49"W.), 30 feet above the water, is shown from a skeleton tower with a red and white diamond-shaped daymark on a small wooded islet close north of the point.

(416) **Kashevarof Passage** and Snow Passage form the head of Clarence Strait and are the two passages connecting with Summer Strait west of Zarembo Island. Kashevarof Passage is wide but is beset with rocks, reefs and shoals, with strong tidal currents and tide rips. The pass is used extensively by small craft. Large vessels use Snow Passage, which is clear and marked by lights and a lighted buoy.

(417) See the Tidal Current prediction service at *tidesandcurrents.noaa.gov* for specific information about times, directions, and velocities of the current at numerous locations throughout the area. Links to a user guide for this service can be found in chapter 1 of this book.

(418)

## Coffman Cove to Keg Point

(419) An unnamed cove (56°01'N., 132°49'W.), on the west side of Clarence Strait about 2.3 miles southeast of Beck Island, is noticeable for its low-water area at the head and a sand beach about 600 yards wide. The sand and mud flat extends approximately 0.3 mile from the high water line. The cove is fringed with rocks and shoals. Mariners, without local knowledge, are to use caution in this area. The chart is the best guide.

(420) **Coffman Cove**, protected on the north by Coffman Island, is close west of the unnamed cove and about 1.5 miles south-southeast of Beck Island. The northwest half of the cove is filled with rocks, some of which bare. Good anchorage for small craft may be had in the middle of the southeast part of the cove in 8 to 10 fathoms, mud bottom, and a midchannel course will carry in safely. The passage into the southeast part of the cove east of Coffman Island is marked by lights and lighted buoys. The outermost dangers in the southeast part of the cove are a 2½-fathom spot in about 56°01'09"N., 132°50'22"W., and a rock awash in about 56°01'07"N., 132°50'25"W., about 500 yards and 600 yards south-southwest of the southernmost tip of Coffman Island, respectively. A flat extends about 0.2 mile from the southeast end of the cove.

(421) In 1976, a logging camp was operating in Coffman Cove. There are remains of log storage booms scattered along the beaches in the southeast part of the cove.

(422) In the southeast part of the cove is a ferry terminal. Ferry service to Wrangell and South Mitkof Island is available through the Inter-Island Ferry Authority from May through September. Just south of the ferry terminal is a boat ramp and a city pier. Three rocks are along the west side of the channel west and southwest of the city pier. A small craft and seaplane float is anchored to the bottom and located in the center of the main channel leading to the inner cove, about 0.8 mile south-southeast of Coffman Island. Water and gasoline are available only in an emergency. Radiotelephone communications are maintained with Ketchikan.

(423) **Lake Bay** is on the south side of Kashevarof Passage between **Stevenson Island** and **Coffman Island**. Across the entrance and in the bay are detached islands and reefs and the best channel is from northeast between Beck and Coffman Islands, staying north of Gull Rock.

(424) **Beck Island**, small and wooded, is about 0.8 mile northwest of Coffman Island. **Beck Island Light** (56°02'51"N., 132°51'45"W.), 27 feet above the water, is shown from a skeleton tower with a red and white diamond-shaped daymark on the north side of the island; it marks the entrance to Kashevarof Passage.

(425) **Gull Rock** and **Barnacle Rock**, awash at highest tides, are about 0.6 mile south-southwest and west, respectively, from Beck Island; they should be given a berth of over 300 yards. There are also extensive submerged reefs between Beck Island and **Bush Rock**, about 1.9 miles to the west-northwest. The latter is 35 feet high and has bushes on top.

(426) Abreast **Keg Point** (56°02'02"N., 132°55'18"W.), on Stevenson Island, the channel is about 150 yards between an extensive shoal that makes out from the east shore and a shoal projecting out about 175 yards from Keg Point. There is good anchorage inside the constricted entrance for large or small craft in 6 to 15 fathoms, soft

bottom. The buildings of a fishery are on the east shore about 0.3 mile inside the entrance to **Lake Bay Creek**.

(427)

## Point Barnes to Point Colpoys

(428) **Point Barnes** (56°03.6'N., 132°55.8'W.), the northeast extremity of Stevenson Island, is low and wooded, without characteristics of interest to the navigator.

(429) **Barnes Lake** is a saltwater lake of considerable extent lying southwest of Stevenson Island. It has two outlets through which strong currents flow during changes of tide. Small craft up to 10-foot draft may enter into the lake on high water slack, passing through **Indian Creek**, the west of the two entrances. This passage has many dangers and must be navigated with extreme caution. It has a least depth of 3 feet in midchannel.

(430) At high water small boats with outboards go from Barnes Lake through **Gold and Galligan Lagoon** into large inner **Sweetwater Lake.**

(431) **Whale Pass** leads south and west of Thorne Island. Daybeacons mark the north entrance of the pass. When inbound, favor the right center channel to avoid several uncharted rocks covered 1.5 fathoms. Additional rocks covered 0.5 to 1 fathom are south toward the center of the pass. A reef extends south of the large unnamed island on the west side of the pass; daybeacons mark the best water. Mariners without local knowledge can more easily enter the pass through the southern entrance with fewer obstructions than the north entrance. The center of Whale Pass is open with relatively flat bottom. The bay to the northwest has excellent anchorage for small craft in flat, soft bottom. A seaplane harbor facility with a harbormaster operating out of Ketchikan is at the bay as well as several lodges. However, there is no reliable source of services in Whale Pass.

(432) **Kashevarof Islands**, on the northeast side of Kashevarof Passage, are low and wooded, though there are many bare rocks. There are many passages between the islands, but all are beset with numerous rocks and reefs. Extreme caution is advised when navigating between these islands.

(433) The **Blashke Islands** form a group of islands at the southeast end of the Kashevarof group. All are wooded and separated by narrow foul channels. **Rose Rock**, **Rose Island**, **Seal Rock**, **The Triplets** and **Deichman Rock** are on the foul ground to the southeast.

(434) The islets and bays at the northwest end of Kashevarof Passage are described with Snow Passage following.

(435) The currents at the northwest end of Kashevarof Passage are similar to those of Snow Passage, but their velocity is considerably less. Many small eddies and whirlpools are found in this area.

(436) The main channel, Kashevarof Passage, leading between Beck Island and The Triplets to Point Colpoys and MacNamara Point was examined by the NOAA Ship RAINIER from 2000 to 2002 with full bottom coverage, and the dangers are shown on the charts. There are dangerous reefs and rocks, but passage can be had by following the chart closely.

(437) **Kashevarof Passage Light** (56°10'47"N., 133°01'18"W.), 27 feet above water, is shown from a skeleton tower with a red and white diamond-shaped daymark, on the west side of a small islet off the West Island.

(438) **Exchange Cove**, on the northwest side of Kashevarof Passage about 2 miles northwest of Kashevarof Passage Light, is about 0.2 mile wide and 2.5 miles long and is the largest sheltered anchorage in this vicinity. It has room for several small vessels and is well protected from all directions. The depths are 10 fathoms at the entrance, shoaling gradually toward the head. Exchange Island forms the east shore of the north part of the cove.

(439) To pass through the north part of Kashevarof Passage, West Island should be left about 0.5 mile to the east to avoid a 2.4-fathom spot. Pass midway between West Island and Kashevarof Passage Light; thence about 0.2 mile to the east of the small rocky wooded islet that is about 0.8 mile east of the south end of Exchange Island; thence in midchannel between Exchange Island and the small double island to the north. Continuing northward, travel midchannel between Prince of Wales Island and Fire Island, avoiding the kelp-covered rocks that are 0.5 mile due north of this pass, just 0.2 mile east of Prince of Wales. After Fire Island, the channel splits with passage between Tide and Bushy Islands, or Rookery and Tide Islands. A 2¾ fathom shoal exists 1 mile south-southeast of Tide Island.

(440) There is another channel between **Fire Island** and **Echo Island**. Echo Island, about 150 feet high and wooded, has foul shores with the outermost danger extending about 800 yards south-southwest. A rock awash, marked by a daybeacon, is in the channel about 1.1 miles south of Echo Island; the channel west of Fire Island is preferred. This channel can be transited by keeping the daybeacon 0.2 mile to the east and the foul shores that extend off of Echo Island 0.3 mile to the east. There are a few 3½-fathom shoals on the outer limits of this channel and a rock that extends 0.3 mile off of the eastern shore of Fire Island. Depths in this channel run from 7 to 15 fathoms. The channel to the south of **Shrubby Island** is suitable for small craft. In making the passage avoid kelp at all times. Transit between Shrubby Island and the daybeacon is not advised due to a large rocky shoal area. The channel between **East Island** and **Middle Island** is used by small boats; caution is advised when transiting through this channel due to a ¾-fathom shoal at the northeast entrance to this channel.

(441) There is a channel east 0.9 mile north of the north end of West Island and south of the small wooded island with an islet bearing to the east. Follow the shore of the Middle Islands about 0.3 mile off and south of the larger wooded island nearest Shrubby Island.

(442) On the south side of the last described channel, between the 240-foot island and the larger island southeast of it, is a shelter for small craft in all weather.

(443) **Key Reef** is an extensive reef about 1.8 miles east from the Kashevarof Islands. The north end of the reef, about 3.5 miles west of Point Harrington, usually shows at high water as two rocks about 5 feet high and about 100 yards long, but they are awash at extreme high tides. **Key Reef Light** (56°09'37"N, 132°49'47"W.), 43 feet above the water and shown from a single pile on a truncated concrete pyramid with a red and white diamond-shaped daymark, is near the east side of the reef. A number of low water rocks are near Key Reef. **Key Reef Rock** about 0.7 mile southeast uncovers 10 feet.

(444) **Bluff Island** is a small wooded island about 1.8 miles to the west-northwest of Key Reef. Islets extend about 250 yards from the north and south ends of the island. The east and west shores are clear.

(445) **Zarembo Island**, heavily wooded, is at the head of Clarence Strait. A low valley extends east and west across the island. The shoreline is rocky, with off lying rocks and reefs, except along the east shore. There are also numerous logs on its beaches that dislodge during spring tides and stormy weather. The southwest shore of Zarembo Island has kelp patches and rocky shoal areas extending out 0.6 mile.

(446) **Point Nesbitt**, the south point of Zarembo Island, has a broken ledge and foul area that extends 0.2 mile offshore and rises to high ground inshore.

(447) **Nesbitt Reef** is a dangerous reef that extends 0.8 miles south from Point Nesbitt. Near the outer end of the reef is a rock that uncovers 12 feet. There are rocks that bare a short distance outside it and a string of rocks between it and the shore, which covers at various stages of the tide. The tidal currents have considerable velocity in its vicinity, and care should be taken, especially in the foggy weather. Shoals with a least depth of 4.8 fathoms extend 1.6 miles east and southeast of the reef. **Nesbitt Reef Light** (56°13'13"N., 132°51'50"W.), 27 feet above the water, shown from a pile with a red and white diamond-shaped daymark, is on the south end of Nesbitt Reef.

(448) From Point Nesbitt northwest to **MacNamara Point**, a low wooded point, a distance of 9 miles, ledges extend offshore in places about 0.5 mile, almost all of which bare. Rocks extend about 0.4 mile south from MacNamara Point.

(449) From MacNamara Point northeast to St. John Harbor the shore is fringed with ledges to a distance of 0.5 mile in places, with broken ground farther out, and this shore should be given a berth of 1 mile or more.

(450) **Snow Passage** is between **Bushy Island**, the northernmost of the Kashevarof group, and Zarembo Island. It is a deep channel with foul shores and strong tidal currents. Snow Passage is largely used by vessels bound from or to Wrangell Narrows or between Clarence and Sumner Straits, and not desiring to touch at Wrangell, as it is shorter than the route through Stikine Strait. It is clear in midchannel, except for a shoal with a depth of 4½ fathoms in the middle of the channel at the north end, 0.7 mile east-northeast of Round Island. The shoal is marked on its west side by a buoy. The shoals in Snow Passage are clearly marked by kelp at slack water. During spring tides, the passage may have a considerable number of drifting logs that may endanger vessels. The passage is transited by tugs, barges and coastal freighters as well as cruise ships from May through September. Larger vessels are advised to make a Security call prior to entering Snow Passage in either direction.

(451) **Voluntary vessel traffic procedures** have been established for gillnet vessels and deep-draft vessels transiting Snow Passage. See the description of **Clarence Strait** at the beginning of this chapter for designated tracklines and procedures.

(452) **Bushy Island Light** (56°16'35"N., 132°57'35"W.), 22 feet above the water and shown from a skeleton tower on a brown cylindrical base with a red and white diamond-shaped daymark, is on a rock off the northeast end of Bushy Island and marks Snow Passage. From points to the northwest the light appears well off the Bushy Island shore. Just south of Bushy Island Light are bare rocks that extend 0.2 mile east of Bushy Island. The submerged rocks in this region are covered by kelp.

(453) A lighted buoy is about 0.7 mile southeast from Bushy Island Light. It marks the east side of the channel close to a kelp patch near the edge of which are two rocks covered at half tide.

(454) Excellent anchorage may be had northwest of Bushy Island in 15 to 22 fathoms, with Tide Island bearing 209°, distance 1 mile. This anchorage is protected from all but winds from the northwest.

(455) The currents of Snow Passage somewhat resemble those of Seymour and Sergius Narrows in their peculiarities. The flood or southeast current has a velocity of 1.4 to 3.4 knots and the ebb or northwest current 3.1 to 4 knots in the narrowest part of the passage. Swirls of some severity at times occur from abreast Ossipee Channel to the north end of Bushy Island; west of the last named point they are very much lessened. Particularly steep waves exist at both entrances to Snow Passage during strong south winds with contrary currents. (See the Tidal Current Tables for predictions of times and velocities of the current in Snow Passage.)

(456) **Ossipee Channel** is between Shrubby and Bushy Islands with the channel becoming more constricted toward the west. An examination by shallow water multibeam indicates depths ranging from 5 to 9 fathoms in the midchannel. A dangerous submerged rock with a least depth of 0.8 fathom extends 0.14 mile into the channel from the northwest shore of Shrubby Island, and an area foul with rocks lies 0.1 mile from the southwest end of Bushy Island. This constricts small boat traffic to 0.1 mile between the two sets of rocks on the western end of the channel. Thick kelp and ledges line the channel on both sides.

(457) The current sets fair with the channel in Ossipee Channel. When the current runs north in Snow Passage, its direction in Ossipee Channel is west, and when south in Snow Passage, its direction in Ossipee Channel is east.

(458) **Tide Island** is small consisting of 3 stands of trees that are connected by ledges that bare at low water. It lies about 2.2 miles west-northwest of Bushy Island. Rocks, marked by kelp and bare at low water, are to the southeast and southwest, close-to.

(459) **Rookery Islands**, three in number and wooded, are in midchannel near the northwest end of the passage and 1.8 miles southwest of MacNamara Point. Between the islands are bare rocks and ledges that cover, and close west of west Rookery Island are two islets, each with a clump of trees. **Rookery Islands Light** (56°18'51"N., 133°06'21"W.), 40 feet above the water, is shown from a skeleton tower with a red and white diamond-shaped daymark on the northeast side of **Round Island**, the easternmost island of the group.

(460) **Salmon Bay** is about 1.2 miles west-southwest of Rookery Islands. Small craft can find sheltered anchorage in 1 to 3 fathoms near the head. It is extensively used as a harbor by local boats during certain seasons of the year.

(461) A line of detached rocks about 1.4 miles long in a north-northwest to south-southeast orientation, bare at different stages of the tide and marked by kelp at slack water, is about midway between Rookery Islands and Point Colpoys and from 0.2 to 0.7 mile offshore. A daybeacon is on a rock at the northwest end, 0.7 mile northeast of Bay Point. The channel leading along the shore west of them is clear.

(462) The bays and coves to the south of Salmon Bay are almost dry at low water and have foul entrances. They lead into an extensive salt marsh that parallels the beach. Overfalls, currents and rocks make the various entrances dangerous except at high water. It is reported that at extreme high water boats drawing 5 feet make the passage from Salmon Bay to the first bay to the south through the salt marsh.

(463) **Point Colpoys**, about 4.5 miles west of MacNamara Point, is low and wooded and is marked by **Point Colpoys Light** (56°20'11"N., 133°11'54"W.), 19 feet above the water and shown from a skeleton tower with a red and white diamond-shaped daymark. Irregular bottom extends about 0.3 mile to the north.

(464) **Bay Point** is a low wooded point about 1 mile to the southeast of Point Colpoys.

(465) Ernest Sound and Stikine Strait, with their connecting passages, Zimovia Strait, Blake Channel, and Eastern Passage, afford various routes from Clarence Strait to Wrangell. Large vessels go by way of Stikine Strait, but small craft frequently go by way of Ernest Sound and Zimovia Strait, or by Ernest Sound, Blake Channel, and Eastern Passage. The last two routes afford better protection in stormy weather. The distances to Wrangell by these routes from a point 2 miles west of Lemesurier Point are about 52, 50 and 60 miles, respectively.

(466)

## Ernest Sound

(467) **Ernest Sound** is the large body of water that opens from Clarence Strait between Lemesurier Point and Onslow Point, with a width of about 4.5 miles between the points. Its general direction is north-northeast for about 25 miles to Point Warde; from this point, under the name of Bradfield Canal, it extends about 17 miles in a general east direction, with a width of about 1 mile. There are numerous small islands in the sound and two large ones, one on each side, about midway of its length.

(468) From Ernest Sound two arms extend north-northwest and join north of the northernmost extremity of Wrangell Island near the mouth of Stikine River. The west arm is called Zimovia Strait. The south part of the east arm is called Blake Channel and the north part Eastern Passage. A passage to Wrangell through Ernest Sound, Blake Channel, and Eastern Passage is practicable and is used as an alternate route for ferries and other large vessels. Small craft use Zimovia Strait frequently.

(469) The principal dangers in the main part of Ernest Sound are McHenry Ledge (55°46.7'N., 132°18.0'W.), with a depth of ¼ fathom (0.4 m) and marked by a lighted bell buoy, and a 2¾-fathom rock about 2.2 miles northeast of McHenry Ledge off the entrance to Union Bay. A shoal area with a least depth of 13 fathoms is off the entrance to Ernest Sound in 55°49.1'N., 132°21.5'W. To keep in the middle of the channel between **Eaton Point** (55°56.3'N., 132°04.0'W.) and the north end of Deer Island, vessels should pass 0.6 mile west of Eaton Point; thence 1.2 miles west of Point Peters, the south extremity of Deer Island; thence in midchannel between Deer and Niblack Islands; thence 0.6 mile west of the north end of Deer Island.

(470) Lemesurier Point, Lemly Rocks, McHenry Ledge, the Onslow Group, on the north side of the entrance to Ernest Sound, together with Ernest Point, Onslow Point, and the passage leading from Ernest Sound to Dewey Anchorage, have been described with Clarence Strait earlier in this chapter.

(471)

### Currents

(472) The currents in Ernest Sound follow the general direction of the channel. The flood current sets north with an average velocity of about 1.7 to 2.1 knots. The ebb current sets south with about the same average velocity. At the junction of Bradfield Canal and Blake Channel, the joining of the tidal currents cause swirls. See the Tidal Current prediction service at *tidesandcurrents.noaa.gov* for specific information about times, directions, and velocities of the current at numerous locations throughout the area. Links to a user guide for this service can be found in chapter 1 of this book.

(473)

## Union Bay to Vixen Harbor

(474) **Union Bay** is east of Lemesurier Point. At its head is a large lagoon, mostly bare, into which a large stream, **Black Bear Creek**, empties. The waters of the bay are deep, but there is anchorage with protection from south, on the east side of the head of the bay, in about 18 fathoms. The southwest angle of the bay is foul for 0.2 mile offshore. The only danger, except near the shores, is a rock with a depth of 2¾ fathoms in the middle of the entrance and about 2.5 miles north-northeast of Lemesurier Point. At high water do not approach the head of the bay too rapidly as the points at the entrance to the lagoon are platforms of rock only 3 feet above high water and are not readily distinguished. Anchor in 18 fathoms, about 0.4 mile offshore, on the east side of the head of the bay, with the northeast point at the entrance to the lagoon bearing about 140°.

(475) For anchorage, fishermen use the cove behind the small islet (55°46.3'N., 132°11.0'W.) and the long cove behind **Magnetic Point**, about 1 mile north of the islet.

(476) Small boats use the channel between **Union Point**, which is low and wooded, and the two islets south of it.

(477) An estimated current velocity of 3 knots sets south around Union Point on the ebb.

(478)

### Local magnetic disturbance

(479) Differences of as much as 10° from the normal variation have been observed in the east part of Union Bay, and a difference of 38° from normal variation has been observed at a small islet 0.8 mile southwest of Union Point.

(480) **Vixen Harbor**, 0.8 mile east of Union Point, is about 0.4 mile long, with an even sand and mud bottom and an average depth of 4½ fathoms. The entrance channel, about 100 yards wide, has depths of only 2 fathoms. In entering, proceed carefully to the north of and close to the small islands in the entrance. Temporary anchorage for larger craft may be had in 16 fathoms, sand and gravel, 0.4 mile north of the small island in the entrance.

(481)

## Vixen Inlet to Olive Cove

(482) **Vixen Inlet**, about 6.5 miles northeast of Lemesurier Point and south of **Vixen Point** (55°51.0'N., 132°05.5'W.), has a small islet, **Sunshine Island**, in the middle of the entrance and a stream at the head. A reef makes out from the west side of Vixen Point and extends south about 1.2 miles. A reef with a least depth of ¾ fathom, not marked by kelp, is in the middle of the entrance, 1.2 miles 284° from Sunshine Island.

(483) In entering, the passage to the south of Sunshine Island is preferable. Round the south end at a distance of about 250 yards and select anchorage in depths of 11 to 15 fathoms. The inlet dries for a considerable distance from the head of the flats, dropping off sharply to 7 fathoms.

(484) **Emerald Bay**, open and exposed, is 2.8 miles north of Vixen Point. It is used by fishermen during east weather but is a poor anchorage. A stream empties at its head.

(485) **Easterly Island**, a small timbered island with sheer steep sides, is in midchannel about 2.8 miles north of Vixen Point. **Easterly Island Light** (55°53'47"N., 132°05'27"W.), 28 feet above the water, is shown from a skeleton tower with a red and white diamond-shaped daymark on the north end of the island.

(486) **Petersen Islands**, separated by a narrow channel with a depth of 3 fathoms and having the appearance of a split island, are about 4.6 miles west of Easterly Island Light and 3 miles south-southwest of Brownson Island.

(487) **Westerly Island**, small and wooded, is about 1.4 miles south of Brownson Island. The channel between it and Brownson Island is clear, except for the rocks north and north-northeast of Petersen Islands.

(488) **Brownson Island**, on the west side of Ernest Sound 7 miles northeast of Onslow Point, is cut almost in two by a large lagoon. A group of small islands is separated from the south end of the island by a channel about 0.1 mile wide, suitable for small vessel traffic that may also find anchorage in the area. Any vessel transiting the area should be aware of numerous rocks and shoals.

(489) An island, small and wooded, is 0.7 mile southeast of Brownson Island. A large cluster of rocks is about 0.2 mile east of the north end of the island. About 0.2 mile east of these rocks is a cluster of rocks awash and a submerged ledge which are marked by a daybeacon. These constitute a danger and should be avoided.

(490) A small, narrow island, with rocks off its north and south ends, is close to the east shore of Brownson Island, near the south end. The channel separating the two is extremely narrow and deep. A submerged ledge extends westward from the island creating a potential hazard for any vessels transiting the narrow passage.

(491) **Canoe Passage** separates Brownson Island from Etolin Island. It runs in a north direction, with depths too great for anchorage, until the narrows are reached about 2 miles from the north end, where the channel dries and in places is 100 yards wide. Pass east of a small islet at the north end of the narrows. A shoal makes out about 150 yards from the west shore, 0.4 mile south of the north end of the passage. Beyond this point midchannel depths are the greatest. At the north end of Brownson Island, the passage turns east, increases in width and affords anchorage in 13 fathoms, sand bottom.

(492) **Deer Island**, east of the north part of Brownson Island, is on the east side of Ernest Sound. There are a number of islands and rocks close to the west shore of the island.

(493) Two coves indent the west shore of the south part of Deer Island. The more south cove is entered from the south just west of **Point Peters**, the south point of Deer Island. The cove's west shores are formed by two islands. There are two shoals at the narrowest part of the entrance. A l.6-fathom shoal extends northward from the exposed rocks just off the eastern shore, and a 1.4 fathom shoal

extends 246 yards east from the western shore. Depths inside the cove range from 1.5 to 43 fathoms. There are two narrow small-boat passages. The first is between the two western islands and the second is between the north island and Deer Island. The small inlets inside the cove have potential to be good small boat anchorages. The more north cove, about 2 miles north of Point Peters, has a wide accessible entrance. Rocks are 0.5 mile inside the entrance, 0.1 mile from the west shore. A 2.8-fathom shoal extends 355 yards south from the rocks. The channel leading northwest from the northwest end of the cove bares in places, contains many rocks and is not fully navigable at low water. The north entrance of this channel is blocked by numerous rocks and reefs. The channels between the islands west of the north cove are suitable for small boats only.

(494) **Kuakan Point** is the north point of Deer Island. A 3½-fathom spot is 0.2 mile north of the point, and a small cove southeast of the point is found to have depths of 16 to 22 fathoms with a muddy bottom and may be a possible anchorage site.

(495) **Seward Passage**, deep and clear, separates Deer Island from the mainland. **Watkins Point** (55°57.5'N., 132°02.3'W.), the south point of the south entrance, is low and timbered. **Sunny Bay** and the small coves between Watkins Point and **Point Santa Anna**, about 3.2 miles to the east-northeast, are used by launches. A group of islands is off the southwest end of Sunny Bay, the outermost of which, **Change Island**, is timbered.

(496) **Santa Anna Inlet** is on the east side of Seward Passage about 2.7 miles north-northeast of Point Peters. A shoal area extends about 200 yards off the southwest shore about 0.5 mile from the entrance. From 1 mile within the entrance the midchannel depths decrease gradually from 18 to 9 fathoms near the head. Small craft will find good anchorage in 9 fathoms near the head of the inlet.

(497) **Frosty Bay** is on the east side of Seward Passage near the north end. Two rocks, bare at half tide, are about 150 yards north of the south point of the entrance. Fishing craft anchor in 7 fathoms in the southwest part of the bay. The head of the bay narrows, then widens, forming a bight with depths less than 1 fathom. A large stream empties at the head of the bay.

(498) **Niblack Islands** are a cluster of small islands between Brownson and Deer Islands. The passage on the east side is deep and clear. **South Niblack Islands Light** (56°00'23"N., 132°05'28"W.), 24 feet above the water, is shown from a square frame structure with red and white diamond-shaped daymarks on the east side of the largest of the southernmost Niblack Islands.

(499) **Bold Island**, with a conspicuous cliff 100 feet high on the west shore, is at the entrance to Menefee Inlet about 3.6 miles north-northwest of South Niblack Islands Light. A channel with a depth of 7 fathoms separates Bold Island from a group of small islands to the south.

(500) **Menefee Inlet**, on the west side of Ernest Sound, is deep to within 1 mile of the head, where three fair-sized streams empty. Anchorage may be had 1.2 miles from the head of the inlet in 14 fathoms, sand and mud bottom. Mariners should use caution when approaching Menefee Inlet from the south as there is a dangerous submerged rock 0.9 mile east-southeast of Menefee Point in about 56°02'32"N., 132°08'35"W.

(501) **Fisherman Chuck** separates **Menefee Point**, the low wooded point on the south side of Menefee Inlet, from Etolin Island. It is from 30 to 100 yards in width, has a depth of 14 fathoms at the north entrance, shoals to 2 fathoms 0.3 mile to the south, and thence to the south end is dry except at high water. It is used as an anchorage by fishermen.

(502) **Southwest Cove**, to the north of Bold Island, is too deep for anchorage. A reef extends offshore about 100 yards from a point at the head of the cove. Very small craft find anchorage back of the island on the east side of the cove.

(503) **Found Island**, at the south entrance to Zimovia Strait and about 3.2 miles northeast of Bold Island, is rectangular in shape and wooded, with ledges that extend about 100 yards off the north shore. **Found Island Light** (56°06'11"N., 132°04'46"W.), 34 feet above the water, is shown from a skeleton tower with a red and white diamond-shaped daymark on the southwest side of the island. A grass-covered rock, 12 feet high, is 0.2 mile west of the north end of the island. A small submerged reef, 125 feet wide, awash at low water and marked by a red and white daybeacon, is 0.4 mile north of Found Island. **Blanche Rock**, 7 feet high, about 1.1 miles south-southwest of Found Island off the south point of the entrance to Zimovia Strait, is conspicuous because of its white color.

(504) **Southeast Cove**, about 1.5 miles northeast of Found Island has mostly steep shoreline on the west side of the cove and gravel beaches on the east side. It does not afford anchorage.

(505) **Fools Inlet** is about 5 miles northeast of Found Island. Mudflats bare 0.9 mile from its head, almost to two small islets. Anchorage may be had in 14 to 19 fathoms south of the south islet.

(506) **Point Warde** (56°10.5'N., 131°58.1'W.), to the southeast of Fools Inlet, is the south point at the entrance to Bradfield Canal. The point rises to two not very definite timbered knobs with higher land to the east. The shore is rocky. Cliffs on the west face of the point average 80 feet in height.

(507) Foul ground extends about 75 yards off the north shore of the cove, 1 mile south of Point Warde. The cove has depths of 18 to 38 fathoms in the middle. It shoals gradually to the north shore. In the small bight on the north side of the cove, depths range from 6 to 9 fathoms.

(508) **Bradfield Canal** extends approximately 16 miles east of Point Warde and is connected to the southern entrance of Blake Channel. A shoal with a depth of 2.5 fathoms in 56°12'07"N., 131°41'42"W., and about 2.7 miles west of Duck Point marks the high point of a ridge that extends the width of the canal. About 12 miles east of Point Warde, the canal narrows due to shoaling from

creek sediment north of **Duck Point**. The small cove west of the point affords protection for small craft. The best anchorage is at the head of the cove in depths of 10 to 15 fathoms with a soft bottom.

(509) The navigable channel of Bradfield Canal above Duck Point follows the north shore of the point, being restricted in one place to a width of 0.2 mile by a small islet that is passed on its south side. Beyond this point the canal continues 2 miles, where it ends in a broad flat off the mouths of two large streams.

(510) **Anan Bay**, about 2.3 miles east of Point Warde, is an open bight on the south shore of Bradfield Canal. A large salmon stream empties into Anan Bay and offers a good shelter and anchorage for small craft during south weather in 5 to 10 fathoms, mud bottom. A mooring float is on the east side of Anan Bay in about 56°11'10"N., 131°53'26"W. About 450 yards southwest of the mooring float, shoaling to ¾ fathom has been reported in about 56°11.0'N., 131°53.8'W. There are no other known dangers other than those charted. The U.S. Forest Service maintains a bear observatory on **Anan Creek** at the large waterfall about 0.5 mile from the beach. A trail marker on the beach indicates the end of a well-maintained trail leading inland along the creek and passing the bear observatory. This area is visited each year by many people who come to observe the thousands of salmon in the stream and passing up the falls and the many black bear feeding on the salmon.

(511) **Zimovia Strait**, between Etolin Island and Wrangell Island, connects Ernest Sound with the east end of Sumner Strait. It is about 25 miles long, varies in width from about 0.4 to 2.5 miles, and furnishes a convenient route for small vessels bound from Ketchikan to Wrangell. The critical part of the passage is in **The Narrows**, in the vicinity of Button Island, (56°12'04"N., 132°15'05"W.), where the channel is tortuous but marked by buoys, daybeacons and lights.

(512)

## Currents

(513) The flood current enters Zimovia Strait from both the north and south ends and meets near Village Islands. The approximate velocity of the current is 1.6 knots. Between Woronkofski Island and Wrangell Island, the ebb sets south and out through Chichagof Pass with a velocity of about 1.7 knots and the flood sets north with a velocity of about 1.7 knots. (See the Tidal Current Tables for daily predictions.)

(514) The channel in places is narrow and intricate, the depths are irregular, and local knowledge is desirable for safe navigation.

(515) A small cove (56°06.9'N., 132°07.0'W.) on the Etolin Island side of the channel, about 1.4 miles from the south entrance, has depths of 7¼ fathoms 0.3 mile from the head, shoaling to 6 fathoms at the head.

(516) **Thoms Place**, a cove on the Wrangell Island side of the channel, about 3.5 miles from the south entrance, has two small wooded islets in the entrance. A group of islets is near the head close to the southwest shore, and another close to the northeast shore. A ledge surrounding the southwest islets extends east 100 yards towards the channel. The islet close to the northeast shore is surrounded by a ledge on the north and south and a rock awash at low water at the southwest corner of the islet.

(517) In entering, pass between the entrance islets, where soundings vary from 6 to 12 fathoms. The channel between the east islet and the Wrangell Island shore is foul. The southwest shore and the head of the cove are foul and should be given a wide berth. A wooded island, about 0.2 mile in diameter, is about 0.2 mile off the headland on the west side of the entrance to Thoms Place.

(518) A lagoon, about 0.8 mile long, is west of Thoms Place. Rocks are off the entrance, and the channel is narrow, with a controlling depth of ½ fathom. A small bight just inside the entrance has depths of 6 to 10 fathoms. There are several smooth beaches that have been used for beaching boats. The head of the lagoon is foul. Several private cabins and small piers are found along the shore.

(519) **Zimovia Islets**, about 6 miles from the south entrance to the strait, are a group of low wooded islands, the largest and highest of which has an elevation of 268 feet. **Zimovia Strait Light 2** (56°11'03"N., 132°12'50"W.), 23 feet above the water, is shown from a small pile structure with a triangular red daymark on an islet off the west end of the largest island of the group.

(520) **Trap Rock**, 0.4 mile west-northwest of Zimovia Strait Light 2 and 0.5 mile east of the entrance to Whaletail Cove, consists of a shoal of sand and boulders that bare 2 feet. A buoy is 100 yards east of the rock. Foul ground is between the rock and Etolin Island. The cove, 0.4 mile east of Trap Rock, contains a small private float. The depth in the area is reported to be 3.0 fathoms.

(521) A small islet, 125 feet high, is about 0.4 mile north from Trap Rock. Small vessels anchor in the vicinity.

(522) **Whaletail Cove**, west of Trap Rock, has two branches; the entrance has a rock awash 6 feet in 56°11'19"N., 132°14'32"W., and then partially bares to the split. The west branch, which dries almost entirely, has a small island at its entrance. Depths of 1 to 7½ fathoms are found in the east branch the greater depths are near the south shore. This branch shoals rapidly near the head.

(523) **Whaletail Point** is on the north side of the entrance to Whaletail Cove. **Button Island**, 160 feet high and wooded, is near the north end of a shoal area that extends between the island and Whaletail Point. A buoy about 250 yards east of Button Island marks the north edge of the shoal area. A wooded island is about 0.2 mile south of Button Island. The shoal area between these two islands is foul with rocks and kelp and passage is not recommended.

(524) A light is on the Wrangell Island shore 0.2 mile north of Button Island.

(525) **Double Rock** uncovers 11 feet, is marked by a daybeacon, and is close to the Wrangell Island shore about 0.2 mile west of the light. A rock, with ½ fathom

over it and marked on its south side by a buoy, is about 0.25 mile south of Double Rock.

(526) **Midchannel Rock**, which uncovers 3 feet and is marked by a daybeacon, is 0.4 mile west of Double Rock. A ½-fathom shoal in 56°12'08"N., 132°16'01"W., is about 0.15 mile east-southeast of the daybeacon. A deserted village is on the point about 0.3 mile north of Midchannel Rock.

(527) **Village Islands**, a group of islands, rocks and ledges, are a part of a general shoal area that extends about 2.4 miles northwest from the west end of Whaletail Point and about 0.5 mile off the northeast shore of the strait, with the main channel between.

(528) **Village Islands Light 13** (56°12'48"N., 132°18'06"W.), 17 feet above the water, is shown from a pile structure with a square green daymark on a rock off the northeast shore of the largest island of the group.

(529) **Village Rock**, marked by a daybeacon, is on the northeast edge of the channel about 0.3 mile northeast from Village Islands Light 13.

(530) **Village Islands Rock**, awash and marked by a daybeacon, is about 0.6 mile northwest of Village Islands Light 13 and marks the northwest end of the general shoal area, at the west end of The Narrows.

(531) **Olive Cove** is south-southwest of the Village Islands. A stream of considerable size empties through the flats, which at low water extend about 0.6 mile from the head of the cove. With local knowledge anchorage may be had off the entrance in 3 to 11 fathoms.

(532) A small cove, which dries, is about 0.7 mile east of Olive Cove. Foul ground between this cove, Whaletail Point and the Village Islands makes it dangerous to transit south of the Village Islands without local knowledge.

(533)

## Anita Bay to Young Rock

(534) **Anita Bay**, on the west side of Zimovia Strait, about 13 miles from the north entrance, is deep and clear inshore on both sides, except for a shoal that extends east about 0.2 mile from the point of the cove on the south side of the bay, 3.7 miles from the entrance. A floating pier is 0.2 mile southwest from the same point of the cove. Shoals extend about 0.1 mile off the entrances to small coves, one on each side, about 0.6 mile from the head of the bay. A depth of 10 fathoms may be obtained 0.2 mile from the head of the bay, but beyond this it shoals rapidly. **Anita Point** (56°13.6'N., 132°22.4'W.), the south point of the entrance, rounded, wooded and indefinite, may be passed at a distance of 0.2 mile. The bight in the northwest shore of the bay near the entrance dries about 50 yards offshore. A group of rocks is in the entrance to the bight in the northwest shore, 1 mile west of Anita Point. A cabin is on the north shore of the bight. Anchorage may be had near the head of the bay in 10 to 13 fathoms, mud and sand bottom, with swinging room somewhat restricted by flats that make out from the head and side of the bay. A fish hatchery is in a small inlet along the northwest shore of Anita Bay, 1.2 miles northwest of the head of the bay at (56°12'07"N., 132°29'06"W). A log boom lies across the inlet, and a mooring buoy is 60 yards offshore of the log boom.

(535) **Turn Island** is close to the Wrangell Island shore about 1.4 miles northeast from Anita Point. **Nemo Point** is about 2.8 miles north of Turn Island.

(536) The east shore of Zimovia Strait, between 2 and 5 miles above Nemo Point, is foul with rocks and islets that extend for 0.5 mile offshore. **Young Rock**, with a depth of 2 fathoms, is not marked by kelp. The rock is in the center of the strait at its junction with Chichagof Pass in 56°21'29"N., 132°23'20"W.

(537)

## Blake Channel to Mill Creek

(538) **Blake Channel**, locally called **Back Channel**, having its entrance 3 miles northeast of Point Warde (56°10.5'N., 131°58.1'W.), connects Ernest Sound with **Eastern Passage** and through it with the east end of Sumner Strait. **Blake Channel Light 1** (56°12'36"N., 131°55'20"W.), 28 feet above the water, is shown from a skeleton tower with green square daymarks on the west side of the channel entrance.

(539) Deposits from the Stikine River at the north end of Eastern Passage cause shoaling at the mouth of the river from **Gerard Point** (56°30.8'N., 132°19.6'W.) to Kadin Island. The mud flats are very dynamic and have a tendency to migrate seaward. Mariners are advised to use extreme caution while navigating in these areas due to the constantly changing nature of the bottom. The current from the South Arm of the Stikine River is diverted through the channel off **Green Point** (56°32.5'N., 132°21.5'W. The deepwater passage north of Highfield Anchorage, 1.7 miles southwest of Gerard Point, has been narrowed to a width of less than 0.3 mile by the encroachment of the shoaling from sedimentation on its north side. It is recommended that ships using Eastern Passage favor Deadman Island that is on the north side of Highfield Anchorage, passing a safe distance off. A light is shown from the north side of Deadman Island.

(540)

### Currents

(541) In Blake Channel the flood current sets north-northwest with a velocity of about 2.2 to 3 knots, and meets the flood current from Eastern Passage in the vicinity of The Narrows. The ebb current sets in the opposite direction with a velocity of about 2.2 to 3 knots.

(542) In Eastern Passage northwest of The Narrows, the flood current sets southeast and the ebb sets northwest with average velocities of about 1.8 knots. The first and last of the ebb is backed into Eastern Passage by the current from the Stikine River. (See the Tidal Current Tables for daily predictions.)

(543) **Blake Island**, locally called **Ham Island**, is at the south entrance, with a narrow channel on each side. A pinnacle rock, not marked by kelp, with a depth of

1¼ fathoms, is about 0.3 mile north of the southeast end of Blake Island. A 5-fathom spot is southwest of Blake Island near the entrance about 150 yards from the Wrangell Island shore. If the west channel is used, avoid the rocks off the point of the cove on the west side of the channel when turning in from Bradfield Canal.

(544) The channel east of Blake Island passes east of a reef that extends northwest from the northwest end of Blake Island and terminates in a wooded islet at the narrowest part of the channel. A midchannel course will avoid the rocks along the east side of Blake Island. The tidal currents have considerable velocity in this vicinity, and a midchannel course should be followed through either channel.

(545) **Neptune Island**, about 7.5 miles north-northwest of Blake Island, is low and wooded and marked at its west end by a light. The lagoon with its entrance east of Neptune Island shoals too rapidly for good anchorage. The greater part of the lagoon bares at low water. **Aaron Creek** empties into the head of the lagoon.

(546) **Berg Bay**, north of Neptune Island, has depths of 5 to 11 fathoms to near its head and affords the best anchorage for small vessels in Blake Channel. Vessels should enter on the east side of the island, due to shoaling on the west side of the island. Also, vessels should give the island a good berth to avoid a reef that extends 0.1 mile north of the inner end of the island. A mooring float is on the east side of the bay, near the head. Other tributaries of Blake Channel and Eastern Passage shoal rapidly inside their entrances and are not good anchorages.

(547) Between Neptune Island and The Narrows, the south shore should be favored to avoid dangers that are off the north shore.

(548) **The Narrows**, about 12 miles north-northwest of the entrance to Blake Channel, is about 1.5 miles long and about 250 yards wide at its narrowest part and connects Blake Channel with Eastern Passage. The only dangers are a reef off the north point at the east entrance and a rocky area with 3 to 4 feet over it at high water and marked by a light (56°21'49"N., 132°06'43"W.), on the south side of the channel just west of the narrowest part of the channel.

(549) **Channel Island**, about 100 feet high and wooded, is in midchannel in Eastern Passage, about 1.3 miles west of The Narrows. The island, marked near its north end by a light, can be passed on either side but the channel north is more direct. An 8¾-fathom shoal is in 56°21'32"N., 132°08'44"W. and about 0.5 mile east of the south tip of Channel Island. The small cove southeast of Channel Island is used as an anchorage by very small craft. Southeast of Channel Island, on the shore of Wrangell Island, is a boat ramp connected via road to the city of Wrangell.

(550) **Point Madan**, on the east side of Eastern Passage, about 2 miles west-northwest of The Narrows, is high and wooded; a shoal covered 2¼ fathoms is 0.2 mile southeast of the point. **Madan Bay**, east of Point Madan, is deep and clear of dangers. It offers excellent anchorage for small craft north of the projecting point near its head on the west side in 7 fathoms, soft bottom.

(551) **Mill Creek** empties into the north side of Eastern Passage about 5 miles above Point Madan. A path leads from the shore to **Virginia Lake**, about 1.2 miles inland.

(552)

## Stikine Strait to Hat Island

(553) **Stikine Strait** connects the north part of Clarence Strait with the east end of Sumner Strait and the waters off the mouth of Stikine River. The strait is broad and deep and is generally used by vessels going to Wrangell or following the Inner Passage from Clarence Strait to Wrangell Narrows. Both shores of Stikine Strait are free from dangers except at a few points, and all dangers are shown on the chart.

(554)

### Currents

(555) In Stikine Strait the flood current sets north through the strait until met by the current from Stikine River west of Wrangell Harbor. Velocity of the current is about 2 knots. (See the Tidal Current Tables for daily predictions.) The glacial waters of the Stikine River usually discolor all the water in the vicinity of Wrangell Harbor.

(556) **Quiet Harbor** (56°14.2'N., 132°39.8'W.) is on the southeast side of Stikine Strait about 2.5 miles south of Round Point, Zarembo Island. A well-protected and easily accessible anchorage, except in north wind, is reported to be about 400 yards from the head of the harbor in about 16 fathoms, mud and sand bottom.

(557) **King George Bay**, on the west side of Etolin Island about 6.5 miles north-northeast of Quiet Harbor, dries at low water. Anchorage is not recommended.

(558) **Round Point**, the southeast extremity of Zarembo Island, drops steeply from a high headland, rounding off in an almost perfect quadrant. The shoreline consists of gray and yellow cliffs rising to heights of about 40 feet (12.2 m). **Round Point Light** (56°16'40"N., 132°39'27"W.), 24 feet above the water, is shown from a spindle with a red and white diamond-shaped daymark on the point.

(559) **Meter Bight**, 4 miles north of Round Point, is an open bight with sand flats at the head over 1 mile in extent that bares for about 500 yards offshore. Three streams empty through the flats. From the edge of the flats the water deepens rapidly.

(560) **South Craig Point**, marked by a light, is about 7 miles north from Round Point. It has no special characteristics.

(561) **Fritter Cove**, to the south of South Craig Point, is an open bight with rocks off the north point of the entrance. Depths inside Fritter Cove are generally too deep for anchorage.

(562) **Roosevelt Harbor**, north-northwest of South Craig Point, affords anchorage near the head for small craft in depths of 11 fathoms, mud bottom. In entering, leave the grass-covered rock at the entrance to the south. The channel south of the rock is reported foul.

(563) **Deep Bay** is on the Zarembo Island side of the north end of Stikine Strait, about 1.1 mile north of South Craig Point Light. It is too deep for anchorage until near the head, although the bottom is rocky.

(564) **Woronkofski Island**, east of Zarembo Island, is about 5.5 miles in diameter. It rises in a series of peaks to **Mount Woronkofski** near its center and is timbered to a height of 2,500 feet. The shoreline is generally rocky, with off-lying rocks close-to.

(565) **Reef Point**, low and wooded, is the southwest extremity of Woronkofski Island. Rocks and kelp extend offshore for about 300 yards. A rock, with 1¾ fathoms on it, is about 0.6 mile north-northwest from this point.

(566) **Drag Island**, about 250 yards in diameter and about 150 feet high, is 0.2 mile south of the point.

(567) **Point Ancon** is on the west side of Woronkofski Island. **Point Ancon Light** (56°24'18"N., 132°33'19"W.), 20 feet above the water, is shown from a square frame structure with a red and white diamond-shaped daymark on the point. A rock awash and kelp are close to the point.

(568) **Wedge Point**, about 1.1 miles north-northeast of Point Ancon, is a low, thickly wooded point that shows prominently.

(569) **Elephants Nose** is a knob on a ridge near the north end of Woronkofski Island.

(570) **Woronkofski Point**, the north point of the island, is low and rounding without any marked characteristics. A daybeacon marks the northeast end of the point. The shore southeast of Woronkofski Point should be given a berth of at least 0.5 mile. There are rocks along this section of the coast and also piles enclosing log storage areas.

(571) **Fivemile Island** is about 1.9 miles north of Woronkofski Point. **Fivemile Island Light** (56°28'14"N., 132°30'43"W.), 34 feet above the water, is shown from a single pile with a red and white diamond-shaped daymark on the north end of the island.

(572) **Chichagof Pass**, between the south side of Woronkofski Island and the north side of Etolin Island, connects Stikine Strait with the north part of Zimovia Strait. It is clear except for Young Rock, with a depth of 2 fathoms, at the east end of Chichagof Pass in Zimovia Strait. **East Point**, at the east end of Woronkofski Island, is low and wooded. There is a small cove on the north side of East Point. **Circle Bay** is an open bight west of East Point. The bay is free of obstructions.

(573) **Hat Island** is at the entrance to Circle Bay, about 0.8 mile southwest of East Point. It is wooded and is marked by a light on the south side. A rocky ledge extends about 90 yards south of Hat Island.

(574)

## Highfield Anchorage to Shoemaker Bay Boat Harbor

(575) **Highfield Anchorage** is at the north end of Wrangell Island, about 1.5 miles from Wrangell Harbor. The anchorage is in 4 to 15 fathoms, fine sand and mud bottom, extending east from **Point Highfield** to Polk Point and north to **Deadman Island**, which is marked on its north side by **Eastern Passage Light** (56°29'38"N., 132°22'12"W.); the light is 13 feet above the water and showing a red and white diamond-shaped daymark on a skeleton tower. Light floating ice from Stikine River is encountered here in the spring, and countercurrents render a vessel very uneasy at times.

(576) The mud flats north of Wrangell Island, at the mouth of the Stikine River from Kadin Island to Gerard Point, are very dynamic and have a tendency to migrate seaward. Mariners are advised to use extreme caution while navigating in these areas due to the constantly changing nature of the bottom.

(577) **Airport Runway Rock Light** (56°29'06"N., 132°21'16"W.), 15 feet above the water, is shown from a spindle with a red and white diamond-shaped daymark and marks a bare rock, 10 feet high and about 0.7 mile southeast of Deadman Island.

(578) **City of Topeka Rock**, in 56°29'14"N., 132°22'27"W., and south of Highfield Anchorage, is awash at low water.

(579) **Wrangell Harbor** is on the west side of the north end of Wrangell Island, about 1 mile below Point Highfield. It is a bight formed by **Point Shekesti**, that projects 0.4 mile in a northwest direction from the island. A breakwater 100 yards long extends from the north extremity of Point Shekesti and affords protection for small craft in the south part of the harbor. **Wrangell Harbor Breakwater Light 2** (56°28'01"N., 132°23'09"W.), 21 feet above the water, is shown from a skeleton tower with a red triangular daymark on the outer end of the breakwater.

(580) **Wrangell** is a city on the north side of Wrangell Harbor, 89 miles from Ketchikan and 148 miles from Juneau. The deepest draft commercial vessel calling at Wrangell was 32 feet in 2000. Wrangell has a cannery, a cold storage facility, large lumber mills and two oil company facilities.

(581)

### Prominent features

(582) An 80-foot high standpipe, on a low ridge immediately east of the city of Wrangell and marked on top by a red light, a lighted microwave tower and the aerobeacon at the airport are the most prominent objects seen in Wrangell from seaward.

(583)

### Channels

(584) A federal project provides for a mooring basin within the protected area in the southeast part of the harbor and a breakwater on the west side of the entrance; an inner basin on the tidal flat area east of Shakes Island is accessed by a connecting channel marked by daybeacons. Depths of 8 to 11 feet are available.

(585)

### Anchorages

(586) Except for the mooring basin inside Point Shekesti, Wrangell Harbor affords shelter for vessels only from offshore winds. During heavy southeast winter gales

Highfield Anchorage is sometimes used for better shelter. Good anchorage in strong southeast weather has been found 0.8 mile off the northeast side of Woronkofski Island in about 23 fathoms, mud bottom.

(587)

### Dangers

(588) The approach to Wrangell Harbor is clear of dangers. A shoal of 2.8 fathoms in 56°28'03"N., 132°23'10"W., is about 55 yards north-northwest of the breakwater. A submerged dolphin is along the eastern side of the entrance channel, approximately 200 yards east-northeast of the breakwater in 56°28'03"N., 132°22'59"W. Submerged piles in 56°27'50"N., 132°22'50"W. are about 33 yards northwest of a floating dock.

(589)

### Tides and currents

(590) Tidal currents in Wrangell Harbor are variable. Vessels approaching the wharves should note the way small craft are swinging to anchor to determine the direction of the current and should exercise caution in coming alongside.

(591)

### Pilotage, Wrangell

(592) Pilotage, except for certain exempted vessels, is compulsory for all vessels navigating the inside waters of the State of Alaska. (See Pilotage, Alaska, indexed as such, chapter 3 for details.)

(593) Vessels en route Wrangell meet the pilot boat about 1 mile northwest of Guard Islands Light (55°27.5'N., 131°53.9'W.).

(594) The pilot boat, a tugboat, can be contacted by calling "WRANGELL PILOT BOAT" on VHF-FM channels 16, 13 or 12.

(595)

### Towage

(596) Tugs up to 1,270 hp operating out of Wrangell and engaged principally in the towing of barges and log rafts are available for assistance in docking and undocking. They are equipped with VHF-FM channels 16, 13 and 9. The tugs are available on a 24-hour basis, and arrangements should be made well in advance through shipping agents.

(597)

### Quarantine, customs, immigration and agricultural quarantine

(598) (See chapter 3, Vessel Arrival Inspections, and Appendix A for addresses.)

(599) **Quarantine** is enforced in accordance with regulations of the U.S. Public Health Service. (See Public Health Service, chapter 1.)

(600) Wrangell is a **customs port of entry**.

(601)

### Harbor regulations

(602) The **harbormaster** at Wrangell assigns berths and controls the use of the grid in the inner basin. He maintains an office on the trestle connecting Shakes Island to Wrangell Island. The harbormaster's office monitors 2182 kHz and VHF-FM channel 16.

(603)

### Wharves

(604) All of the piers and wharves at Wrangell are privately owned and operated with the exception of the City Pier and the State Ferry Pier, which are owned by the City of Wrangell and the State of Alaska, respectively. The alongside depths given for each facility described were reported in 2002; for further information on the latest depths, contact the individual operators.

(605) **State of Alaska, Wrangell Ferry Terminal Dock** (56°28'27"N., 132°23'30"W.): 626 feet of berthing space; 24 feet alongside; owned and operated by the State of Alaska.

(606) **Wrangell Cruise Vessel Wharf** (56°28'15"N., 132°23'19"W.): 0.3 mile southeast of the Alaska State Ferry Pier; faces southwest with 720 feet of berthing space; 35 feet alongside; mooring cruise and transient vessels; owned and operated by the City of Wrangell.

(607) **City of Wrangell Barge Ramp**; immediately southeast of Wrangell City Pier; 140-foot face; 72-ton capacity; raises and lowers by compressed air, using a large floating tank; designed for Lip Barges, but can adapt to other type barges with advance notice; tractor and forklift equipment are available; 2.3 acres of open storage; receipt and shipment of containerized, conventional, roll-on/roll-off general cargo; owned by the City of Wrangell and operated by Boyer Alaska Barge Line, Inc.

(608) **City of Wrangell Cargo Wharf** (56°28'05"N., 132°23'02"W.): 400 yards southeast of the Cruise Vessel Wharf: 480-foot face; 32 feet alongside; 150-foot outerside; 20 feet alongside; deck height, 24 feet; 5 to 42-ton forklifts; receipt and shipment of containerized cargo. Owned by the City of Wrangell and operated by Alaska Marine Lines and Northland Services, Inc.

(609) **Wrangell Seafoods Wharf:** immediately southeast of the Cargo Wharf; 115-foot face; 10 feet alongside; deck height, 24 feet; receipt of seafood and icing fishing vessels; four derricks. Owned and operated by Wrangell Seafoods, Inc.

(610) **City of Wrangell, Seaplane Float** (56°28'01"N., 132°23'00"W.): 160-foot float; 10 feet alongside; owned by the state of Alaska and operated by the city of Wrangell.

(611) **Delta Western, Wrangell Dock** (56°27'51"N., 132°22'58"W.): 90-foot float; 10 feet alongside; deck height, 25 feet; pipelines extend to storage tanks, 10,700 barrel capacity; receipt of petroleum products; fueling vessels; owned and operated by Delta Western.

(612) **Wrangell Oil, Wrangell Dock** (56°27'53"N., 132°23'00"W.): 100-foot float; 10 feet alongside; deck height, 24 feet; pipelines extend to storage tanks, 5,950-barrel capacity; receipt of petroleum products; fueling vessels; owned and operated by Wrangell Oil, Inc.

(613) **Breakwater Seafoods Wharf** (56°27'58"N., 132°23'09"W.): northwest side of entrance to Wrangell Inner Harbor; 35-foot face; 4 feet alongside; deck height,

22 feet; receipt of seafood and icing fishing vessels; owned and operated by Breakwater Seafoods.

(614) **Sea Level Seafoods, Wrangell Wharf** (56°27'30"N., 132°23'00"W.): East side of Zimovia Strait, approximately 0.5 mile south of Wrangell; 90-foot face, 6 to 12 feet alongside; deck height, 22 feet; receipt of seafood; icing fishing vessels; owned and operated by Sea Level Seafoods, Inc.

(615) **Silver Bay Logging, Shoemaker Bay Wharf** (56°23'50"N., 132°20'34"W.): approximately 4.2 miles south of Wrangell; 320 feet of berthing space; 32 to 40 feet alongside; 14 acres of open storage; 40-ton diesel, mobile crane. Owned and operated by Silver Bay Logging, Inc. The area north and south of the wharf is occupied by log booms and small-craft; caution is advised.

(616)

### Supplies

(617) Provisions and fishing and some marine supplies are available in Wrangell. Two oil companies maintain piers and fueling floats in the small-craft basin in the south part of the harbor. Gasoline, diesel fuel, distillates and lubricating oil and greases are available from the fuel facilities. There are no facilities for fueling large vessels at Wrangell. Water is available at the wharves and on the floats in the small-craft basins.

(618)

### Repairs

(619) There are no drydocking or major repair facilities for large vessels in Wrangell or in southeastern Alaska. The nearest facilities are in British Columbia and the State of Washington. A marine railway that can handle vessels up to 80 feet in length and 8 feet in draft is available in the small-craft basin east of Shakes Island. Another marine railway east of Shakes Island is available for wooden and metal hull repairs for small vessels up to 50 feet in length and 6 feet in draft. A machine shop for limited shaft repairs to small craft is adjacent to this small-craft basin.

(620)

### Small-craft facilities

(621) The City of Wrangell operates about 3,300 feet of float space in the mooring basin in the south part of the harbor and about 1,900 feet of float space in the inner basin east of Shakes Island. Fresh water and electric power are available on all floats. A 65-foot grid is in the mudflats on the west side of the trestle connecting Shakes Island to Wrangell Island.

(622) Two fuel facilities are on the south-southwest side of the harbor. Also on the south-southwest side of the harbor are sections of a float maintained by the State Fish and Wildlife Service and the U.S. Forest Service for their own use. A seaplane float is on the northeast side of the channel leading to the south mooring basin about 200 yards 109° from the Wrangell Harbor Breakwater Light 2.

(623) Limited boat-launching facilities are available at the south end of the south basin and close south of the ferry terminal.

(624) **Heritage Harbor** is north of Cemetery Point and about 0.5 mile south of Wrangell. The entrance is marked by breakwaters and lights.

(625) **Shoemaker Bay Boat Harbor**, about 3.5 miles south-southeast of Wrangell, had a least depth of 15 feet in 2002. The entrance channel is marked by lights. The stalls can accommodate 259 small craft, ranging from 20 to 62 feet with a 10-foot overhang. A new pier allows for small, tide dependent, hull repairs. Metered electricity is available upon request, and fuel can be obtained in Wrangell. A motel, restaurant and lounge, telephone service and a large vehicle parking area are available in the immediate vicinity.

(626)

### Communications

(627) Wrangell has regular passenger, express and freight service to Puget Sound ports, British Columbia and other Alaska ports by water and air. The Alaska State Ferry System operates daily service during the summer months to Prince Rupert, BC, Sitka, Ketchikan, Petersburg, Juneau, Haines and Skagway; weekly service is available to Seattle; this schedule is less frequent during the winter.

(628) Scheduled airlines and charter air services operate daily from Wrangell.

(629) Telephone and radiotelephone communications are maintained with the other states and other parts of Alaska.

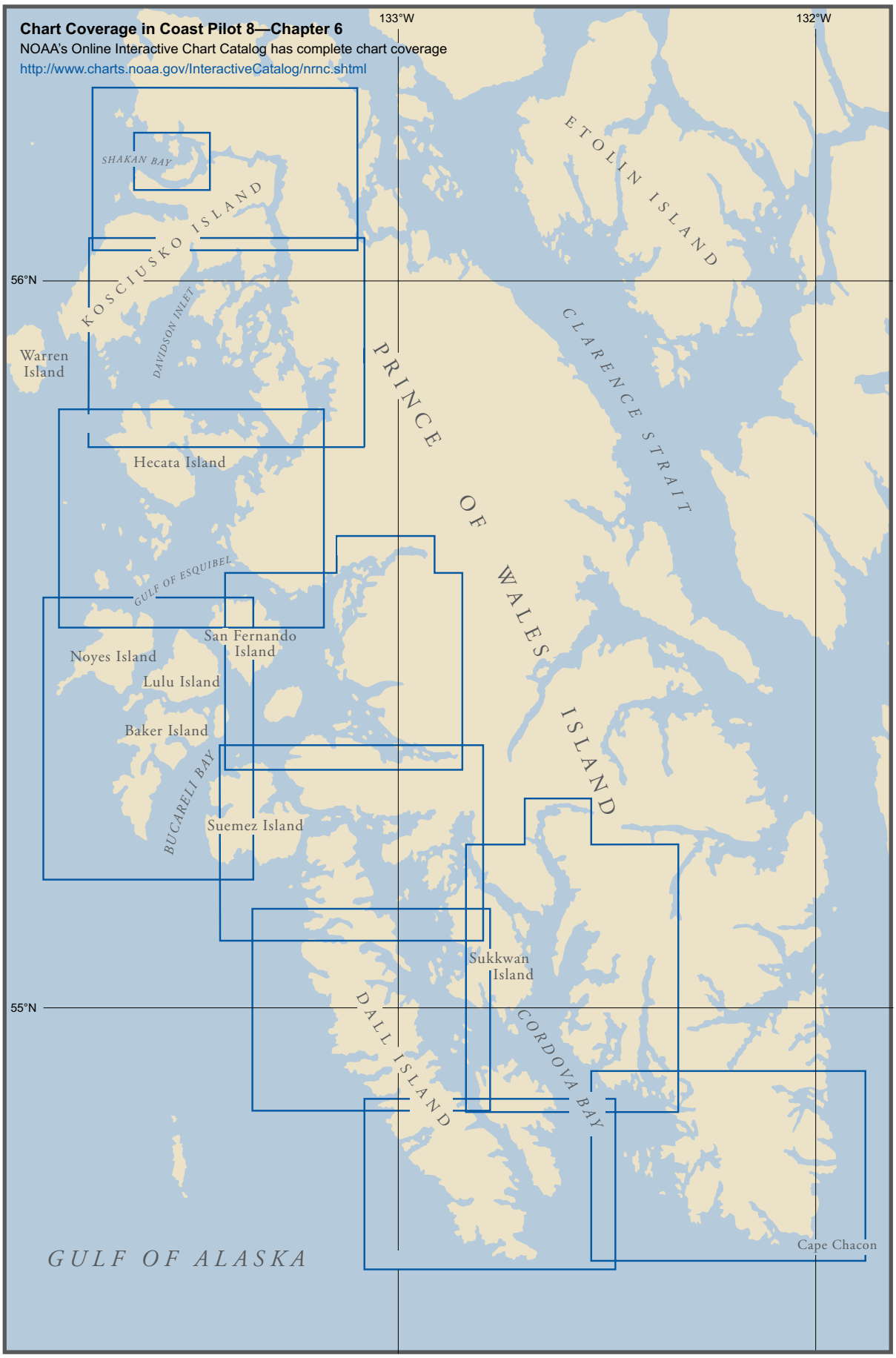


Chart Coverage in Coast Pilot 8—Chapter 6
NOAA's Online Interactive Chart Catalog has complete chart coverage
http://www.charts.noaa.gov/InteractiveCatalog/nrnc.shtml
133°W
132°W
56°N
55°N
SHAKAN BAY
KOSCIUSKO ISLAND
DAVIDSON INLET
ETOLIN ISLAND
CLARENCE STRAIT
Warren Island
Hecata Island
PRINCE OF WALES ISLAND
GULF OF ESQUIBEL
San Fernando Island
Noyes Island
Lulu Island
Baker Island
BUCARELI BAY
Suemez Island
Sukkwan Island
DALL ISLAND
CORDOVA BAY
Cape Chacon
GULF OF ALASKA

# West Coast of Prince of Wales Island

(1) This chapter covers the outer coast between Dixon Entrance and Sumner Strait and includes the inlets and bays on the west coast of Prince of Wales Island and the off-lying islands with the connecting bodies of water. The area is described in the following order: Forrester Island and west coast of Dall Island; Meares Passage; Cordova Bay; Hetta Inlet; Sukkwan Strait; Kaigani Strait; Tlevak Strait and Narrows; Ulloa Channel; Bucareli Bay, San Alberto Bay and Klawock Inlet; Port Real Marina, Portillo Channel and San Christoval Channel; Arriaga Passage, Gulf of Esquibel and Tonowek Bay; Bocas de Finas; Tonowek Narrows; Tuxekan Passage, Davidson Inlet, Sea Otter Sound and El Capitan Passage. The cities of Hydaburg on Sukkwan Narrows and Craig and Klawock on Klawock Inlet are described in this chapter.

(2)

## Forrester Island to Dall Island

(3) The connecting bodies of water along the west coast of Prince of Wales Island and between the off-lying islands afford protected inside passages between Dixon Entrance and Sumner Strait. The main passages have been surveyed, but there are several inlets and bays that have not been surveyed.

(4)

### Currents

(5) A few observations made in 1917, at times when the sea and air were calm, show a northeast to northwest set varying from 0.3 to 1.3 knots between Dall Island and Forrester Island. West of Lowrie Island at the 100-fathom curve, a northeast to north sea of 0.1 knot to 0.8 knot was observed. Near the 1,000-fathom curve, a slight south set was experienced during calm weather.

(6) The currents have considerable strength in the vicinity of the rocks and islets off Forrester Island and are irregular in direction but generally have a north set during flood. Tide rips are usually found around Forrester Island and in the passages between the rocks.

(7)

### Weather

(8) Along the inside passages between Dixon Entrance and Sumner Strait, the rugged islands west of Prince of Wales Island afford some protection from the rigors of the open Gulf. However, passages such as Cordova Bay and Kaigani Strait, as well as numerous inlets and harbors along these routes, are exposed to heavy southeast weather, which is prevalent from September through April. The worst conditions usually occur in November, December and January when gales are encountered about 8 to 11 percent of the time in open water; strong winds are most often out of east through southeast. Winds are further intensified in some restricted passages, and when they blow across strong currents the waters become treacherous. Swells from the open ocean add to the problem in areas like Steamboat and Cordova Bays and North Kaigani Harbor. In addition, because of the high elevations of the islands, williwaws can develop and create rough conditions in many of the inlets and passages. Local weather knowledge is essential to the safe navigation of these waters.

(9) **Forrester Island** (54°48'N., 133°31'W.), about 14.5 miles off Dall Island shore and about 30 miles west-northwest from Cape Muzon, is wooded. The north half of the Island is a ridge with distinctive summits; the south summit is rounding, relatively flat with a ragged tree line; the next peak to the north is sharp; the third is rounding; and the north peak shows flat, with two knobs. The south part of the island is a wooded flat with a knob on the east side. At the south end of the island is a detached knob, which from east and west directions appears as a separate island.

(10) Forrester Island is a National Wildlife Refuge under the jurisdiction of the U.S. Fish and Wildlife Service.

(11) There are no secure anchorages off Forrester Island. During the summer, small craft anchor in four different places: Wood Cove, Eagle Harbor, the north end and the bight on the west side near the north end. Anchorage is close to the beach at the edge of the kelp in about 10 fathoms, rocky bottom. There is a small freshwater stream in Eagle Harbor.

(12) **Wood Cove** and **Eagle Harbor** are on the east side of the island, about 1.4 miles and 0.8 mile, respectively, from the north end.

(13) **Petrel Island** is about 1 mile south from Forrester Island. It has two wooded summits. From a distance these look like two islands.

(14) **South Rock**, close to the south end of Petrel Island, is not very prominent. Between South Rock and Petrel Island is a rock, 73 feet high, and several smaller rocks.

(15) North of Forrester Island for 3 miles there are, in succession: **Sea Lion Rock**, 117 feet high, with a flat and grassy top; **Cape Horn Rocks**, 148 feet high, with steep sides and grassy tops; **Lowrie Island**, wooded and marked by a light; and North Rocks, 15 to 25 feet high, a group with outlying rocks and breakers.

(16) Breakers are numerous around the Forrester Island group but for the most part are close to shore or are readily discernible. **Butler Rock**, 20 feet high, is 500 yards

west from the point on the north side of the bight in the northwest end of Forrester Island. Breakers are north and south of the rock. A breaker between Sea Lion Rock and Lowrie Island is reported to break at low water springs with a moderate swell. During unusually fair seasons, this locality has been marked by kelp.

(17) The pass between Forrester Island and Petrel Island is used by fishermen. At times the currents are severe, and during heavy weather the pass is dangerous. The channel around the north end of Forrester Island and south of Sea Lion Rock and Cape Horn Rock is reported clear; that between Sea Lion Rock and Cape Horn Rocks is seldom used. There is a channel between Lowrie Island and North Rocks, but the locality of North Rocks is reported foul. The passes are used only by small fishing craft and should only be attempted by those with local knowledge.

(18) **Wolf Rock**, 13.5 miles 005° from the highest summit of Forrester Island, is small in extent and bare of vegetation; it is surrounded by foul ground to a distance of about 0.5 mile.

(19) **Dall Island**, the largest island off the west coast of Prince of Wales Island, is about 40 miles long from Cape Muzon, its southeast extremity, to Eagle Point, its northwest extremity, in Meares Passage. It is about 8.5 miles wide between Cape Augustine and High Point, in Tlevak Strait. It is mountainous; Thunder Mountain in the vicinity of Cape Lookout is 3,010 feet high. Both the east and west coasts of the island are indented by numerous bays, coves and inlets, some of which are excellent harbors of refuge.

(20) The west coast of Dall Island from Cape Muzon to Meares Passage, a distance of about 40 miles, is rugged with prominent partially wooded peaks ranging in elevation to about 3,000 feet.

(21) In 1972, a shoal covered 4 fathoms or less was reported in 54°59.6'N., 133°16.6'W., about 4.3 miles southwest of Sakie Point. A rock covered 2 fathoms or less is about 0.8 mile northwest of the 4-fathom shoal in about 55°00'03"N., 133°17'51"W.

(22)

## Chickwan Bight to Dolgoi Island

(23) **Chickwan Bight**, about 2.5 miles west of Cape Muzon, is open and exposed and has depths of about 30 fathoms at the entrance, decreasing to 12 fathoms near the head.

(24) **Wolk Harbor**, about 3.5 miles west of Cape Muzon, is deep throughout and is open and exposed. Midchannel depths are 20 to 40 fathoms. There are tide rips off **Wolk Point** between Chickwan Bight and Wolk Harbor.

(25) **Liscome Bay**, about 4.3 miles west-northwest of Cape Muzon, affords an anchorage for small vessels but is exposed to south weather and swell. A submerged rock is about 100 yards off the east shore, about 1.1 miles within the entrance, where the bay narrows. A small rock is about 230 yards north of the submerged rock. Favoring the west shore, depths of 40 fathoms at the entrance to about 16 fathoms in the vicinity of the rocks may be carried. Depths of 8 to 10 fathoms are found at the head of the bay.

(26) **Point Cornwallis**, marked by a light, is a prominent headland about 6.6 miles west-northwest of Cape Muzon. At the extremity is a projecting rocky point, 195 feet high, on the north side of which, close-to, is a similar point, 131 feet high, near which are two small rocks. A rock awash is immediately west of the projecting point, and a submerged rock and a bare rock are about 0.3 mile to the southeast. Immediately back of the point is a round-topped hill, 440 feet high. **Stripe Mountain**, about 1.3 miles northeast of the point, is marked by a prominent slide on the northwest side.

(27) **Security Cove** is 2.7 miles north of Point Cornwallis. Two rocks awash are close off the south shore at the entrance. Depths at the entrance are deep but irregular; in the narrow part of the cove depths of 6½ fathoms are obtained. Depths of 19 to 35 fathoms are found inside. In the bight on the north side, close inside the narrowest part of the entrance, small craft have found temporary anchorage in depths from 6 to 22 fathoms. A small lake, about 0.5 mile inshore, at an elevation of 950 feet, empties into the head of Security Cove.

(28) **Essowah Harbor** is about 1.7 miles north-northwest from Security Cove. The entrance channel is about 0.3 mile long and 30 yards wide; there are two rocks near the entrance. **Essowah Lakes** empty into the head of Essowah Harbor. A small lake, 0.5 mile south of Essowah Lakes, empties near the entrance to Essowah Harbor.

(29) **Parrot Rock** is about 0.9 mile west-northwest from **Essowah Point**, the point south of the entrance to Essowah Harbor, and is about 0.2 mile offshore.

(30) **Port Bazan** (54°48.8'N., 132°58.5'W.) is between two prominent mountain peaks, about 15 miles from Cape Muzon and 7.5 miles northwest of Point Cornwallis. The northwest mountain top is a small bare tip; the southeast mountain is roughly the shape of a rounded cone and is heavily wooded to the top. Often when the tops of the mountains are enveloped in fog or low clouds, the latter mountain stands out clearly. There are a number of islands within the port.

(31) **Dolgoi Island**, at the entrance to Port Bazan, is mound shaped and wooded (with the seaward side rocky and bare of vegetation) to heights of 50 to 100 feet. There are through channels to the northwest and southeast. West from Dolgoi Island, on the south side of the entrance to the north channel, is a group of four islets close together. The west side of the outermost islet is a precipitous sharp pointed rock, light brown to white, 125 feet high; the east part is lightly wooded. The next larger islet is lightly wooded; the other two are small and bare. A shoal with a depth of 4 fathoms, and probably less, is about 750 yards northwest from the west extremity of the largest islet.

(32) Port Bazan affords good anchorage north and northeast of the islands that stretch across the east part of the bay. The anchorage is well protected from the swell and is generally free from williwaws. It can be entered

either southeast or northwest of Dolgoi Island, but the northwest entrance is more often used. At low water the channels are fairly well defined. Rocks that cover are a considerable distance from the shores of the narrow channels, presenting elements of danger to those without local knowledge. The chart shows known dangers.

(33) Anchorage may be had northeast of the islands in the center of the bay in 11 to 19 fathoms, mud bottom, or in the bight north of the north island in 11 to 13 fathoms. A rock, bare at low water, is close to the northeast end of the north island. A small 6¼-fathom shoal is 0.2 mile northeast from the north island. The small bight at the head of the bay is foul.

(34)

### Tides and currents

(35) Currents are reported to seldom exceed 1 knot.

(36)

## Gooseneck Harbor to Manhattan Arm

(37) **Gooseneck Harbor** (54°53'N., 133°03'W.), about 4 miles northwest of the northwest entrance point to Port Bazan, is identified by a black rock, 65 feet high, close south of the entrance. The upper half of the harbor is mostly obstructed by bare rocks and ledges, and the head is especially foul. A rock, awash at extreme low water, is near the middle of the entrance, 200 yards west of a small islet off the south shore. A rock that bares is almost in midchannel, about 0.8 mile inside the entrance. In entering, follow the north shore at a distance of about 250 yards until about 1 mile inside. After rounding the point on the north side, anchorage is afforded for small craft 100 yards off the north shore, 1.5 miles within the entrance.

(38) **Gold Harbor**, about 2 miles northwest of Gooseneck Harbor, is reported clear in midchannel. On the north side of the bay is a peak, on the south side of which is a very prominent landslide, 110 yards wide and 350 yards long, with its top at an elevation of 1,560 feet. About 2.6 miles from the entrance and about 0.6 mile northwest of the north shore are **Twin Peaks** about 500 yards apart. The peaks are bare above an elevation of 1,700 feet.

(39) About 0.9 mile from the entrance, to the south of midchannel, is a small island. A midchannel course, passing north of the island, leads to the head of the bay, where depths of 23 to 29 fathoms are found. The small cove west of the northwest point of the entrance to Gold Harbor is foul.

(40) **Waterfall Bay** is about 4.5 miles northwest of Gooseneck Harbor. The entrance is distinguished by a bold, bare point on the southeast side and **Gourd Island**, a wooded islet in the middle. Near the head of the bay are extensive deposits of marble on the slopes of Twin Peaks, two prominent bare summits that are about 0.6 mile east of the head. Two small islands, one close to the north shore and the other about in midchannel, are about 0.9 mile east-northeast of Gourd Island. Dangers are shown on the chart. The bay has two prominent waterfalls: one at the head and the other on the north shore close to the north island and several islets.

(41) The bay may be entered northwest or southeast of Gourd Island. A narrow area with 8 fathoms on it extends from the north shore of the bay to within 270 yards of the north side of Gourd Island. A channel about 120 yards wide, with depths of 26 to 38 fathoms, is between this area and the rocks and kelp that extend off the north side of Gourd Island for about 100 yards.

(42) The channel between the two islands within the bay has a depth of 15 fathoms near midchannel. A depth of 30 fathoms is available in the channel south of the south island with an 8-fathom spot, marked by kelp, and a 3¼-fathom spot, which are about 0.2 mile southwest and 0.1 mile east-southeast, respectively, of the island. If this channel is used, round the island at a distance of about 180 yards, and leave the 3¼-fathom spot to the east.

(43) Anchorage may be had near the head of the bay in about 26 fathoms, sticky bottom. West winds draw into the bay with considerable force. With southeast winds, williwaws are severe. Small craft anchor in 10 fathoms on the northwest side of the bay, just north of the north island. There is anchorage for small craft, 50 feet long or less, in 5 fathoms, mud bottom, in the small bight at the extreme head of the bay.

(44) **Cape Augustine** (54°57.0'N., 133°09.8'W.), at the northwest side of the entrance to Waterfall Bay, has several bare black rocks close-to.

(45) **Augustine Bay** is a small bay north of Cape Augustine. Kelp and rocks extend offshore; depths of 8 to 16 fathoms are found near the center of the bay. It is open and exposed and is not suitable for anchorage.

(46) **Welcome Cove** is about 1.5 miles north of Cape Augustine. Off the entrance the ground is foul, but there is a narrow channel into the cove, where anchorage may be had for small boats in 2 to 5 fathoms, mud bottom. The entrance should not be attempted without local knowledge.

(47) **Camp Cove** is about 2.5 miles north from Cape Augustine. Off the entrance is a rock 15 to 20 feet high with foul ground that extends in a north-northeast direction to the shore. The south shore of the cove is foul.

(48) **Devil Lake** empties to the north of **Devil Island**, about 0.8 mile to the north of Camp Cove. The channel at the entrance is very narrow. The lake extends about 2.5 miles in a northeast direction.

(49) **Fisherman Cove** is about 4.5 miles north from Cape Augustine. At the entrance is a small island that has a few scattered trees. In entering, pass the south point of this island at a distance of about 100 yards and steer for the left or west edge of the sand beach at the head of the cove. The anchorage is about 170 yards wide, with depths of 3 to 6 fathoms, mud bottom, and is large enough for four or five small fishing vessels.

(50) **Sakie Bay** is about 7.5 miles north-northwest from Cape Augustine. Rocks and reefs extend 0.6 mile offshore in a west-southwest direction from **Sakie Point**, the south point of the entrance. The outermost rock is 20 feet high.

**Table Rock** is the most prominent of the rocks that extend about 320 yards off the north shore at the entrance. The channel, about 300 yards wide, is to the south of Table Rock. Tide rips, severe for small craft, are experienced at the entrance. The bay has not been thoroughly surveyed.

(51) **Middle Island** is near the center of the bay. Near the head of the bay and about 450 yards off the north shore is a group of small islands and rocks. Anchorage can be found in the bay in 6 to 8 fathoms, sticky mud bottom.

(52) **Cape Lookout** (55°06'N., 133°14'W.) is a prominent headland about 2 miles north of Sakie Bay. From the cape, extending in a southeast direction, are four prominent peaks. **Cone Mountain**, 0.6 mile from the extremity of the cape, is a symmetrical, timbered cone. **Bear Mountain**, 1.4 miles from the cape, is round topped, and timbered to an elevation of 1,800 feet. **Thunder Mountain**, the highest peak on Dall Island, 2.8 miles from the cape, has a bare, rugged summit.

(53) There are several breakers off Cape Lookout. One, about 3.4 miles west-northwest from the cape, has no kelp on it and does not break in a calm sea. A 2½-fathom shoal, which breaks, is about 2.8 miles west-northwest from the cape; 0.4 mile north of it is another shoal, covered with a heavy mass of kelp, which breaks only in a heavy sea.

(54) **Sea Otter Harbor** on the north side of Cape Lookout divides into two branches about 1.4 miles from the entrance.

(55) **Entrance Island**, a prominent rock, is 0.6 mile northwest of Cape Lookout and a little to the south of the middle of the entrance to Sea Otter Harbor. Foul ground surrounds the island. Give the island a berth of 0.5 mile on the west side and a berth of about 0.3 mile from the north around to the south side. Kelp patches extend from the island to a breaker 0.8 mile in a south direction, and about 0.4 mile off Cape Lookout.

(56) **Juel Point**, the headland on the north side of Sea Otter Harbor, is rugged and rocky. From the point the land slopes east for 1.3 miles to a summit, 1,100 feet high.

(57) Inside the entrance to Sea Otter Harbor, rocks and reefs extend north about 0.6 mile from Cape Lookout. Within the entrance, 1.5 miles east of Entrance Island, a group of rocks extends 0.2 mile off the north shore of the bay. The largest and southernmost rock of this group is known as **Gate Island**. **Clear Point** is the west extremity of the headland that divides the bay into two arms. To the south of this point is **Nellag Island**, with off-lying rocks close-to that extend in a west direction.

(58) In entering Sea Otter Harbor, small boats, with local knowledge, frequently use a channel to the east of Entrance Island, passing close to Cape Lookout. A rock awash, about 450 yards east-southeast of Entrance Island, is left to the west.

(59) **Hook Arm**, the north arm of Sea Otter Harbor, is well protected from wind and sea. Anchorage may be had anywhere in the arm in 21 to 26 fathoms in the center and 17 to 19 fathoms at either end, mud bottom. Small vessels can anchor in 8 to 15 fathoms at the head of the arm or in the bight north of Channel Island. A small sand and gravel beach is at the head of this bight.

(60) **Camp Island**, small and rocky, is close to the west shore of Hook Arm, about 0.5 mile north of Clear Point.

(61) **Channel Island**, separated by a very narrow passage from the west shore of Hook Arm about 0.8 mile north of Clear Point, is wooded. **Low Rock** and a rock awash close east are 200 yards off the south shore of Channel Island.

(62) Two small rocky islets are near the head of Hook Arm; the outermost is 240 yards from the north shore.

(63) The west end of Nellag Island should be given a berth of at least 100 yards. The principal dangers in the channel are the rocks off Camp Island and Low Rock and the rocks awash.

(64) **Manhattan Arm**, the southeast branch of Sea Otter Harbor, is exposed to the force of the wind and sea and is too deep for secure anchorage. A rocky islet, with off-lying rocks awash, is in the middle of the arm.

(65)

## Foul Bay to Eagle Point

(66) **Foul Bay**, immediately north of Juel Point (55°07.6'N., 133°13.6'W.), is about 2.5 miles north of Cape Lookout. In the center of the bay near the entrance is a cluster of submerged rocks. The shores of the bay are foul where the bay narrows; reefs extend from either shore almost to midchannel, leaving a narrow passage 50 to 100 feet wide through which very small boats pass to a secure anchorage in 3 to 5 fathoms near the head of the bay. Only those with local knowledge should enter the bay.

(67) **Meares Passage** is at the northwest end of Dall Island, between it and Suemez Island, and affords passage from the sea to Tlevak Narrows and the east part of Ulloa Channel. The approach to Meares Passage from west is foul in places for about 2 miles from the Suemez Island shore.

(68) **Suemez Island**, about 8.5 miles in diameter, is west of and separated from the north end of Dall Island by Meares Passage. The island is mountainous; the peaks are generally rounded and wooded, except near the summits. The shoreline is rocky, fringed by small rocky islets and kelp, and indented by numerous bays and inlets.

(69) **Arena Cove** is a small open bight in the south shore of Suemez Island west of **Lontana Point**, the south extremity of the island. It has depths of about 17 fathoms near the entrance, shoaling to about 4 fathoms near the head.

(70) **Diver Islands**, off the east shore of Meares Passage, are prominent in the approach from seaward. The west island is wooded; the east island has several trees on its summit. The passage east of the islands is narrow, and its shores are marked by heavy kelp. Most small craft coming from the south use this passage when the weather permits.

(71) **Diver Islands Light** (55°10'40"N., 133°15'53"W.), 130 feet above the water and shown from a small house with a red and white diamond-shaped daymark on the northwest side of the island, marks the southwest entrance to Meares Passage.

(72) **Diver Rocks**, two in number and bare at half tide, are about 0.2 mile west of the island. A 2½-fathom shoal, marked with kelp, is 200 yards west of them.

(73) **Diver Bay**, on the southeast side of Meares Passage at its entrance, extends southeast from Diver Islands. The bay is clear except for a kelp-marked rock, with ½ fathom over it, that is 650 yards from the north shore about in midchannel. Small craft can find excellent anchorage in the **Hole in The Wall**, an indentation in the north shore; the entrance is narrow but has a least depth of 4¼ fathoms. Pass either side of the ½-fathom rock in entering.

(74) **Bobs Bay**, northeast of Diver Islands, is an irregularly shaped bay, obstructed by a chain of reefs and islands. The bay is divided into three arms. The northernmost arm is deep and clear and the middle arm is foul and not navigable except by small boats. The easternmost arm affords good anchorage for moderate-sized craft in 6 to 10 fathoms, soft bottom. Enter Bobs Bay 0.2 mile or more south of the largest outer island, and follow the east side of the island at a distance of about 250 yards. Pass in midchannel south of the high island off the entrance to the east arm.

(75) **Millar Rocks**, a group of bare rocks surrounded by submerged and rocks awash, are about 1 mile north of Diver Islands. The passage north of the rocks is foul to the Suemez Island shore, although there are deep passages between. In moderate to heavy weather, the entire area appears to be covered with breakers.

(76) In the north part of Meares Passage, about on a line from **Eagle Point** to the summit of Ridge Island, at a distance from Eagle Point of about 0.6 mile to 1.5 miles, there are several rocky kelp-marked patches with deep water between; all should be avoided.

(77)

### Currents

(78) The tidal currents in Meares Passage set northeast on the flood and southwest on the ebb. The estimated velocity of the current is about 1 to 1.8 knots. South of Meares Island the flood sets east and the ebb west with an average velocity of 2.1 knots. See the Tidal Current prediction service at *tidesandcurrents.noaa.gov* for specific information about times, directions, and velocities of the current at numerous locations throughout the area, including Meares Passage. Links to a user guide for this service can be found in chapter 1 of this book.

(79)

## Cordova Bay

(80) **Cordova Bay** has its entrance on the northwest side of Dixon Entrance between Cape Muzon (54°39.9'N., 132°41.4'W.) and Point Marsh and extends about 19 miles in a north direction from between Dewey Rocks and the southeast end of Long Island. The bay has a clear channel about 3 miles wide between Barrier Islands and Long Island and an average width of about 3 miles from Ship Islands to Lime Point. From the head of Cordova Bay at Lime Point, Hetta Inlet extends in a general north direction for about 15 miles to Gould Island.

(81) The best entrance to the bay is between Barrier Islands and Long Island, but Eureka Channel, East of Barrier Islands, is sometimes used by vessels with local knowledge. From Cordova Bay and Hetta Inlet, Tlevak Strait and Sukkwan Strait extend northwest and afford passage through channels to Bucareli Bay. Small craft ply from Ketchikan to Cordova Bay, Hetta Inlet and other points on the west coast of Prince of Wales Island.

(82)

### Currents

(83) In Cordova Bay and adjacent waters the flood current sets north and the ebb current south. The estimated velocity of the current is 1 to 2 knots; the stronger velocity occurs in the narrows. (See the Tidal Current Tables for daily predictions in Cordova Bay.)

(84)

## Cape Muzon to Natoma Point

(85) The west side of the entrance to Cordova Bay from Cape Muzon to Natoma Point (54°52.3'N., 132°37.4'W.) is comparatively clear.

(86) Off the east end of Cape Muzon are a group of small islands and rocks. On the main shore is a sandy beach where landings can be made in good weather. This area was occupied by the Haida Tribe (a Native American tribe) at the time they migrated north from British Columbia and Puget Sound territory. Only a few graves now mark the site of their village of **Kaigani**. Rather severe tide rips are experienced off the cape. Along the south shore of the cape, close in, are several large rocks. The shoreline in this section is rocky, precipitous, and marked by light-colored cliffs. Breakers are about 0.2 mile off the south shore of the cape. Vessels in passing should give the cape a berth of at least 1 mile.

(87)

### Local magnetic disturbance

(88) Differences of as much as 4° from normal variation have been observed at Cape Muzon.

(89) The north side of Cape Muzon trends northwest for about 2.5 miles, forming the south side of **McLeod Bay**. Temporary anchorage in 5 to 9 fathoms, exposed to all east winds, may be had in this bay, about 0.5 mile northwest of a green landslide. The chart and the lead are the best guides, as landslides frequently occur, and there are several landslides besides the one mentioned. At the head of the bay is a small stream of freshwater and a sand and gravel beach for about 200 yards. **Little Daykoo Harbor**, a small-boat harbor, is close north of McLeod Bay.

(90) **Daykoo Islands** and **Datzkoo Islands** extend 2 miles in a north direction from McLeod Bay, with a maximum distance of about 1 mile offshore.

(91) **Long Island** forms the west side of Cordova Bay for a distance of about 12 miles. The east shore of the island is rugged and broken, with a number of outlying islets and rocks within a distance of about 0.5 mile. There are also a number of indentations and some anchorages.

(92) A shoal area that ends in a submerged rock with 1¼ fathoms over it and marked by kelp extends for 0.5 mile off the south point (54°45.1'N., 132°38.0'W.) of Long Island. This point is marked by a very prominent landslide about 0.3 mile inshore. The points at the south and southeast parts of the island should be given a berth of not less than 0.8 mile.

(93) **South Rocks**, about 0.3 mile off the southeast point of Long Island, consist of two large rocks, 28 and 29 feet high, and several smaller rocks.

(94) **Coning Inlet** is on the east side of Long Island about 4.5 miles from the south end. It is open to east and does not afford good anchorage. A lagoon is at the head of the inlet, where it is connected by saltwater rapids.

(95) **Nina Cove**, on the south side of Coning Inlet at the entrance, affords secure anchorage for small craft in 3 to 4 fathoms, sticky bottom. The anchorage is about 200 yards in extent and is south of the small islet in the center of the cove at its head.

(96) **Coning Point**, the north point at the entrance to Coning Inlet, is low and wooded. A conspicuous black rock 40 feet high is about 0.3 mile off the point.

(97) **Natoma Bay**, on the east side of Long Island about 6 miles from its south end, is about 1 mile in diameter and open to east and southeast. Partially protected anchorage can be had in the north part of the bay in 11 to 20 fathoms, mud bottom. The entrance is on either side of the two wooded islets in the middle of the entrance. A 5¼-fathom shoal is about 0.6 mile northwest of the islets. The shores of the bay are foul and should be given a good berth.

(98) **Natoma Point**, low and wooded, is the north point at the entrance to Natoma Bay. A large wooded, high-water islet is close off the point to south. Give the east side of the point and islet a berth of about 0.3 mile.

(99)

## Cordova Bay to Grave Point

(100) The east side of the entrance to Cordova Bay, from Point Marsh (54°43.2'N., 132°19.1'W.) to Shipwreck Point (54°53.8'N., 132°29.5'W.), is very broken and abounds with islands, reefs, shoals and pinnacles in random pattern. The channels between the islands, for the most part, are deep with steep sides but are often obstructed by shoals. Currents and eddies about the islands, large tides and exposure to ocean swells make the running of straight courses difficult.

(101) Small fishing vessels bound between Point Marsh and Eureka Channel frequently pass through **Minnie Cutoff**, then run between the reefs close inshore along the southwest coast of Prince of Wales Island, and thence through Thompson Passage to Eureka Channel. Local knowledge is necessary. The area has few protected anchorages for large vessels.

(102) **Round Islands Light** (54°46'42"N., 132°30'25"W.), 56 feet above the water, and shown from a skeleton tower with a red and white diamond-shaped daymark on the southwest side of the westernmost of the Round Islands, marks the east approach to Cordova Bay.

(103) **Round Islands**, about 7 miles northwest of Point Marsh, consist of four small wooded islands about 140 feet high. A dangerous rocky reef that uncovers 6 feet is about 500 yards west-southwest of Round Islands Light. Between the reef and the island are other rocks awash and kelp patches; this area should be avoided.

(104) **Dewey Rocks**, about 1.8 miles south-southeast of Round Islands Light, are small in extent and consist of one large rock and several smaller ones that uncover at various stages of the tide. A red sector in Round Islands Light from 327° to 346° covers Dewey Rocks.

(105) **Egg Rock**, 20 feet high and bare, is about 0.5 mile north of Round Islands, with extensive areas of kelp between. A wooded islet, 60 feet high, is about 1 mile north of Egg Rock. Rocks awash are about midway between the wooded islet and Egg Rock. Some fishing vessels use **Egg Passage**, about 0.5 mile east of Egg Rock and Round Islands; this passage is not recommended for strangers.

(106) **Boat Rocks**, two in number and bare, are about 2.5 miles north of Round Islands, and are the northwesternmost dangers of this group. East of a line from Round Islands to Boat Rocks are numerous dangers.

(107) **Barrier Islands** are an extensive group of wooded islands between 4 and 8 miles northwest of Point Marsh and east of Round Islands. **Black Rock**, 20 feet high and the southernmost large offshore rock of the Barrier Island group, is a conspicuous black rock near the southeast edge of a foul area containing numerous rocks awash. A 1½-fathom shoal is approximately 0.7 mile south-southeast of Black Rock. Approach courses to seldom-used channels through the Barrier Islands pass about 0.5 mile both east and west of Black Rock. These two passages, **Rocky Pass** and **Kelp Passage**, continuing east and west, respectively, of **Middle Island**, are useful only to small craft. It is possible to carry 2 fathoms of water through the west passage and 7 fathoms through the east.

(108) **Mexico Point**, at the southeast end of Eureka Channel about 3 miles northwest of Point Marsh, is the west extremity of an island, bluff and wooded, with several high rocky islets that extend about 0.1 to 0.5 mile off it. The area along the south and southeast sides of the island is very foul, and there are numerous shoals, rocks and islets between Mexico Point and Point Marsh. **Thompson Passage**, used extensively by fishing craft, extends between the islands from 1.2 to 1.5 miles north and northeast of Mexico Point. Although 8 fathoms can be carried through it, this passage is not suitable for large vessels. Small vessels using it frequently continue

through the narrow passage off the mouth of Minnie Bay behind Point Marsh where 2 fathoms can be carried.

(109) **Hessa Inlet**, northeast of Mexico Point, is about 3.5 miles long and has depths up to 32 fathoms. The best approach to the inlet is through the passage north of **Hessa Island**, but it can be approached from the south via **Buschmann Pass**; only small craft with local knowledge should attempt this pass, which is narrow and full of rocks. In **Hessa Narrows** the tidal currents attain a reported velocity of 6 to 7 knots.

(110) **Eureka Channel**, between Barrier Islands and Prince of Wales Island, affords a short cut to Klakas Inlet and is suitable for moderate-sized craft with local knowledge; large vessels should use the passage west of Dewey Rocks and Barrier Islands. The depths in Eureka Channel are good, but it is narrow and has several dangers that are generally marked by kelp in summer.

(111) **Far Point**, on the west side of Eureka Channel and at the southeast extremity of Barrier Islands, is about 1.4 miles north-northwest of Mexico Point. Eureka Channel Daybeacon 1 is on the south end of the small island about 0.4 mile northeast of Far Point.

(112) **Center Island** is a small round island with a few trees, about 1.6 miles north-northeast of Far Point and 0.4 mile south-southwest of **Leading Point**. It is fairly steep-to on all sides and can be approached closely. A rock, awash at high water and marked by Center Island Reef Daybeacon 3, is 350 yards west of Center Island.

(113) About 0.6 mile north of Leading Point is the narrowest part of Eureka Channel. **The Narrows** has a least width of 125 yards. Good depths are found through The Narrows except for narrow ledges close to the west shore. About 480 yards north of the north end of The Narrows is a submerged rock that is awash at extreme low tides.

(114) **Guide Rocks**, gray and marked by a daybeacon, are about 0.5 mile north-northeast of the north end of The Narrows and are conspicuous, except at high water, when coming through The Narrows.

(115)

### Currents

(116) Tidal currents through The Narrows have an estimated velocity of from 1 to 2 knots. The flood sets north, and the ebb south. See the Tidal Current prediction service at *tidesandcurrents.noaa.gov* for specific information about times, directions, and velocities of the current at numerous locations throughout the area. Links to a user guide for this service can be found in chapter 1 of this book.

(117)

### Routes, Eureka Channel

(118) From a point 670 yards west of the rocky islets off Mexico Point, a course of **002°** will keep in the deepest channels and clear all dangers in the south part of Eureka Channel. Center Island Reef Daybeacon 3 is on the leading bearing on this course. It is almost on range with the east tangent of the second group of islands west of The Narrows. The **002°** course passes 345 yards east of Eureka Channel Daybeacon 1 and if made good keeps well clear of a submerged rock with a least depth of 3 feet that is about 0.7 mile north-northeast of Eureka Channel Daybeacon 1. When Center Island Daybeacon 3 is distant 440 yards and the west bank of The Narrows is slightly open, change course to **022°** and pass about midchannel between Center Island Reef Daybeacon 3 and Center Island, slightly favoring the daybeacon but keeping clear of the kelp bed that is northeast of the daybeacon. When Guide Rocks Daybeacon 4 shows in the middle of The Narrows, change course to **032°**, which is a leading bearing on that daybeacon. Continue on this course until the north tangent of the nearest island bears **275°**, then change course to **350°** for Klakas Inlet and Hunter Bay. Avoid the submerged rock that is 205 yards northeast of the north point of the island that forms the west side of The Narrows. This rock is awash at extreme low tides. Small fishing vessels also frequently use the channel that leads to the north-northwest from a point about 0.3 mile south of Center Island Reef Daybeacon 3. An extensive shoal area in this channel is 0.7 mile northwest of the daybeacon where the best water is near the west shore.

(119) **Wallace Rock**, with ½ fathom over it and marked on its northwest side by a buoy, is about 2.3 miles northeast of Boat Rocks. Vessels going to Hunter Bay usually pass well north of it.

(120) **Tah Bay**, northeast of Guide Rocks, has depths up to 37 fathoms. Several rocks and reefs bare near the center of the bay. The best entrance is to the north of **Tah Island**; the entrance south of that island is partly obstructed by a rock with 1 fathom of water over it. No good anchorages are available, although small craft can anchor near the beach at the south part of the bay.

(121)

### Local magnetic disturbance

(122) Differences of as much as 4° from the normal variation have been observed south of Tah Island in the vicinity of Anchor Island.

(123) **Turn Island** (54°52.2'N., 132°23.6'W.) is about 3 miles north of the north end of Eureka Channel and is the easternmost of a number of small islands. It is bare except for a small stunted growth of trees that gives it the appearance of a building. It is bold-to on the west side, but foul ground extends about 0.2 mile north-northeast and about 180 yards east. A dangerous rock awash is close south-southwest of the island.

(124) **Turn Point**, marked by an abandoned light structure, is 1.2 miles east-northeast of Turn Island and consists of a number of small, low, grassy rocks. It is at the extremity of a low peninsula that is not wooded for about 300 yards back from the point.

(125) **Hunter Bay** makes in for a distance of about 2.5 miles east of Turn Point. The entrance to the bay is obstructed on its north side by a number of islets, but the channel close around Turn Point is comparatively clear. About 1 mile above the entrance, the bay contracts to a

width of 275 yards, with a large bare rock in the middle. The best channel is between this rock and a rock awash about 200 yards north of it. About 0.4 mile east of the bare rock is an arm leading north-northeast about 1 mile to **Biscuit Lagoon**. Passage into this lagoon is through a narrow pass that is partially obstructed by several rocks. Small craft of 3-foot draft can clear these rocks at high water. Tidal currents are strong, and passage should be attempted only on the high-water slack.

(126) **The Saltchuck** is the Chinook jargon name for the brackish lagoon to the northwest of the upper end of Biscuit Lagoon. The two are connected but the passage is too shallow for navigation other than by small skiffs.

(127) Hunter Bay has good anchorage about 1.8 miles east from the entrance in 10 to 15 fathoms. The anchorage, however, is subject to strong williwaws with winds from the east meeting those of equal force from the west. Velocities up to 78.2 knots have been experienced here. Nearby, off the south shore of the bay, is an islet surrounded by a flat of considerable extent. About 0.4 mile beyond the anchorage the bay contracts and is foul.

(128) **Klinkwan Cove**, east of **Gusdagane Point** (54°53.1'N., 132°21.4'W.), should be avoided as it contains many rocks. **Grave Point** is about 0.8 mile northwest of Gusdagane Point.

(129)

## Klakas Inlet to Sukkwan Strait

(130) **Klakas Inlet** joins Cordova Bay west of the entrance to Hunter Bay. The inlet is about 1 mile wide, 12 miles long, and 20 to 100 fathoms deep in midchannel. **Max Cove** (54°57.4'N., 132°24.3'W.), about 2.5 miles above the entrance on the east side, offers good anchorage for small craft near the southeast end in 8 fathoms, mud bottom. The main entrance to Klakas Inlet is east of **Klakas Island**; the deepest water favors the west side of the entrance. Local fishermen frequently use **Ruth Cutoff**, the narrow pass north of Klakas Island that has a controlling depth of 1¾ fathoms and extends from Ruth Bay to Klakas Inlet.

(131) Good anchorage in a depth of about 16 fathoms can be found east of a small wooded island about 1.5 miles east-northeast of the north end of Klakas Island. A rock that uncovers 3 feet is about 0.2 mile southwest of the small island.

(132) **Bird Rocks**, about 1.3 miles southwest of Klakas Island, have a gray appearance with a rounded white pinnacle that forms the highest point.

(133) **Shipwreck Point** (54°53.8'N., 132°29.5'W.), 2.5 miles west of Klakas Island, is low and timbered and rises to a knob 605 feet high. **Barbara Rock**, a low rocky islet, is about 300 yards off the point. An island, about 160 feet high, is close-to and west from this point.

(134) **Ship Islands**, 50 to 120 feet high, with outlying rocks and ledges, are about 0.5 mile offshore, west of Shipwreck Point. Small craft from Turn Point pass north of Bird Rocks and between Shipwreck Point and the island close-to. The narrow channel has a submerged rock. The pass to the west of the inner island is preferable; avoid the rock in the middle of the entrance.

(135) **Kassa Inlet**, just north of the northernmost of the Ship Island group, has an entrance about 0.8 mile wide. Good anchorage for small craft is available at **Clam Cove** and several places in the upper reaches. A mooring buoy is about in the middle of the entrance to Clam Cove.

(136) **Point Webster**, about 6 miles northwest of Shipwreck Point, is a small projection where the east shore of Cordova Bay changes direction. Near the point are a number of outlying rocks and reefs, and this shore should be given a berth of 0.5 mile.

(137) **Elbow Bay** (54°54.5'N., 132°39.4'W.), on the west side of Cordova Bay, indents the northeast side of Long Island and is partially protected by two wooded islands, connected at low water in the entrance. Good anchorage for small vessels can be had in the southeast arm in 13 fathoms, mud bottom. The anchorage is about 250 yards wide. A large lagoon extends south from the west end of the bay, where it is connected by a narrow rocky channel. Rapids make this channel impassable except at high water.

(138) To enter Elbow Bay, pass in midchannel southeast of the wooded islets in the entrance and avoid the reefs making off to south of the islets. The submerged rock in the middle of the bay can be passed on either side; the west side has the best water.

(139) **Dova Bay**, on the north side of Long Island, about 2 miles northwest of Elbow Bay, appears to be well protected at its head, but because of the configuration of the surrounding hills, southeast and northwest winds draw across it with considerable force. The shores are lined with small islets and rocks.

(140) Tlevak Strait, described later in this chapter, has its entrance on the west shore of Cordova Bay between Long Island and Jackson Island.

(141) **Shoe Rock** (54°56.9'N., 132°44.1'W.), about 15 feet high, is about 160 yards north-northeast of the most easterly island of a group of small islands at the junction of Tlevak Strait and Cordova Bay.

(142) **Jackson Island**, about 1.8 mile north of Shoe Rock and close southeast of the south end of Sukkwan Island, has prominent cliffs on its south side. About 300 yards southwest of these cliffs are two dangerous rocks, marked by kelp, that bare only on minus tides. The channel between Jackson and Lacey Islands, to the east, is partially obstructed by **Triplet Rocks**. These rocks are marked by kelp and uncover 10 feet on the west side and 12 feet on the east side. **Jackson Passage**, the channel west of Jackson Island, is clear in midchannel.

(143) **Lacey Island**, about 0.9 mile east of the southeast end of Jackson Island, comprises three small wooded knolls close together and joined by the bare spits. Foul ground extends up to 0.2 mile from the island.

(144) **Mellen Rock** is a bare rock about 0.8 mile off the west shore of Cordova Bay and about 3 miles to the northeast of Jackson Island. **Mellen Rock Light** (55°01'36"N.,

132°39'58"W.), 32 feet above the water, is shown from a pole with a red and white diamond-shaped daymark on the rock.

(145) **Hassiah Inlet**, on the east shore of Cordova Bay, about 3 miles east-southeast of Mellen Rock Light, is about 2 miles long to the head of its northeast and east arms; the latter is a landlocked anchorage known as **Mabel Bay**. **Mabel Island**, on the south side of the entrance, is wooded; a low place in the center gives the appearance of two islands. **Helen Island**, at the entrance to south arm and Mabel Bay is low and wooded and has rocky beaches on the north and west shores and sandy beaches on the east and south shores.

(146) To enter Mabel Bay pass north and east of Mabel Island, giving it a berth of 0.2 mile, and steer for the east end of Helen Island. Follow a careful midchannel course, passing northeast of Helen Island, and anchor about 0.3 mile from the islet at the head in 10 to 12 fathoms.

(147) **Nutkwa Inlet** and **Keete Inlet** are at the head of Cordova Bay east of Lime Point. Nutkwa Inlet, about 4.5 miles north of Point Webster, is 1.5 miles wide at the entrance and extends about 5 miles north-northeast. Depths range from 90 fathoms at the entrance to 10 fathoms at the head, with several shoals of 4 to 6 fathoms in between. **Nutkwa Point** is the promontory between the two bays.

(148) **Nutkwa Lagoon** is a narrow body of water about 3.5 miles long with midchannel depths of from 40 fathoms at the southwest end to 20 fathoms at the northeast part. **Nutkwa Falls**, at the head of Nutkwa Inlet, obstructs passage into the lagoon; on the higher water slacks, drafts of 3 or 4 feet can be carried into the lagoon, but this passage should not be attempted without local knowledge.

(149) **Keete Inlet** has its entrance about 2.5 miles east of Lime Point. The inlet has depths of more than 10 fathoms throughout, except for several scattered shoal spots with depths of 4 to 8 fathoms. Local fishermen bound from Cordova Bay to Keete Inlet usually pass south of **Keete Island**, about 0.8 mile west of **Keete Point**, the south point of the entrance to the inlet. A shoal with a least depth of 3 feet extends north about 0.5 mile from the north end of Keete Island. Inside the bay, a rock that uncovers 5 feet is about 1.1 miles east of Keete Point. Good anchorage in 20 fathoms, mud bottom, can be had south of the small island at the bend in the inlet.

(150) **Hetta Inlet** extends 5 miles north from Lime Point to the entrance of Sukkwan Strait and is about 2 miles wide. Then it trends in a general north-northwest direction for 11 miles to Gould Island, above which it is navigable for small craft only. Above Sukkwan Strait, the width of the inlet decreases gradually from 1.2 miles to 0.4 mile or less in places; there are apparently no outlying dangers. Considerable fishing for salmon is done in the inlet in season, and boats may be found in all of its parts.

(151) **Lime Point** is the dividing point between Cordova Bay and Hetta and Nutkwa Inlets. The tip of the point is marked by a white marble formation that is conspicuous from south. Three bare rocks are about 0.2 mile south of the point, with other rocks, submerged and awash, between. A submerged rock and a 4-fathom spot are 0.1 mile southwest and 0.2 mile south, respectively, from the southernmost of the three bare rocks.

(152) **Mud Bay**, the small cove about 2 miles north of Lime Point on the east shore of Hetta Inlet, is used extensively for anchorage during the fishing season. The anchorage has a depth of 4 to 10 fathoms with mud bottom. A 1¼-fathom rock is 100 yards north of the islet on the south side of Mud Bay.

(153) **Alder Cove**, the small cove 1 mile north of Mud Bay, is used by small craft for anchorage in 4 to 8 fathoms, mud bottom, during the fishing season. The cove has no known dangers.

(154) **Eek Inlet**, on the west side of Hetta Inlet, about 0.6 mile north of Eek Point (55°08.4'N., 132°39.9'W.), which is marked by a light, may be used by fishermen with local knowledge. A midchannel course leads to an anchorage in 8 fathoms, midway in the inlet, about 0.3 mile northwest of the narrow entrance.

(155) **Hetta Point**, on the east side of Hetta Inlet, about 3.2 miles northeast of Eek Point, is bold, rocky, and heavily wooded. The bight about 0.8 mile south of the point, in which are two wooded islets, affords temporary anchorage. The cove east of the point affords anchorage for small craft having local knowledge of the area. The cove has numerous reefs and shoal soundings.

(156) **Copper Harbor**, on the east shore, 2.4 miles north-northwest of Hetta Point, is about 1 mile long and 0.3 mile wide. A midchannel course leads to the head of the harbor, where there is anchorage in 10 to 20 fathoms. **Simmons Point** is at the south entrance to Copper Harbor.

(157) **Deer Bay**, on the west shore about 2 miles above Copper Harbor, affords good anchorage in 5 to 16 fathoms; the midchannel course is clear. A flat extends 0.3 mile from its head.

(158) **Jumbo Island**, in the middle of the inlet, about 2.5 miles above Copper Harbor, is wooded. The channels on either side are about 300 yards wide, but the better channel is east of the island. The west channel should be attempted only at high water, as there is a rock with 1 fathom over it in midchannel at the entrance.

(159) **Dell Island**, about 1.1 miles above Jumbo Island and close to the east shore, is wooded. Anchorage can be had in 14 to 16 fathoms about 250 yards off the north shore of the inlet about 1.4 miles northeast of Dell Island.

(160) **Gould Island** practically closes the inlet for a distance of about 1.4 miles. **Gould Passage**, south of the island, runs dry at about half tide and should not be attempted at any stage of the tide as a through passage into Portage Bay because of tidal currents and numerous rocks and dangers at the east end of the passage. **Sulzer Passage**, north of the island, is navigable for small craft, but foul for 1 mile above the entrance, and the tidal currents have considerable velocity. It should be navigated only by those having thorough local knowledge.

(161)

### Local magnetic disturbance

(162) Differences of as much as 6° from normal variation have been observed on Gould Island.

(163) **Portage Bay**, that part of the inlet above Gould Island, is about 1.5 miles long, with depths of 9 to 27 fathoms. A trail leads from its head to the head of Cholmondeley Sound, about 2.8 miles.

(164) **Sukkwan Strait** has its southeast entrance between **Eek Point** on the northeast and **Round Point**, the east extremity of Blanket Island, on the southwest. **Eek Point Light** (55°08'17"N., 132°40'01"W.), 19 feet above the water, is shown from a square frame structure with a red and white diamond-shaped daymark on Eek Point. The strait extends 7 miles northwest from Hetta Inlet to Sukkwan Narrows. It has good depths and few dangers and is entered by vessels of considerable size as far as the village of Hydaburg. **Saltery Point**, is 5.2 miles above the entrance.

(165)

### Pilotage, Hetta Inlet

(166) Pilotage, except for certain exempted vessels, is compulsory for all vessels navigating the waters of the State of Alaska.

(167) Hetta Inlet is served by the Southeastern Alaska Pilots Association. (See **Pilotage, General** (indexed), chapter 3, for the pilot pickup station and other details.)

(168)

## Sukkwan Narrows to Natzuhini Bay

(169) **Sukkwan Narrows** has a least depth of 2¼ fathoms in a narrow channel with rocky shoals on both sides. The average maximum current is about 1.3 knots and sets northwest with the flood and southeast with the ebb. The channel is buoyed, and its west entrance is marked by **Sukkwan Narrows Light** (55°12'03"N., 132°50'30"W.), 16 feet above the water and shown from a skeleton tower with a red and white diamond-shaped daymark on the north end of Sukkwan Island. A rock covered 1 fathom is at 55°12'15"N., 132°50'19"W.

(170) **Hydaburg** is an incorporated Native American village on the northeast shore of Sukkwan Narrows. The village has an airport, a post office, school and church.

(171)

### Caution

(172) Vessels drawing 15 feet or more when approaching or leaving Hydaburg Cooperative Pier should avoid the submerged ledge that makes out into the channel from the point close east of pier. The ledge extends about 290 yards south of the pier and has a depth of 16 feet at its outermost end. A pinnacle rock at a depth of 2¼ fathoms is about 350 yards southwest of the pier; it is marked by a buoy.

(173)

### Wharves

(174) Hydaburg has one pier at the southeast end of the village and small-craft facilities in the basin, at the northwest end of village and alongside the pier.

(175) **City of Hydaburg Pier** (55°12'08"N., 132°49'24"W.): at the southeast end of the village; berthing for larger vessels are at the outer end of this T-shaped pier; 2,300 square feet of warehouse storage space; gasoline and diesel fuel can be obtained at the pier during the summer.

(176)

### Small-craft facilities

(177) Small-craft berthing is alongside City of Hydaburg Pier. A seaplane float is on the northwest side of the approach. In 2002, depths of 14 feet were reported alongside.

(178) A small-craft basin is about 0.5 mile north of the Hydaburg pier. The city operated floats in the basin provide about 160 berthing spaces. In 2002, depths of 15 to 25 feet were reported alongside. Water and electricity are available at some of the floats. A 100-foot by 39-foot grid is inshore of the floats.

(179)

### Communications

(180) Scheduled commercial air travel is available at Hydaburg airport. Daily seaplane communication is maintained with Ketchikan and with other cities on Prince of Wales Island. Hydaburg has road connection with Craig. Telephone and radiotelephone communications are maintained with other states and parts of Alaska.

(181) Above Sukkwan Narrows, Sukkwan Strait divides into two parts known as South Pass and North Pass.

(182) **South Pass** extends about 3.5 miles southwest from Sukkwan Narrows to Tlevak Strait. It has good depths in the middle of a channel that has many turns between islands, islets and rocks.

(183) **Scrag Islands**, two wooded islands about 75 feet high, are on the east side of South Pass about 1.2 miles to the southwest of The Narrows and are separated from Sukkwan Island only at high water. A reef with two bare rocks extends about 100 yards from Scrag Islands into the pass; it is marked by a buoy and kelp. A reef, with 1¼ fathoms over it and marked by a buoy and kelp, is about 0.3 mile north of Scrag Islands. A kelp patch marks a 1-fathom shoal about 600 yards to the north-northeast of Scrag Islands. Depths of 5 to 9 fathoms are found around this shoal. Small craft can find good anchorage in South Pass in the small bay on the southeast side, about 2.4 miles south-southwest of Sukkwan Narrows. Good anchorage also is available for medium-sized vessels in 16 fathoms, mud bottom, in the bight on the same side of South Pass 1.5 miles from the narrows.

(184) **Lone Tree Island (Lone Spruce Rock)**, on the south side of the southwest entrance to South Pass, is about 0.2 mile west of a 75-foot island. It is a low, grass-covered islet. A rock with two knobs is close-to, to the

west. A 1½-fathom spot is about 300 yards west of the rock.

(185) **Goat Island Light** (55°10'07"N., 132°53'35"W.), 21 feet above the water, is shown from a skeleton tower with a red and white diamond-shaped daymark on **Whisker Point**, the south extremity of **Goat Island**. The light marks the north side of the southwest entrance to South Pass.

(186) **Turn Rock**, about 5 feet high and 20 yards in diameter, and marked by a daybeacon, is about 0.8 mile west of the light.

(187) **North Pass**, on the north side of Goat Island, is navigable by shallow draft vessels at high-water slack with local knowledge. Numerous rocks and reefs must be passed close aboard until clear of North Pass to the west. Tidal currents are estimated at 3 to 4 knots. Surveys indicate a least depth of ½ fathom at the shoalest point of the pass.

(188) **Natzuhini Bay**, north of Hydaburg and Sukkwan Narrows, is navigable for large fishing vessels. However, strangers should not attempt it because of the many reefs and shoals in it and the lack of aids to navigation.

(189)

## Kaigani Strait to Keg Point

(190) **Kaigani Strait** (54°44.4'N., 132°40.2'W.) is the passage that extends from Cordova Bay to Tlevak Strait and separates Long Island, and the group of islands northwest of it, from Dall Island. **Howkan Narrows**, immediately north, is the narrow part of the passage from American Bay to above Channel Islands. It is endangered by several charted shoals and reefs that are unmarked. This passage is best suited for small-craft. Ships from Dixon Entrance, bound through Tlevak Strait, should preferably use the broad channel through Cordova Bay east of Long Island and enter Tlevak Strait between Long and Jackson Islands.

(191) South of American Bay, the strait is clear of dangers along a midchannel course and may be navigated easily with the aid of the chart. North of American Bay the channel is tortuous, narrow and complicated by strong currents; in the absence of aids to navigation, it is not recommended for use by large vessels.

(192) The channel through Howkan Narrows is about 250 yards wide and is between **Howkan Reef**, which uncovers 5 feet, and **Mill Reef** off the west shore that has a depth of ½ fathom. The currents are strong here and have an estimated velocity of about 3 knots. Strong winds greatly affect them. North of the two reefs, the channel leads west of the Channel Islands, and extreme caution is necessary to avoid the dangerous shoals on each side of the channel. After passing **Keg Point** (54°53.8'N., 132°51.2'W.), shape the course as desired and be guided by the chart.

(193)

## Kaigani Point to Datzkoo Islands

(194) The southeast entrance to Kaigani Strait is about 1.8 miles wide between Kaigani Point on the northeast and Datzkoo Islands on the southwest. It is clear except for the 1¼-fathom shoal 1 mile southeast of Kaigani Point and the ¾-fathom rock about 0.5 mile east of the Datzkoo Islands.

(195)

### Local magnetic disturbance

(196) Differences of as much as 3° from normal variations have been observed in the Daykoo Islands and 4° in Kaigani Strait 1.2 miles northwest of Kaigani Point.

(197) **Kaigani Point**, at the southwest end of Long Island, is low and wooded. A large rock, 18 feet high, is 0.7 mile northwest of Kaigani Point and about 0.2 mile offshore.

(198) **Datzkoo Harbor** is on the east side of Dall Island about 1.6 miles northwest of the Datzkoo Islands. The entrance is clear and is north of two wooded islands. Anchorage can be had in 15 to 20 fathoms, soft bottom. A wooded islet, about 20 feet high, is visible in the mudflats at the head of the harbor.

(199) **South Kaigani Harbor**, immediately north of Datzkoo Harbor, is constricted at the entrance by reefs on the north side and a rock that uncovers 5 feet on the south side. The channel about 100 yards wide has a depth of 4½ fathoms. During the fishing season a fish-buying scow may be anchored in the harbor. The scow sells gasoline, diesel fuel, water, provisions and fishing supplies. In 1968, it was reported that anchorage for small craft was available in depths of about 5 fathoms, mud bottom, in the cove on the south side of the harbor about 0.7 mile above the entrance. In 1971, submerged pilings were reported in about the middle of the cove; caution is advised.

(200) **North Kaigani Harbor**, immediately north of South Kaigani Harbor, is entirely exposed to southeast weather and the ocean swell and is of no use as an anchorage.

(201) The small bight about 0.8 mile north of North Kaigani Harbor has an entrance difficult even for small vessels. Good anchorage may be had here in 5 to 10 fathoms. Very small vessels may anchor near the head in about 3½ fathoms.

(202) **Pond Bay** is on the southwest side of Kaigani Strait about 3.5 miles north of North Kaigani Harbor. A wooded island is halfway toward the head of the bay with a clear channel on the north side. Anchorage may be had west of this island in desired depths up to 20 fathoms, soft bottom. However, a strong wind blows up the bay in southeast weather and, because of the danger from dragging, it is not recommended for anchorage.

(203) **Bolles Inlet** is a narrow inlet on the east side of Kaigani Strait about 6.5 miles north of Kaigani Point. The entrance is about 0.5 mile north-northeast from a wooded islet 99 feet high. The entrance is very narrow, and rapids occur here; the currents are estimated to be at least 8 knots. It is reported that the inlet once had a

logging camp and small craft used the entrance at high-water slack.

(204) **American Bay**, on the west side of Kaigani Strait opposite Bolles Inlet, is about 12 miles north-northwest of Cape Muzon. Good anchorage may be had a little north of midchannel and about 400 yards west-southwest from the group of islands, known as **Bay Islands**, which are on the north side of the entrance. Small craft may find good anchorage in 5 fathoms near the north shore in the cove just east of the group of islands.

(205) **Mission Cove** is a small bight on the east side of Kaigani Strait about 1.4 miles north-northeast of American Bay. Small craft can anchor here in 6 to 8 fathoms, although there is considerable kelp in the cove. A submerged rock lies approximately in the southern third of the bight, just inside the entrance.

(206) **Howkan Reef**, bare at half tide and surrounded by kelp, extends 400 yards southwest from the shore south of the entrance to Mission Cove; at the southeast end of the reef is a small island with grave sites. There is deep water close to the reef.

(207) The channel is 300 yards wide between Howkan Reef and Mill Reef on the west side of **Howkan Narrows**. **Mill Reef** shows at high water and is surrounded by an extensive kelp patch about 600 yards in diameter, extending to the shore. There is no safe channel between Mill Reef and the west shore.

(208)

## Channel Islands to Rose Inlet

(209) **Channel Islands** (54°52.9'N., 132°49.4'W.), near midchannel in Kaigani Strait and about 0.6 mile northwest of Mission Cove, are two wooded islands joined by a bare spit. A rock, with a least depth of 2¼ fathoms, is in midchannel, 550 yards south from the west end of these islands. The main channel is southwest of the islands. The channel northeast of Channel Islands is used by small craft going to and from Mission Cove but is narrow in places between kelp patches.

(210) **Ham Cove**, on the west side of Kaigani Strait, about 0.8 mile west of Channel Islands, has a very narrow entrance and can be entered only by small craft.

(211) **Pond Rock**, which uncovers 4 feet and is marked by kelp, is 0.5 mile northwest of the west end of Channel Islands and 0.5 mile east-northeast of the entrance to Ham Cove. **West Mill Rock** is the easternmost of two islets close to shore about 1 mile northwest of Channel Islands. Two rocks, which uncover 1 foot, and a grassy islet from which a reef makes off about 0.2 mile, are 0.3 mile east-northeast and 0.4 mile, north-northwest, respectively, of West Mill Rock. An inactive logging camp is on the west shore of Long Island, about 1 mile northeast of Pond Rock. Kelp extends about 200 yards off the southwest side of the large island close west to the northwest extremity of Long Island.

(212) From the northwest end of Long Island, a group of islands and rocks extend about 5 miles north-northwest, two of the larger ones being **Aston Island** and **Grand Island**. A small timbered islet, 50 feet high, is about 0.9 mile northwest from Grand Island. About 0.3 mile west of this islet is a cluster of islets, the highest being about 15 feet. A pinnacle, covered 1½ fathoms, is 0.4 mile west of the islets. A 2½-fathom rock is just north of the pinnacle.

(213) **Square Island** (54°58.2'N., 132°53.5'W.), so called from its appearance, is about 0.8 mile west of Grand Island and is the westernmost of a group of rocks and islets.

(214) **Luke Point** (54°55.8'N., 132°53.7'W.), on the west side of Kaigani Strait, is 1.4 miles west-southwest of Aston Island. Rocks extend up to 0.3 mile from the south side of the point and should be avoided when approaching **Grace Harbor**, about 1 mile southwest of Luke Point. An active logging operation is in the harbor. Anchorage may be had in 10 to 16 fathoms soft bottom, in the middle of Grace Harbor. Care should be taken to avoid a ledge that extends 150 yards from the north shore. Southwest winds draw through a low divide from the ocean.

(215) **Vesta Bay**, 1.5 miles north of Grace Harbor, is entered between Luke Point on the south and **Vesta Point** on the north. The bay is about 1 mile long in a west direction and is clear in midchannel. A 2½-fathom spot is about 75 yards off the south shore of the bay, 0.5 mile southwest of Vesta Point. There is anchorage near the head of the bay in 12 to 15 fathoms, soft bottom, with scant swinging room. **Bushy Island**, small and wooded, is close to the headland between Vesta Bay and Rose Inlet.

(216) **Rose Inlet**, on the west side of Kaigani Strait, is 1.5 miles northwest of Vesta Point and about 20 miles north of Cape Muzon. Two groups of islands are in the entrance with the entrance channel between. There are three patches of light-colored rocky outcrops on the north point of the entrance. The larger and more southerly patch is roughly triangular in shape.

(217) A unmarked shoal, about 300 yards long, is 0.7 mile west of the prominent point on the north shore if Rose Inlet. A rock awash at lowest tides is on the east end of the shoal. The ruins of a cannery are at the head of the inlet. Submerged piles have been reported in this area and caution is advised.

(218)

## Tlevak Strait

(219) **Tlevak Strait** and Tlevak Narrows separate Sukkwan Island and Prince of Wales Island from Dall Island and from the group of islands north of Long Island and extend from Cordova Bay to Ulloa Channel. From Cordova Bay, the main channel of Tlevak Strait trends northwest for about 10 miles to McFarland Islands and then north-northwest for about 14 miles to Tlevak Narrows; the width of the strait is 1.2 to 4 miles. Islands are numerous, and the shores are much indented.

(220) The southeast entrance to the strait, about 20 miles north of Cape Muzon, is marked by **Shoe Island Light**

(54°57'04"N., 132°44'41"W.), 20 feet above the water and shown from a skeleton tower with a red and white diamond-shaped daymark on the northeast end of Shoe Island, about 0.7 mile off the north end of Long Island.

(221)

### Currents

(222) The direction of maximum flood current (and ebb) varies considerably as one progresses through the 24-mile-long Tlevak Strait. Maximum average currents range from 1.5 to 3.0 knots on the flood and 1.5 to 4.3 knots on the ebb, the strongest currents occurring in Tlevak Narrows. (See the Tidal Current Tables for daily predictions for places in Tlevak Strait.)

(223) **Sukkwan Island** is on the northeast side of Tlevak Strait and separated from Prince of Wales Island by Cordova Bay, Hetta Inlet and Sukkwan Strait. It is mountainous, and its rugged coastline is indented by numerous inlets. The west shore of the island, just outside of Dunbar Inlet and opposite the McFarland Islands, is very irregular and foul.

(224) Lacey and Jackson Islands, on the north side of Tlevak Strait at the entrance from Cordova Bay, have been described previously in this chapter.

(225) The group of islands, islets, and rocks that extend 5 miles northwest from the northwest end of Long Island have been described with Kaigani Strait.

(226)

## Shoe Inlet

(227) **Shoe Inlet** (54°55.7'N., 132°48.7'W.) indents the northwest part of Long Island and is about 2 miles long and 0.3 mile wide. The inlet is clear except near the shore. Anchorage for small vessels can be had near its head. **Touchit Cove** is a foul bight on the northeast side of Shoe Inlet just within the entrance.

(228) **Cleva Bay**, east of Shoe Inlet, is an open bight on the northwest end of Long Island and is of no importance as an anchorage.

(229) **Kasook Inlet** makes into the south shore of Sukkwan Island 2 to 3 miles northwest of Jackson Island and about 5 miles north of Shoe Inlet. A cluster of small, wooded islands with a good, clear channel on either side are in the entrance. The inlet divides just inside the islands. The western branch is about 1.8 miles long and has a clear course at midchannel, except at a point about midway of its length where a ledge projects from the east side about half the distance across the inlet. At the head of the inlet, on the northeast side, good anchorage can be had in about 8 fathoms, soft bottom. The eastern branch extends about 0.8 mile to a bay from which a short arm extends southeast. Just inside the entrance, good anchorage may be had in about 10 fathoms, soft bottom, favoring the south shore.

(230)

### Pilotage, Tlevak Strait

(231) Pilotage, except for certain exempted vessels, is compulsory for all vessels navigating the waters of the State of Alaska.

(232) Tlevak Strait is served by the Southeastern Alaska Pilots Association. (See **Pilotage, General** (indexed), chapter 3, for the pilot pickup station and other details.)

(233)

## McFarland Islands to Green Inlet

(234) **McFarland Islands** (55°04'N., 132°55'W.) are a group of large and small islands 3.5 miles in extent, on the east side of Tlevak Strait off the west coast of Sukkwan Island, about 5 miles northwest of Kasook Inlet. The southernmost island is bluff, high, and prominent. Among the islands are passages and fairly well-sheltered anchorages for small launches.

(235) **Dunbar Inlet**, east of McFarland Islands, has numerous rocks and islets at the entrance, including a 1½-fathom rock just inside the entrance, but otherwise provides a clear channel about 0.2 mile wide with least depths of 5 to 6 fathoms leading to a protected anchorage inside. When anchoring, take care to avoid the 1¼-fathom rock at the northeast extent of the inlet. Small craft can find good anchorage in the passage between Dunbar Inlet and Island Bay. A narrow passage north of the islands off the entrance to Dunbar Inlet may be used by small fishing vessels.

(236) When approaching from the south via Tlevak Strait, take care to avoid the 3¼-fathom shoal a little west of midchannel between McFarland Islands and the west shore of Sukkwan Island.

(237) **Island Bay**, the deep bight just north of Dunbar Inlet, affords well-protected anchorage from all winds, except west, in depths of 6 to 7 fathoms, sticky to hard bottom. Swinging room is limited, and large vessels should anchor farther offshore in greater depths.

(238) Two miles north of Island Bay is a second bight with a small island to the northwest. An indifferent anchorage is about 0.3 mile offshore and 0.3 mile east-southeast from the south point of the island in depths of 8 to 12 fathoms, sticky bottom, but provides rather poor protection. The entrance should only be attempted with local knowledge.

(239) **Profit Island (Gui Kangulas)**, 75 feet high, is a small prominent island, about midway between the McFarland Islands and Corlies Islands. A reef extends about 0.3 mile north-northeast from the north end of the island.

(240) **Baldy Bay** is on the west side of Tlevak Strait opposite the McFarland Islands and is easily approached when coming from Cordova Bay. The entrance is between High Point and Reef Point. It has two large arms known as View Cove and Coco Harbor. **High Point**, bold and rounded, is the south point of the entrance to the bay. **Reef Islands** are a large group of low wooded islands about 0.8 mile north of High Point. They are steep-to along the

north shore and are surrounded by kelp. **Reef Point**, the north point of the entrance, is a long projecting point.

(241) **View Cove Entrance Light** (55°03'10"N., 132°57'52"W.), 35 feet above the water and shown from a skeleton tower with a red and white diamond-shaped daymark on a rock awash, is about 0.5 mile southeast of Reef Point.

(242) South of Reef Islands and just inside High Point is a small inlet with two arms at the head. The west arm is rather deep and clear, except near the head which is foul with rocks. The anchorage area here is suitable only for small vessels and is exposed to williwaws. The east arm offers fairly good anchorage for small vessels. The entrance is very narrow and partially obstructed by rocks awash on the western edge. Anchor in the center in 5 fathoms, sticky bottom. A ¼-fathom spot is about 600 yards north of the entrance.

(243) **Windy Cove**, about 2 miles west-northwest of High Point, is narrow, clear, and deep. The entrance is 50 yards wide with a depth of ½ fathom. A large rock extends into the eastern side of the entrance channel. Strong tidal currents prevail through this entrance.

(244) **Coco Harbor** is the west arm of Baldy Bay. **Entrance Island**, off the entrance to the main reach, is a large island with a constricted passage to the north and south. Off this island are numerous rocks and islets that must be avoided when entering Coco Harbor. After these obstructions are passed, the channel is clear and deep, except close along the shores, to the head of the inlet.

(245) Near the head of Coco Harbor are anchorage depths of 12 to 20 fathoms, soft bottom, but heavy williwaws prevail.

(246) **View Cove**, the north arm of Baldy Bay, extends about 4.5 miles inside Reef Point and is practically free of obstruction. The shores are generally steep-to. There are some off-lying rocks about the south and east shores of Clam Island. About 0.8 mile from the head of the cove on the south shore is a small rather prominent island with foul ground between it and shore. A good anchorage, with protection from all but west to northwest winds, is about 0.25 mile from the head of the bay in 15 to 20 fathoms.

(247) Pile ruins of a wharf are on the north shore of View Cove about 2 miles from Reef Point; caution is advised.

(248) **Clam Island** is off the south shore of View Cove about 2.5 miles inside Reef Point and divides the head of View Cove into two parts.

(249) North of Clam Island an arm extends over 2 miles farther inland; south of the island is a large circular bight about 0.8 mile in diameter. East of Clam Island is a small cove offering fair anchorage for small boats.

(250) **Green Inlet** is a small narrow inlet on the south shore of View Cove. Small craft may enter, but the entrance is shallow, running dry on minus tides. Large mudflats extend a long distance from the head of the inlet and there are heavy williwaws.

(251) View Cove has three indifferent anchorages. In the bight southwest of Clam Island, anchor about 0.3 mile from the head of the bight in 17 to 18 fathoms, semi-hard bottom with patches of gravel and silt, with the west end of Clam Island bearing 034°, distant 0.5 mile. Off Clam Island, anchor in 8 to 14 fathoms, sticky to hard bottom, with the large bare rock off the island bearing 270° and distant 450 yards. At the head of the long arm, anchor about 0.3 mile offshore in 16 to 18 fathoms. At the head of the long arm the winds seem to blow harder than outside, which is especially true for southeast winds. Opposite Clam Island, although apparently an exposed position, is fair protection for larger vessels, although the swinging room is restricted. For large vessels the best anchorage is in the bight southwest of Clam Island, where there is fair protection and good swinging room.

(252)

## Corlies Islands to Joe Island

(253) **Corlies Islands** are a group of low wooded islands about 1.8 miles in extent, on the northeast side of Tlevak Strait, south of the west entrance to South Pass, Sukkwan Strait. There is foul ground among the islands and to the south of them. About the middle of the group is a channel for small craft with local knowledge.

(254) A small-boat passage between Sukkwan Island and Corlies Island is used by small fishing vessels. The entrance is easily approached from the south. The west shores of Sukkwan Island should be favored in order to clear the numerous rocks and small islets east of Corlies Islands. When up to the northernmost of the Corlies Islands, steer a midchannel course to avoid the thick patches of kelp.

(255) **Nichols Islands**, about 2 miles northwest of the Corlies Islands, are a group of wooded islands that extend in a northeast direction for about 2.1 miles. **Fort Islet**, small and wooded, is the most northerly of the group. The area surrounding the outer north and southeast edges of the islet appears to present a danger to navigation. These include a 4¼-fathom pinnacle, 350 yards northwest of the islet, and a rock awash, 450 yards southeast of the islet.

(256) **The Sentinels**, a scattered group of five small wooded islets and rocks that cover, are about 1 mile north-northwest of Nichols Islands. Numerous shoals and pinnacles exist between the islets and Nichols Islands; local knowledge is recommended for mariners transiting this area.

(257) **Breezy Bay** is on the west side of Tlevak Strait abreast Nichols Islands; it is 2 miles wide between Eolus and Boreas Points. It is divided into two arms and has several small islands and numerous rocks in the bay. The northern arm has numerous rocks and islets at the entrance, including a ½-fathom rock midchannel about 0.6 mile south-southeast of Boreas Point, but otherwise provides a clear channel about 400 yards wide with least depths of 13 to 15 fathoms that leads to a protected anchorage, inside for larger vessels in 13 to 17 fathoms. **Eolus Point** on the southeast side at the entrance is high, steep, and rocky. A wooded island is close south of **Boreas Point**.

(258) **Farallon Bay** is on the west side of Tlevak Strait, about 3 miles west-northwest of the Nichols Islands. Enter in midchannel. The bottom is rocky and very broken; southeast winds draw through it, and it is not recommended as an anchorage. Just east of the southeast entrance point of the bay is a high-water islet that shows from south.

(259) **Halibut Nose** is the promontory on the northeast shore of Tlevak Strait opposite Farallon Bay. It is irregular in outline and not so high and prominent as some of the other headlands in Tlevak Strait. A rock covered 3 fathoms is 0.8 mile southwest of Halibut Nose. This rock can be seen on extreme low tide and is bare of sea growth. It is large in extent and surrounded by deep water. No kelp marks the area.

(260) **North Bay** is on the west side of Tlevak Strait, about 1.5 miles north-northwest of Farallon Bay and 2.8 miles south of Tlevak Narrows. **Hassler Point**, the northwest point of the entrance, is timbered. **Cayman Point**, the southeast point of the entrance, is low at the extremity and rises to a knob, 0.4 mile from the beach, that is separated by a very low saddle from a ridge to the south.

(261) When entering North Bay, favor the southeast side and anchor near the head of the bay in 12 to 15 fathoms soft bottom, with the high-water islet at the head, bearing about west. Southeast winds draw around Cayman Point and blow directly into the bay with severe squalls and williwaws.

(262) An open bight on the north side of Hassler Point has depths of 29 to 31 fathoms at the entrance, shoaling to 16 fathoms about 250 yards from the head. The north side of the bight is formed by a wooded island; between it and the main shore is a cove with depths of 1 to 4 fathoms.

(263) **Guide Island**, about 0.9 mile east of the entrance to North Bay, is small, wooded, and surrounded by kelp. Reefs extend north about 0.4 mile from it.

(264) **Lively Islands**, north-northwest of Guide Island, are about 1.2 miles in extent and wooded. There are several outlying rocks off the islands marked by kelp and mostly covered at high water. The currents have considerable velocity around the Lively Islands group, and swirls occur in places.

(265) **Lively Islands Light** (55°13'38"N., 133°05'06"W.), 20 feet above the water, is shown from a skeleton tower with a red and white diamond-shaped daymark on the west side of the southernmost island of the group.

(266) In passing Lively Islands, consider the channel west of them to be the main channel, and favor the Dall Island shore slightly. The channel northeast of Lively Islands is deep, safe, and largely used by small craft bound north; the dangers are charted.

(267) **Round Island**, about 0.5 mile east of the northernmost large Lively Islands, is a large, grass-covered rock about 20 feet high, with a small clump of trees near its southwest end. It is steep-to on all sides.

(268) **Soda Bay** is on the northeast side of Tlevak Strait to the northeast of the Lively Islands. Anchorage can be found in Soda Bay about 0.5 mile east of Shelikof Island in about 20 fathoms, mud and shell bottom. The low surrounding land offers little protection from the wind.

(269) **Midway Island** is a small wooded islet in the middle of the strait about midway between the northernmost of the Lively Islands and Block Island.

(270) **Block Island** is heavily wooded; the south side of it is bold-to. The narrow passage north of the island is foul, and the currents are unusually strong. **Tlevak Narrows Light 2** (55°15'45"N., 133°07'01"W.), 22 feet above the water, is shown from a skeleton tower with a red triangular-shaped daymark on the southwest side of the island.

(271) **Turn Point**, at the north extremity of Dall Island and just west of Block Island, is a bluff, wooded knoll. Foul ground extends about 300 yards southeast and 150 yards north from the point.

(272) **Tlevak Narrows**, locally known as **The Skookum Chuck**, is a narrow and comparatively deep passage between Block Island and Turn Point and connects Tlevak Strait and Ulloa Channel. A 6¾-fathom spot, near midchannel, is about 0.3 mile northwest of Block Island Light. A ½-fathom shoal 0.4 mile northwest of Turn Point is marked on its south side by a buoy that is reported to tow under during large tides. The channel south of the buoy is the one generally used.

(273) Good anchorage for small craft can be had in 2½ fathoms, soft bottom, in the small cove on the north side of Tlevak Narrows; the entrance to it is about 0.5 mile north of Turn Point.

(274)

### Currents

(275) Currents in the vicinity of Tlevak Narrows run very strong during large tides; in the narrowest part the velocity is over 4 knots. In the vicinity of Turn Point there is an approximate ninety-degree turn with strong currents, on both the flood and ebb, that swirl and cause whirlpools that can spin a boat around. Caution is advised while transiting this area. Soon after passing through the narrows, the current greatly diminishes in strength; beyond Guide Island and Meares Island it is almost imperceptible.

(276) With the large tides there is very little slack, while with the small tides, slack water lasts from 10 to 30 minutes, and there is not much current for 1 hour on either side. (See the Tidal Current Tables for predicted times and velocities.)

(277) Northeast of Lively Islands it is reported that the current sets constantly northwest, being stronger when the main stream west of the islands is setting northwest. To take advantage of this constant set, small craft bound north usually pass northeast of the Lively Islands.

(278) The current setting northwest divides into two parts off the east end of Ulloa Island. One part sets north of the island, and the other sets with considerable strength into Meares Passage.

(279) **Ulloa Channel** is 9 miles long from Tlevak Narrows to Bucareli Bay. For a distance of about 3 miles from

Tlevak Narrows, it leads between the islands at the north end of Meares Passage and is about 0.25 mile wide, thence between Suemez Island and Prince of Wales Island, where its width is about 0.35 mile at its east end and 1.4 miles at its west end at Cape Flores, where it joins Bucareli Bay.

(280)

### Currents

(281) The flood current in the channel sets southeast and the ebb northwest. The average velocity of the currents is 1.8 to 2.2 knots on both the ebb and flood. (See the Tidal Current Tables for predictions for places in Ulloa Channel.)

(282) **Ulloa Island**, close to the west end of Tlevak Narrows, is wooded. The main channel is close south of the island.

(283) Anchorage in 10 to 15 fathoms, soft bottom, is north of Ulloa Channel in the entrance to a small passage at 55°16'50"N., 133°09'10"W. A shoal with a depth of 2¼ fathoms near its end extends about 0.2 mile southwest from the mainland on the north side of this entrance. Ulloa Island, and the 160-foot high island to the northwest, can be passed on either side, but the channel north of Ulloa Island is foul.

(284) **Bush Islets**, about 0.8 mile west of Turn Point and south of Ulloa Island, consist of two rocks with multiple trees on both of them. A wooded islet, 50 feet high and surrounded by kelp, is 700 yards northwest of Bush Islets. Two other islets are 0.2 and 0.3 mile, respectively, southwest of Bush Islets.

(285) **Meares Island**, about 1.8 miles west of Tlevak Narrows, is the largest island in Ulloa Channel. **Meares Island Light** (55°16'20"N., 133°10'35"W.), 13 feet above the water, is shown from a skeleton tower with a red and white diamond-shaped daymark on the north side of the island. The main channel is north of the island, the north side of which is bold-to. A rocky islet is 275 yards southeast of Meares Island, with rocks and kelp between.

(286) **Ridge Island** is off the east extremity of Suemez Island about 1 mile west of Meares Island Light. The island is high, wooded, and joined to Suemez Island by a sandy neck, awash at high water. Off the south side of the island are two wooded islets, with rocks submerged and awash, close west. The islets are connected with the island by a spit, bare at half tide.

(287) **Waterfall**, on the east side of Ulloa Channel and about 1.7 miles above Ridge Island, is the site of a saltwater sport fishing resort. Vessels waiting for berthage at Waterfall can find temporary anchorage in Port Refugio. Berthing is offered for resort business and private vessels on a case by case basis. The resort usually operates only during the summer. During the off-season it has a caretaker. The main dock has a 250-foot face and is 500 yards north of a fuel pier; depths of 24 feet were reported alongside in 2015. A seaplane and a small-craft float are close north of the main dock.

(288) Waterfall has telephone and seaplane communications with Ketchikan during the summer.

(289) **Port Refugio** is a large bay, with two arms, on the west side of Ulloa Channel opposite the fishing resort at Waterfall. Its southeast arm, inside of **Bocas Point**, is 1 mile long and about 0.2 mile wide and near its head affords anchorage for small craft in about 12 fathoms. **Point Verde**, the northwest point of the entrance, is wooded.

(290) Anchorage for larger vessels may be had between the east shore of the southwest arm of Port Refugio and the island at its head, in 12 to 20 fathoms, sand or mud bottom. The dangers are charted; the chart is the guide.

(291) **San Adrian Island**, 130 feet high, is about 0.7 mile north of Point Verde. Less than 100 yards to the south-southeast of San Adrian Island are a smaller island and a reef that bares connecting them.

(292) **Adrian Cove**, on the west side of Ulloa Channel, at its north end, is open to north and is of no importance.

(293) **Cape Flores**, on the east side of Ulloa Channel at its north entrance, is the northwest point of **Joe Island**, which is wooded. Rocks bare at low water, and foul ground, marked by kelp, extends about 0.3 mile north of Cape Flores and about 0.3 mile south-southeast of the south end of Joe Island. A lighted buoy marks the northwest extremity of the foul ground north of Cape Flores. The channel on the northeast side of Joe Island is largely used by small craft.

(294)

## Bucareli Bay

(295) **Bucareli Bay** (55°13.5'N., 133°31.0'W.), about 50 miles northwest of Dixon Entrance, extends about 20 miles northeast from its southwest entrance between Cape Bartolome and Cape Felix. Baker, St. Ignace, Lulu and San Fernando Islands form its west shore, and Suemez and Prince of Wales Islands form its east shore. The passages between these islands connect the bay with the sea, the Gulf of Esquibel or Cordova Bay. They are used by small vessels and small craft as a protected route when proceeding along the outer coast between Dixon Entrance and Sumner Strait.

(296)

### Currents

(297) The tidal currents in Bucareli Bay set northeast on the flood and southwest on the ebb. The average velocity of the current is 1.0 to 1.5 knots on both the ebb and flood.See the Tidal Current prediction service at *tidesandcurrents.noaa.gov* for specific information about times, directions, and velocities of the current at numerous locations throughout the area, including Bucareli Bay. Links to a user guide for this service can be found in chapter 1 of this book.

(298)

## Cape Bartolome to Christina Island

(299) **Cape Bartolome Light** (55°13'50"N., 133°36'56"W.), 158 feet above the water and shown from a spindle with a red and white diamond-shaped daymark on the south end of one of the islets south of Cape Bartolome, marks the entrance to Bucareli Bay.

(300) **Cape Bartolome**, the south extremity of Baker Island, has several storm-swept islets, some partly wooded, off the main shore. The southernmost wooded islet, 300 feet high, slightly higher than those close to the cape, shows prominently from offshore. The cape rises rather sharply. A small rounded peak, 2 miles north from the cape, with higher peaks on either side, shows prominently when other peaks are clouded. In rounding the cape, the outer wooded islet should be given a berth of about 1 mile. A shoal with a least depth of 1¾ fathoms is about 0.5 mile east of Cape Bartolome Light.

(301) The rocks and cliffs northwest of Cape Bartolome are black, while those southeast are whitish gray; it is reported that this characteristic is of considerable assistance in identifying the locality when making the coast in thick weather.

(302) **Baker Island**, forming the west side of the south end of Bucareli Bay, is cut up by numerous bays and inlets. The shore along the outer coast is precipitous and marked by ragged ledges and deep clefts. The interior is rugged, mountainous, and generally wooded.

(303) **Fortaleza Bay**, on the west side of Bucareli Bay, about 4.5 miles north of Cape Bartolome, is a small open deepwater bight. **Lake Fortaleza**, with an elevation of about 12 feet, empties into the bay. A rocky shoal extends 0.1 mile northeast of Point Fortaleza, near the outfall of the lake. **Thimble Cove**, about 0.8 mile north of Fortaleza Bay, is a small exposed bight with bare rocks and rocks awash that extend nearly across the entrance from the south shore.

(304) **Port San Antonio**, on the west side of Bucareli Bay, about 6.5 miles north of Cape Bartolome, has two arms at the head, one that extends in a north-northeast and the other in a south-southwest direction. The south side of the channel is clear, but a shoal with rocks that uncovers north feet is about 0.3 mile west-southwest from **Point San Roque** the north point at the entrance. Depths in the bay decrease from 35 fathoms at the entrance to about 8 fathoms at the head. Small craft can find anchorage in the north arm in 5 to 7 fathoms and in the south arm in 10 fathoms, mud bottom. The north arm has a low shoreline with gravel beach.

(305) **Port Asumcion**, on the west side of Bucareli Bay, 9 miles north-northeast of Cape Bartolome, offers protected anchorage in 12 to 21 fathoms, sand bottom, near its head. Entrance to the bay should be made from the southeast staying close to midchannel with care taken to avoid the dangerous rock 0.25 mile northeast of **Point Cosinas** at 55°21'58"N., 133°30'17"W. The anchorage is known to have winds up to 10 knots higher than surrounding areas, particularly if winds are out of the west or east; caution should be used when choosing to anchor in the bay. The midchannel is clear.

(306) **Cape Felix** (55°12.7'N., 133°25.9'W.) is at the southwest end of Suemez Island. The depths off the cape are comparatively regular and good, but, to the east, foul ground extends about 0.7 mile offshore. Cliffs well up on the mountain side and a steep light-colored cliff a little to the northeast of the cape are the most prominent landmarks. Northeast of the cape is a small section of a cliff of columnar formation, somewhat unusual for this section of Alaska. From the cape the shoreline trends in a north direction, forming the east side of Bucareli Bay.

(307) **Port Santa Cruz** is on the east side of Bucareli Bay 4.5 miles north of Cape Felix. The north shore is steep and rocky, with detached rocks close-to, whereas the rest of the shoreline is generally low, with rocky, gravel, or sand beaches. **Labandera Rock**, a kelp-marked submerged rock covered 2¾ fathom, is midway between **Point Rosary** and **Point San Jose**, the two points at the entrance. A rock that bares at low water is about 0.7 mile east-northeast from Point Rosary and 250 yards off the islet fronting **Point Isleta**. With a moderate swell, the breakers on this rock can frequently be seen at night.

(308) In entering, round Point Rosary or Point San Jose at a distance of 0.2 mile and head for the point on the north side of the bay 1 mile inside the entrance. Round this point at a distance of 300 yards and select anchorage as desired in 12 to 17 fathoms, mud bottom. Anchorage with more swinging room may be had to the south of the point in 17 to 19 fathoms, mud bottom. The channel to the north of Labandera Rock is preferable.

(309) **Point Arboleda** is a low point about 2.2 miles north of the entrance to Port Santa Cruz. Several outlying islets and rocks make it necessary to give the cape a berth of 0.4 mile in rounding it. **Point Arboleda Light** (55°19'14"N., 133°28'20"W.), 33 feet above water, is shown from a spindle with a red diamond-shaped dayboard on the northernmost islet. **Point Quemada** is midway between Point San Jose and Point Arboleda.

(310) **Point Fula**, **Point Remedios** and **Point Barrigon** are headlands on the northwest shore of Suemez Island.

(311) **Port Dolores** is on the east side of Bucareli Bay, 2 miles east-northeast of Point Arboleda. It has generally broken bottom with a rocky reef, about 400 yards in extent, in its center about 0.4 mile inside the entrance. Its use is recommended only for small craft, and they can find anchorage in about 11 fathoms 0.5 mile from the head in the northern part of the bay. The anchorage is exposed to west winds.

(312) **Point Arucenas**, the headland on the north side of Port Dolores, and **Point Cangrejo**, about 1.6 miles east of Point Arucenas, are wooded.

(313) **Cabras Islands** are a small, wooded group, about 1.5 miles northeast of Port Dolores. The channels between the islands contain numerous partially submerged rocks and should be navigated only by small craft with local

knowledge. A reef that uncovers 5 feet and marked by kelp is about 0.5 mile southwest from this group. The passage between Cabras Island and Suemez Island is 0.35 mile wide at its narrowest with depths over 20 fathoms available. The 10 fathom shoal 0.35 mile southeast of the main island is the controlling depth. A group of small islets and rocks is located 0.3 mile northeast of Point Cangrejo.

(314) **St. Ignace Island**, on the northwest side of Bucareli Bay about 11.5 miles from Cape Bartolome, is bold and wooded. The east and northeast shores are mostly rocky, whereas the west and northwest shores are gravel. **St. Ignace Rock Light** (55°25'41"N., 133°23'43"W.), 20 feet above the water, is shown from a skeleton tower with a red and white diamond-shaped daymark on **St. Ignace Rock** about 0.8 mile northeast of **Silvester Point**, the northeast end of St. Ignace Island.

(315) **Port Mayoral**, the passage between St. Ignace Island and Baker Island, has depths of 6 to 12 fathoms up to **Canal Point**, with irregular bottom. North of Canal Point and south of Santa Rita Island, the passage is heavily congested with kelp. **Cristina Island**, small and wooded, and a cluster of high-water islets are west of midchannel at the entrance, with a deepwater passage (exceeding 20 fathoms) on either side. Foul ground extends 300 yards off the southwest end of the island and for 550 yards off Canal Point. The north entrance is obstructed by the Santa Rita group of islands; between them and the St. Ignace Island shore is a narrow channel less than 50 yards wide with a least depth of 3¼ fathoms. The channel between Santa Rita and Baker Islands is passable at high water by rowboats and similar craft.

(316)

## San Juan Bautista Island to Klawock

(317) **San Juan Bautista Island**, in the north part of Bucareli Bay, is densely wooded and has two prominent summits. The island separates Bucareli Bay from Ursua Channel to the northwest and San Alberto Bay to the north.

(318) **Agueda Point**, at the northeast end, and **Diamond Point**, at the southwest end of the island, have no special features as landmarks. Deep-draft vessels passing west of San Juan Bautista Island should exercise caution in the area.

(319) **Point Miliflores**, bold and wooded, is the southeast point of San Juan Bautista Island. **San Juanito Island**, about 500 yards east-northeast of the point, is wooded and from north and south directions shows as a prominent landmark clear of San Juan Bautista Island. Deep water extends close to the point and island.

(320) **Port Estrella** is south of San Juan Bautista Island and east of Cape Flores (55°21.2'N., 133°17.4'W.). Foul ground, marked at its outer end by a lighted buoy, extends north for about 0.3 mile from Cape Flores and about 0.2 mile south from **Point Providence**, the north point of the entrance. Anchor near the head of the bay in 7 to 9 fathoms. Caution is necessary on entering, as shoal water makes out from each side of the bay.

(321) **Tranquil Point**, **Point Batan** and **Point Lomas** (55°22.7'N., 133°10.5'W.), on the southeast shore of Bucareli Bay and southeast of San Juan Bautista Island, are headlands without any prominent features.

(322) **Port Caldera**, about 4.5 miles northeast of Cape Flores and immediately east of Point Lomas, is open to the north. It affords limited anchorage with a 4-fathom shoal in the center of the bay. Foul ground extends about 300 yards off **Point Iphigenia**, the northeast headland at the entrance.

(323) **Trocadero Bay**, east of the entrance to Port Caldera, extends about 9 miles east from the head of Bucareli Bay, with a greatest width of about 3 miles. The bay is locally known as **Big Harbor**. In the entrance is a group of islands, of which the largest is **Madre de Dios Island**, high and bare, having been logged. The islands have a few outlying rocks, and the passages between them are mostly of good depth. The area to the south of **Canoe Point** between **Canas Island** and the larger island to the southeast is foul with many rocks and broken ground. Passage to the head of Trocadero Bay should be made to the north of the group of islands east of Point St. Sebastian avoiding the small islet and dangerous rock 0.15 mile northwest of the first large island. Near the head of Trocadero Bay, the chart is the guide.

(324) The **Ladrones Islands**, east of Madre de Dios Island, are a group of small wooded islands in the entrance to Trocadero Bay. The passage between the islands on the southwest side of the Ladrones, closest to the entrance to Trocadero Bay, is impassable with shallow, narrow openings and kelp. **Unlucky Island**, a small wooded island 0.1 mile long, is about 1 mile northeast of Ladrones Island; 0.35 mile to the west of Unlucky Island is shoal ground with a least depth of 3 fathoms. **Doyle Bay** is a square bay about 0.7 mile wide with **Culebrina Island** at the mouth, north of Trocadero Bay, and provides anchorage in 30 fathoms. The best approach to Doyle Bay is from the southwest passing to the north of the shoals off of Unlucky Island with care to avoid the ½-fathom rock 0.3 mile east of Culebrina Island. **Toti Island**, a small wooded island, is 0.5 mile north of Madre de Dios Island.

(325) **Port St. Nicholas** is north of Doyle Bay. **Coronados Islands**, a group of islands, are midway in the entrance, and rocks and reefs with two channels between extend to the north. **Rancheria Island** is south-southwest of and close to **Point Miraballes**, the south point at the entrance to Port St. Nicholas. A passage into Port St. Nicolas runs between Rancheria Island and the Coronados Islands. Dangers are shown on the chart. About 2 miles north of Point Miraballes is a peak 2,940 feet high, light green in the summer, which shows conspicuously from north and south.

(326) **Balandra Island** (55°27.2'N., 133°13.2'W.), small and wooded, is about 0.6 mile east of Agueda Point, at the junction of Bucareli Bay and San Alberto Bay. Foul ground extends 250 and 200 yards off the east and west

ends, respectively. A 2½-fathom spot is 0.2 mile northeast of the island. The channel between Balandra Island and San Juan Bautista Island has a least found depth of 4½ fathoms.

(327) **San Alberto Bay**, with numerous shoals and broken areas, extends about 7 miles north from Bucareli Bay to San Christoval Channel.

(328) **San Fernando Island**, on the west side of San Alberto Bay and on the northeast side of Portillo Channel, is about 7 miles in diameter, with low rocky shores cut up by numerous small indentations and bights. Timbered hills and ridges cover the island.

(329) **Ursua Channel** separates San Fernando and San Juan Bautista Islands and connects Bucareli Bay and San Alberto Bay. Midchannel depths are good. The principal dangers are a 4½- and a 5¾-fathom shoal about 1.0 mile west of Diamond Point, on the southwest coast of San Juan Bautista Island; the shoal ground that extends about 0.4 mile south from **Point Amargura**, the south point of San Fernando Island; and the shoal ground that extends about 0.4 mile off **Point Eugenia**, the middle point on the northwest side of San Juan Bautista Island. From this point to the shoal spot, 0.5 mile west-northwest of Agueda Point, the San Juan Bautista Island shore should be given a berth of at least 0.4 mile. Irregular bottom with shoal spots extends about 0.6 mile off the San Fernando Island shore, near the north end of the channel. The channel east of San Juan Bautista Island is more generally used.

(330) **Ballena Islands**, two in number and wooded, are about 1.2 miles northeast of Balandra Island and about the same distance southwest of Fish Egg Island. The bottom is foul between Ballena Islands and Fish Egg Island. A reef, with a least reported depth of ¾ fathom, is 0.4 mile southwest of the west Ballena Island, with an extensive kelp patch between.

(331) **Ballena Island Shoal**, with a least depth of 1¾ fathoms, is 0.6 mile west of the west Ballena Island. Its west side is marked by a lighted buoy.

(332) **Balandra Shoal**, about 1.1 miles west of the west Ballena Island, consists of two small areas 0.2 mile apart, having a least depth of 1 fathom in the north area and ¾ fathom in the south area, with deep water between. The north area is marked by a buoy on its northeast side. The usual course in passing Balandra Shoal leads east of it, between the buoys marking it and Ballena Island Shoal.

(333) **Fern Reef**, marked by kelp, is about 1.5 miles northwest of Balandra Shoal and about 1 mile off the San Fernando Island shore. Two rocky heads, 0.2 mile apart and bare at low-water springs, are conspicuous. **Fern Point** is on the east extremity of San Fernando Island. A 2¼-fathom spot, marked on its southeast side by a lighted buoy, is about 0.3 mile south of Fern Reef.

(334) **Parida Island** (55°31.2'N., 133°14.5'W.), about 1.5 miles northeast of Fern Point, is a prominent wooded landmark in the middle of San Alberto Bay. **Parida Island Reef** is 0.5 mile south from Parida Island. One head bares at low-water springs. An area with a least reported depth of 3½ fathoms and marked by a buoy on its southeast side is 0.5 mile southeast of this reef; the depth may be less. A rock covered 4¾ fathoms is about 0.5 mile northeast of Parida Island in about 55°31'36"N., 133°13'53"W.

(335) **Alberto Islands** are northeast of Parida Island and north of Fish Egg Island and Klawock Reef. The southernmost island is wooded and is 1.7 miles northeast of Parida Island and about the same distance north of Fish Egg Island.

(336) **Alberto Reef** extends 0.4 mile west-southwest from the southernmost of the Alberto Islands; its highest point uncovers 5 feet. A 5½-fathom channel separates this reef from the southernmost Alberto Island; the deepest water is found 100 yards off the island.

(337) **Wadleigh Rock** is 0.5 mile east of the southernmost Alberto Island and consists of two reefs about 100 yards apart. The west reef bares at half tide and the east reef at low water. The shoal is about 0.2 mile long in a north direction, steep on the west side, and can be passed 100 yards off.

(338) Three rocky patches, covered by about 4 feet, are about 1 mile north-northwest of Parida Island. They are marked by a lighted buoy off the northernmost patch. These rocky patches are usually marked by kelp. The range of the southwest end of Parida Island and the northeast end of San Juan Bautista Island passes a little northeast of the patches.

(339) **The Witnesses**, locally known as **Hour Islands**, are wooded islets 2 miles north of Parida Island. **Witness Rocks**, about 0.9 mile west of The Witnesses, are almost covered at high water.

(340) **Abbess Island**, at the north end of San Alberto Bay, about 0.5 mile west of **Wadleigh Island**, is surrounded by foul ground and off-lying islets. A winding, unmarked channel is between Abbess Island and Wadleigh Island. This channel has many dangers and is only suitable for small craft with local knowledge.

(341) **Shinaku Inlet** makes off from the north end of San Alberto Bay and connects with Big Salt Lake and Klawock Inlet. The inlet has much foul ground, and the passages leading to Big Salt Lake and Klawock Inlet are only good for small craft with local knowledge.

(342) **Klawock Inlet** extends in a north direction from the head of Bucareli Bay for about 7.5 miles to the entrance of Big Salt Lake. The inlet has two entrances. The entrance from Bucareli Bay is southeast of Fish Egg Island; the entrance from San Alberto Bay is north of Fish Egg Island.

(343) **Cape Suspiro** is the low wooded point on the east side of the south entrance to Klawock Inlet. **Port Bagial**, a small cove on the east side of Cape Suspiro, has depths of 4 to 5 fathoms west of the islands on the east side.

(344) **Fish Egg Island**, at the south end of Klawock Inlet, is low and wooded. Shoals extend off the southwest end of the island to the Ballena Islands. **Fish Egg Reef** extends for 350 yards southeast of the southeast point of the island and is marked by a lighted buoy at its outer end.

**Cole Island**, a low, wooded island, is in the bight in the northeast side of Fish Egg Island.

(345) **Craig** is an incorporated settlement on the island at the south end of Klawock Inlet and close southeast of Fish Egg Island. The community has a cold storage depot, hotel, an oil terminal and several general stores. A maintenance, support and storage facility for fishing vessels is near the northwest end of the island.

(346)

### Prominent features

(347) A brown water tank near the southwest side of the island, several white oil tanks near the northwest side of the island and a microwave tower close east of the brown tank are prominent from the waters near Craig.

(348)

### Channels

(349) A federal project provides for a mooring basin and a 100-foot-wide entrance channel, protected by two breakwaters in **Shelter Cove** at the southeast side of Craig Island. A light on the northwest end of the south breakwater and a **048°** unlighted range mark the entrance channel.

(350)

### Dangers

(351) **Craig Island Reef**, marked by a lighted buoy, is a submerged rock with ¾ fathom over it, about 0.6 mile north-northeast of the fish facility at Craig. Fish Egg Reef extends from the southeast point of Fish Egg Island for about 275 yards into the channel west of Craig Island; a lighted buoy is off the outer end. A shoal, marked by a buoy at the outer end, extends about 300 yards from the northwest point of Craig Island in a north-northwest direction, obstructing the channel west of the island. Another shoal extends north about 300 yards from the northeast point of Craig Island and is marked by a daybeacon.

(352)

### Currents

(353) It is reported that the flood current sets toward the wharf and the ebb current sets off the wharf.

(354)

### Harbor regulations

(355) The **harbormaster** controls the use of the community dock, grids, and floats. The harbormaster monitors VHF-FM channel 16 and can be contacted by telephone (907-826-3275) or FAX (907-826-3278).

(356)

### Wharves

(357) All of the piers and wharves at Craig are on the north side of the island, except for the facilities in Shelter Cove and on the west side of False Island.

(358) **City Fuel Dock** (55°28'41"N., 133°09'08"W.): 100 yards east of Wards Cove Dock; 100-foot face; 20 feet reported alongside in 2002; for fueling and mooring small-craft; owned and operated by the City of Craig.

(359) **Craig City Dock** (55°28'41"N., 133°09'05"W.): about 150 yards east of Wards Cove Dock; 72-foot face; 15 feet reported alongside in 2002; receipt and shipment of conventional general cargo; receipt and shipment of seafood; owned by the State of Alaska and operated by the City of Craig and Western Pioneer.

(360) **Shaan-Seet Dock** (55°28'42"N., 133°09'02"W.): 250 yards east of Wards Cove Dock; 60-foot face; 15 feet reported alongside in 2002; receipt of seafood and mooring vessels; owned and operated by Shaan-Seet, Inc.

(361) **Craig Fisheries Dock** (55°28'52"N., 133°08'33"W.): about 0.4 mile northeast of Craig City Dock on the east side of North Cove; 60-foot face; 260-foot face each side; 23 feet reported alongside in 2002; receipt of seafood; handling supplies for fishing vessels; and icing fishing vessels; owned and operated by E.C. Phillips and Son, Inc.

(362) **J.T. Brown Industrial Wharf** (55°29'18"N., 133°08'30"W.): about 0.5 mile north of Craig Fisheries Dock on the west side of False Island; 140-foot face; 15 feet reported alongside in 2002; receipt of petroleum products and seafood; icing fishing vessels; and fueling vessels; owned and operated by the City of Craig and Harbor Enterprises.

(363)

### Supplies

(364) Water, gasoline, diesel fuel, distillates and lubricating oils and greases are available at the Fisheries Dock and the floats. The general stores in the community sell some fishing supplies and limited provisions.

(365)

### Repairs

(366) The community operates three grids: the west side of approach to South Cove Harbor, east side of approach to Craig City Dock and east side of approach to North Cove Harbor.

(367)

### Small-craft facilities

(368) The community of Craig operates the small-craft basin and floats at Shelter Cove. Water and electricity are available on the floats. A boat-launching ramp and a U.S. Forest Service float are on the west side of the basin. Craig has 200 feet of float space at the west side of the City Dock. The floats extend from the approach pier in a west direction for 50 feet, then north for 150 feet. A depth of 8 feet was reported alongside the floats west of the City Dock. Additional public float space is on the west side of North Cove, about 500 yards east of the City Dock. This 1,025-foot float had 14 feet reported alongside in 2002. About 50 ancillary moorage spaces, for commercial fisherman, are in east North Cove Harbor. The Industrial Wharf, 0.5 mile north of North Cove on the west side of False Island, has a ramp and a 160-foot float on the northeast side. A seaplane float is on the west side of the Cove west of North Cove.

(369)

### Communications

(370) Craig has weekly barge and freight service with Ketchikan and monthly barge and freight service with Seattle. A road connects Craig with Klawock, Hollis, Hydaburg and Thorne Bay Logging Camp. Klawock is about 7 miles north. The road along the shore from Craig to Klawock is visible from Klawock Inlet. Craig has daily seaplane service with Ketchikan and other settlements on Prince of Wales Island. Telephone and radiotelephone communications are maintained with other parts of Alaska and with other states.

(371) **Clam Island** is a low wooded island, about 1 mile north of Fish Egg Island. **Klawock Reef**, marked by a lighted buoy at the southwest end and an unlighted buoy at the south end, consists of four groups of rocks that extend in a southwest direction from the west end of Clam Island.

(372) A channel, about 200 yards wide, with depths of 11 to 22 fathoms, separates the reef from the shoals off Fish Egg Island. The channel is marked by lighted and unlighted buoys. A tow channel, about 0.4 mile south, has depths of 3¼ to 7 fathoms and is marked by a light, a lighted buoy and daybeacons.

(373) **Entrance Point** is a low wooded point about 0.3 mile east of Clam Island. A channel leads between Entrance Point and Clam Island into the bay southeast of the Alberto Islands. The channel is foul and unmarked and should not be entered without local knowledge.

(374) **Klawock Island** is near the head of Klawock Inlet. A 1¼-fathom spot, marked by a lighted buoy, is about 0.4 mile west from the south end of the island.

(375) **Klawock Harbor**, separates Klawock Island from the west shore of Prince of Wales Island. A large amount of freshwater discharged into Klawock Harbor from Klawock River and Klawock Lake causes severe ice conditions in the colder months of winter. The harbor is reported to freeze over at times during the winter. There are times each winter when the harbor cannot be used by small craft. At these times, outside communication with Craig is by the highway that extends between the two settlements.

(376) **Klawock** is a community on the east shore of Klawock Harbor. Two general stores, an airstrip, a sawmill and a cannery are here.

(377) **Klawock Harbor Entrance Light 2** (55°33'26"N., 133°06'14"W.) 20 feet above the water, is shown from a small house on a skeleton tower with a red triangular daymark on a concrete pier, at the northeast extremity of a reef that extends north of Klawock Island.

(378)

### Channels

(379) The approach to Klawock Harbor is rocky and narrow. Depths of 3½ to 8 fathoms can be made with local knowledge.

(380) The entrance channel, about 200 yards wide, is between Klawock Harbor Entrance Light 2 and a daybeacon, about 250 yards north of the light.

(381)

### Anchorages

(382) A small anchorage is in the bight south of the community. The south end of the anchorage has a high-water pass for canoes to Klawock Inlet.

(383)

### Dangers

(384) A reef extends south from **Peratrovich Island** into the entrance channel to Klawock Harbor. The south extremity of the reef is about 250 yards north of Klawock Harbor Entrance Light 2 and is marked by a daybeacon. A daybeacon about 175 yards southeast of the light marks the west side of a rocky shoal on the east side of the harbor entrance channel. This daybeacon should be given a berth of not less than 35 yards.

(385)

### Pilotage, Klawock

(386) Pilotage, except for certain exempted vessels, is compulsory for all vessels navigating the inside waters of the State of Alaska. (See Pilotage, Alaska, indexed as such, chapter 3 for details.)

(387) Vessels en route Klawock meet the pilot boat about 1 mile northwest of Cabras Islands, Bucareli Bay (55°22.0'N., 133°24.8'W.).

(388) The pilot boat, a tugboat, can be contacted by calling "KLAWOCK PILOT BOAT" on VHF-FM channels 16, 13 or 12.

(389)

### Towage

(390) Two tugs, 500 hp and 700 hp, are available at Klawock for assistance in docking and undocking. Arrangements for tugs should be made well in advance through ships agents.

(391)

### Quarantine, customs, immigration and agricultural quarantine

(392) (See chapter 3, Vessel Arrival Inspections, and Appendix A for addresses.)

(393) **Quarantine** is enforced in accordance with regulations of the U.S. Public Health Service. (See Public Health Service, chapter 1.)

(394)

### Wharves

(395) All piers and wharves at Klawock are on the east side of Klawock Harbor, except for the sawmill dock south of Klawock Island and the logging dock on the west side of Klawock Island.

(396) **Viking Lumber Company Wharf** (55°32'25"N., 133°06'28"W.): about 0.2 mile south from the south end of Klawock Island; 500-foot face; 900 feet of berthing space; 42 feet alongside; deck height, 22 feet; a pipeline extends from the sawmill to a chip-loading spout on the south end of the dock; two 25-ton log-handling lift

trucks, a 20-ton crane, one 10-ton and two 9-ton forklifts; electricity is available; shipment of lumber and wood chips; owned and operated by Viking Lumber Co.

(397) **Kidco Corporation Wharf** (55°33'15"N., 133°06'35"W.): on the west side of Klawock Island; 440-foot face; 440 feet of berthing space; 37 feet alongside; deck height, 19 feet; occasional shipment of logs; owned by Klawock Heenya Corporation.

(398) **Klawock Seafood Wharf** (55°33'27"N., 133°06'00"W.): about 300 yards east of Klawock Harbor Entrance Light 2; 130-foot face, north side 80 feet long, south side 50 feet long; 18 feet alongside; deck height, 20 feet; water is available; occasional receipt of seafood; handling supplies and icing for fishing vessels; owned and operated by Klawock Cooperative Association.

(399)

### Supplies

(400) Limited amounts of provisions can be obtained at Klawock. During the fishing season, the cannery has water and ice for fishing vessels. The nearest fuel facility is at Craig.

(401)

### Repairs

(402) A 68-foot grid is in the mudflats at the south side of Klawock Dock. A machine shop at the cannery can assist fishing vessels with minor repairs during the fishing season.

(403)

### Small-craft facilities

(404) The community of Klawock operates 792 feet of small-craft floats with a seaplane float at the north end of the west float, about 0.2 mile south of Klawock Dock. Electricity and water are available. Depths of 7 to 34 feet reported alongside in 2002.

(405) Klawock Cooperative Association operates 587.5 feet of small craft floats close north of Klawock Dock. Electricity and water are available. Depths of 5 to 16 feet were reported alongside in 2002.

(406)

### Communications

(407) Klawock has daily seaplane service to Ketchikan and to other communities on Prince of Wales Island and weekly freight boat service with Ketchikan. A road connects Klawock with Craig, Hollis and Thorne Bay Logging Camp. Craig is about 7 miles south. Telephone communications are maintained.

(408) The head of Klawock Inlet consists of a series of irregular flat islands broken by a great number of intricate channels. Beyond these is **Big Salt Lake**, which is separated from the inlet by an island, on both sides of which are narrow channels obstructed by ledges. These serve to dam the waters of the lake. The flow of water from the lake into the inlet at the lower stages of the tide is reversed near high water. A slack water occurs about 2 hours before and after high water at Klawock, at which time a draft of about 8 feet can be taken into the lake. The passages above Klawock are intricate and foul in places and should not be attempted without local knowledge. Guides can be obtained at Klawock.

(409)

## Port Real Marina to Point Santa Gertrudis

(410) **Port Real Marina**, the passage on the north side of Baker Island, connects Bucareli Bay with Siketi Sound and thence with the Pacific Ocean. It is about 0.7 mile wide, but its use is not recommended for any except small craft. The west entrance is constricted in the vicinity of Pigeon Island; the bottom is very irregular. The east entrance is also constricted by Rana Reef.

(411) **Rana Reef** extends from a point about 500 yards north of **Point Gorda**, the northwest point of St. Ignace Island, almost to **Arrecife Point**, the southeast point of Lulu Island. The reef has several rocky heads; the two highest are about 8 feet high. There is a channel at each end of the reef, but the one to the south is reported to be better, staying offshore of the 10 fathom contours, giving the St. Ignace Island shore a berth of 200 to 400 yards.

(412) **Lulu Island**, which forms the north shore of the passage, is less than 1 mile north of Baker Island. It is a large irregularly shaped mountainous island with summits from 418 to 1,618 feet in elevation.

(413) **Santa Rita Island** is between St. Ignace and Baker Islands and is part of a group of five low, irregularly shaped wooded islands. The elevation of Santa Rita Island is 250 feet. Rocky shores predominate.

(414) Anchorage may be had in 12 fathoms in the bight between Santa Rita Island and St. Ignace Island.

(415) **Pine Island**, on the northeast end of Port Real Marine, is opposite Santa Rita Island. The rocky shoreline covers and uncovers and is surrounded on all sides by kelp. The southeast side has strong ebb and flow tidal induced currents of 4 knots.

(416) **Coposo Island**, in midchannel near the east end of the passage and about 0.5 mile north of Santa Rita Island, is small and wooded. It shows prominently from east and west directions. Waters foul with rocks and kelp extend 300 yards west and southwest from the center of the island. A shoal, reported covered by at least 3 feet, is about 250 yards southwest from the center of Coposo Island.

(417) **Sola Rock**, marked by a daybeacon, is a pinnacle rock that uncovers 4 feet, 0.5 mile southwest of Coposo Island.

(418) **Pigeon Island**, between Baker Island and Lulu Island, off the northwest end of Baker Island, is wooded. A small wooded islet is close to its southeast shore, and a group of small rocky islets and submerged rocks are off its south shore.

(419) **Paloma Pass** is between Pigeon Island and Lulu Island. This pass has least depths of 3½ fathoms in midchannel, but the channel is winding and lined with dangers. A rock covered 1¼ fathoms, centered in the pass, is at 55°25'59"N., 133°33'23"W., along with a submerged

reef located immediately to the north; extreme caution is advised.

(420) In entering from the Pacific, pass the south end of Cone Island at a distance of about 0.5 mile and avoid the foul ground that extends off the Baker Island shore. Pigeon Island may be rounded on the northeast side through Paloma Pass or through the marked channel to the southwest of the island. In Paloma Pass, shoal water extends for about 180 yards in an east direction from the north end of Pigeon Island. Halfway from either end of the pass, rocks awash extend for 250 yards from the Lulu Island shore. At this place the channel, about 40 yards wide, favors the Pigeon Island shore. Near the south end of the pass is a 1¼-fathom spot on the west side of the channel at 55°25'49"N., 133°33'16"W.

(421) The pass to the southwest of Pigeon Island, marked by daybeacons, is a more direct route, passing between two small islets, the west one of which is in about midchannel. The pass is about 40 yards wide and has a least depth of 2½ fathoms. To the west of the west islet is a narrow channel with a 1¾ fathom shoal at the north end.

(422) Coposo Island may be passed about 200 yards to the north and about 300 yards to the south; the south passage is preferable. In approaching the island, favor the north shore of the south passage and pass between Sola Rock and the reported shoal covered 3 feet about 250 yards southwest from the center of Coposo Island.

(423) **Portillo Channel** connects Bucareli Bay at its north part with the Gulf of Esquibel. It is of irregular width, about 2.5 miles across the entrance and about 0.8 mile wide halfway between the ends. There are many islets in the channel, the south part of which is shoal; the bottom is irregular, and there are numerous kelp patches. The north half is comparatively clear. The channel may be used by small craft, but local knowledge is desirable for safe navigation.

(424) The currents in the channel flow north and south with an estimated velocity of about 2 knots.

(425) **Reef Point**, on the Lulu Island shore, is low and inconspicuous.

(426) **San Clemente Island**, about 1.5 miles from the south entrance close off the shore of San Fernando Island, is wooded and about 108 feet high. The channel to the east is shoal, and numerous rocks and reefs extend to the north.

(427) **Arboles Islet**, near Lulu Island shore about 1 mile northwest of San Clemente Island, is a small but conspicuous crag, jutting powerfully from the seafloor while being scantily populated with trees. The islet is surrounded on all sides by kelp, and submerged rocks extend 400 yards to the north-northwest of the main islet.

(428) **Snail Point**, the west extremity of **Caracol Island**, on the east shore of Portillo Channel, is 80 feet high and wooded. Prudent mariners should give Snail Point a berth of 350 yards on the west and south to avoid numerous submerged rocks and kelp.

(429) **Point Delgada**, on the Lulu Island shore about 1.5 miles from the northwest entrance, is a gravel spit, grass covered inshore and conspicuous from the east.

(430) **Abrejo Rocks** are about midway between the two points of the northwest entrance; the highest is 6 feet. **Quitasueno Rock**, 12 feet high, is about 0.4 mile east of Abrejo Rocks. A 4-fathom spot is about 0.5 mile west, and a 3-fathom spot is about 0.5 mile north of Abrejo Rocks.

(431) **Animas Island**, close to **Point Animas**, is a small wooded island 120 feet high. Foul ground extends in a north direction parallel with the San Fernando Island shore.

(432) **Point Santa Gertrudis**, the north extremity of Lulu Island, is a low wooded point at the northwest entrance to Portillo Channel.

(433)

## San Christoval Channel to Point Santa Rosalia

(434) **San Christoval Channel** is the passage leading west-northwest from San Alberto Bay to the Gulf of Esquibel. There are numerous islands, reefs and shoals with three passages between them, all of which present difficulties for vessels of any size because of the narrowness of the passages and the strength of the currents. The dangers, mostly marked by kelp in summer, are shown on the charts.

(435) **Catalina Island**, near the east end of San Christoval Channel 0.5 mile off the south shore, is small, 145 feet high and wooded. Rocks and foul ground extend almost 0.4 mile off the north and east sides of the island.

(436) **Piedras Island**, 0.6 mile north of Catalina Island, is a wooded islet, 75 feet high. A reef marked by a buoy extends 200 yards north from the island.

(437) **San Christoval Rock**, with 1 fathom over it and marked by a lighted bell buoy off its southeast side, is about midway between Piedras Island and the easternmost Hermanos Island. The rock is surrounded by a heavy bed of kelp that tows under when the current is running strong.

(438) **Cruz Islands** are a group, 1.4 miles long, level, and wooded, close to the south shore of the east end of San Christoval Channel, with deep water between them and shore.

(439) **Cruz Pass**, between Cruz Islands and San Fernando Island, affords a passage for small craft through San Christoval Channel; however, this pass is seldom used because the passage north of Rosary Island is more direct and less difficult to navigate.

(440) **Hermanos Islands**, four in number, small and wooded, are about 0.5 mile north of Piedras Island. Range daybeacons on the north islands mark the channel north of Cruz Islands.

(441) **Point Ildefonso** is the low wooded point of the island east from the Hermanos Islands. **Rosary Island**, the largest island of the group, is near the north shore of San Christoval Channel. All of the islands of the group are low and wooded.

(442) The channel on the north side of the Rosary Island group is used by small craft, which follow the general trend of the main shore at a distance of about 250 yards.

(443) **Larzatita Island**, 115 feet high and wooded, is the westernmost of the islands near the middle of San Christoval Channel; there is a good channel on either the east or west side. **Tuft Rock**, small and bare except at extreme high water, is 400 yards southeast of Larzatita Island. A rocky patch, with 3¼ fathoms over it and marked by a buoy on its east side, is about 350 yards east-southeast of Tuft Rock.

(444) **Larzatita Island Reef**, marked by kelp and awash at half tide, is 300 yards north of Larzatita Island. Its north extremity is marked by **Larzatita Island Reef Light** (55°35'02"N., 133°19'45"W.), 22 feet above the water and shown from a caisson with a red and white diamond-shaped daymark on a concrete pier.

(445) **Point Santa Lucia** is the easternmost of four points at the north extremity of San Fernando Island, west of Cruz Islands. Foul ground extends about 0.2 mile north from the point. A small open cove, with depths of 8 to 24 fathoms, is west of the point.

(446) **Palisade Island**, a low wooded island, is separated from San Fernando Island by a channel about 100 yards wide, with depths of 1½ to 2½ fathoms. Foul ground extends to the north and northwest of the island for about 400 yards. **Palisade Point**, the extremity of the small island close to and north of Palisade Island, shows prominently from west. Shoal spots are about 0.5 mile north-northwest and northeast of the point.

(447) **Point San Pasqual** and **Point Santa Rosalia** are low wooded points on the north shore of San Fernando Island. A small open cove, with depths of 14 to 20 fathoms, is between the points. The cove provides protection from south winds, has a mud bottom, and is favorable for anchoring small craft.

(448)

## Cape Chirikof to Marabilla Island

(449) Cape Bartolome, the south extremity of Baker Island, has been described earlier in this chapter. About 3 miles north-northwest from the cape is a low headland with a pinnacle rock, 50 feet high, close to the beach. There are several dangers in the vicinity, the outermost is about 500 yards offshore. The chart shows all known dangers.

(450) **Cape Chirikof**, a prominent headland with a group of rocky islets close-to, is about 4.8 miles north-northwest from Cape Bartolome. A small bay, about 1.4 miles long in a north-northeast direction and 0.5 mile wide at the entrance, is east of the cape. At the west side of the entrance are two small rocky islets. A rock that bares is 285 yards south from the south islet. The head of the bay is shoal for almost 0.3 mile. Small vessels find temporary anchorage in 6 fathoms, about 1 mile from the entrance, but the southwest swell makes in heavily.

(451) **Granite Point**, about 0.8 mile north from Cape Chirikof, is a rocky point with light-colored cliffs and ledges. From Granite Point the shore trends northeast for about 1.4 miles to a small cove. At the entrance to the cove are two rocks awash; the outer one is almost in midchannel. A 3¼-fathom spot, usually marked by kelp, is 300 yards from the east shore at the entrance. A 13-fathom channel is between this spot and the outer rock. A rock that bares 3 feet is 0.7 mile north of the entrance and about 700 yards offshore. Depths of 6 to 13 fathoms are found within the bay. Shoal water extends about 250 yards from the head of the bay.

(452) **Veta Bay**, an open bight 3 miles northeast of Granite Point, with depths of 4 to 13 fathoms, is too exposed for safe anchorage. At the head of the bay is a group of small rocks, awash at high water. Close to **Veta Point**, on the northwest shore of the bay, are two small islets off which kelp extends south for 350 yards.

(453) From Veta Point the shoreline trends in a west direction for about 1 mile, then north for 0.3 mile, forming the headland, the north extremity of which is Outer Point. **Arcada Rock**, locally known as **Arch Rock**, 130 feet high, is close to the south end of the headland. At times kelp extends about 0.6 mile southwest from the rock.

(454) **Outer Point**, about 3.5 miles north from Granite Point, is a projecting rocky point. East of Outer Point, about 0.2 mile, is a prominent knob 500 feet high, separated by a divide from high land to the east. Foul ground extends 0.6 mile north-northwest from the point. A bank of considerable area, with depths of 7½ to 14 fathoms, is 2 miles west of the point; lesser depths may exist.

(455) **Gaviota Rock**, about 40 feet high, is the largest of a group of rocky islets, about 1 mile north-northeast of Outer Point. Breakers are found 0.2 mile north of the islets. The bottom is shoal and irregular for about 0.6 mile from the islets. Foul ground is between the islets and the points to the east.

(456) **Cone Island**, 2.5 miles north of Outer Point, is on the northwest side of the Pacific entrance to Port Real Marina and on the southeast side of the entrance to St. Nicholas Channel. It has several summits; the tallest is 1,120 feet high and centrally located. The south end of the island is clear of off-lying dangers. Kelp extends for 200 to 400 yards off the northwest and east shores. From the northeast point of the island, shoal water extends in a northeast direction for 0.5 mile and is marked by a daybeacon on its northeast side. **Siketi Point** is at the southwest extremity of Cone Island.

(457) **Siketi Sound**, between Cone Island and Baker Island, is the Pacific Ocean entrance to Port Real Marina. The south part of the entrance is obstructed for about 600 yards north of the **Gaviota Islets**; the rest of the sound is clear. At the northwest end of the sound, a narrow channel leads to St. Nicholas Channel, passing close along the Lulu Island shore and avoiding extensive reefs that extend off the northeast end of Cone Island.

(458) **Noyes Island**, about 2.1 miles north-northwest of Baker Island, is mountainous with rugged steep cliffs along the west shore. **Noyes Peak**, a triple-headed peak on the north part of the island, is a very conspicuous landmark and during clear weather has been seen from 50 miles offshore.

(459) **St. Nicholas Point**, the southeast extremity of Noyes Island, is about 5.5 miles east from Cape Addington. The shoreline between the cape and the point forms a large open bight; at its head kelp extends about 0.3 mile offshore. The shoreline is fringed with rocks. From St. Nicholas Point the shoreline turns north, forming the west side of St. Nicholas Channel.

(460) **Cape Addington** is the southwest extremity of the narrow tongue of land which for 2 miles is less than 0.5 mile wide and forms the southwest end of Noyes Island. The extremity of the cape is a rocky knob, 65 feet high, cut by deep crevices. To the north of it are two timbered knobs. From offshore, the knobs appear as islets and the tops of the wooded knobs show flat from the west. The cape rises to a rocky steep ridge, with jagged, serrated skyline. This ridge and the knobs at the extremity of the cape serve as good landmarks.

(461) Two rocky islets, with rocks between, bear west-northwest from the cape. The outermost is about 0.2 mile offshore. Heavy tide rips form immediately west of these islets.

(462) **Shaft Rock**, 1.1 miles north of the cape, is conical in shape and light brown and shows prominently from the south and north. Between the cape and Shaft Rock, ledges extend offshore for about 0.3 mile. The cape should be given a berth of at least 0.8 mile when rounding.

(463) Four miles northeast of the cape, on the west coast of Noyes Island, is a small bay where small boats find anchorage in 4 to 8 fathoms, in calm weather, near the head of the bay.

(464) **Roller Bay**, 6 miles northeast of Cape Addington, is open, exposed, and not recommended as an anchorage. At the head of the bay a tongue of land extends offshore and appears as a wooded island. A small rocky islet is close to the south shore of this tongue, and two rocks awash are about 0.3 mile to the southwest. The inner part of the bay is shoal. The outer part of the bay has 5 to 17 fathoms.

(465) The head of the bay is the west end of a divide that extends across the island. From west directions, it is a conspicuous means of identifying the locality. The headland at the north entrance point of the bay rises to a prominent flat-topped mountain. At the west slope of the peak near the shore, pinnacle rocks over 100 feet high are formed by deep clefts.

(466) **St. Nicholas Channel**, connecting the Gulf of Esquibel with the Pacific Ocean, is 8 miles long in a northeast direction, 0.5 mile wide at the south end, and 2.2 miles wide at the north end. Noyes Island forms its west shore; Cone Island and Lulu Island, its east shore.

(467)

### Prominent features

(468) The grassy hill at the southwest part of Lulu Island is prominent from north directions, appearing rather sharp, covered with grass and brush, with a steep slope to the northeast and a gradual slope to the southwest. The hills to the west appear as rounding hills. The peaks at St. Nicholas Point and the peaks on Cone Island are prominent.

(469)

### Tides and currents

(470) The current floods north and ebbs south. During large tides, tidal currents are strong. Heavy tide rips sometimes occur near the entrance, extending from St. Nicholas Point to Cone Island, which appear as breakers when viewed from north. See the Tidal Current prediction service at *tidesandcurrents.noaa.gov* for specific information about times, directions, and velocities of the current at numerous locations throughout the area. Links to a user guide for this service can be found in chapter 1 of this book.

(471) **St. Nicholas Point**, at the south entrance of St. Nicholas Channel on the Noyes Island shore, is high, rising sharply. **Point Santa Theresa**, on the same shore about 1 mile from St. Nicholas Point, presents no prominent features. **Point St. Isidor**, at the west extremity of Lulu Island, is low, with a gradual rise to Isidor Hill, rounded and high. Foul ground extends 0.3 mile offshore from the point and from the shore north of it. **Twin Rocks**, 1.5 miles from Point St. Isidor, slightly to east of midchannel, show two rounded knobs, each about 6 yards in diameter. A small timbered island is about 0.7 mile east of Twin Rocks. A 1-fathom spot is 300 yards off the north end of the island.

(472) **Kelly Cove**, on the west side of St. Nicholas Channel, 0.6 mile from Point Santa Theresa, affords anchorage for small craft in 7 fathoms, rocky bottom.

(473) A fish-buying scow is usually anchored in the cove during the fishing season. This vessel sells gasoline, diesel fuel, water, provisions and fishing supplies. The scow usually has a radiotelephone.

(474) **San Francisco Island**, three high-water islands 3 miles from the north entrance and about 0.4 mile from the Lulu Island shore, is 108 feet high. The south side is a sheer rock bluff, inconspicuous because of its dark color.

(475) The bight 0.7 mile south of San Francisco Island affords anchorage for small craft in about 10 fathoms, sand and gravel bottom. The gravel beach at the head of the bight makes well offshore. Anchorage for small vessels may be had in 8 to 15 fathoms, sand and gravel bottom, in the bight 0.7 mile east of San Francisco Island; here the gravel beach at the head of the bight makes well offshore.

(476) **Point San Francisco**, on the west side of the channel about 2 miles from the north entrance, is a low sandy point, with sand and grass near the high-water line. It shows prominently and may be distinguished by its

light color. A rock awash and marked by kelp is 1 mile southwest of Point San Francisco. A 1¾-fathom shoal and rock awash, marked by kelp, are about halfway between the outer rock and the west shore.

(477) **Marabilla Island**, 0.8 mile from the north entrance and about 180 yards off Lulu Island, is wooded. Rocks, reefs and kelp extend off the south end for 0.4 mile and for a distance of 0.1 mile off the west and north shores. A 1½-fathom shoal, marked by kelp, is 0.4 mile northwest of the north end of Marabilla Island.

(478)

## Arriaga Passage to Peep Rock

(479) **Arriaga Passage**, the channel north of Noyes Island and separating it from the Maurelle Islands, is 4 miles long in an east direction and 1 to 1.8 miles wide.

(480)

### Tides and currents

(481) In general, the current floods east and ebbs west. Only at the west entrance has the tidal current any noticeable effect. Drifting kelp is frequently found in midchannel abeam the entrance to Sonora Passage.

(482) **Cape Ulitka Light** (55°33'45"N., 133°43'43"W.), 115 feet above the water and shown from a skeleton tower with a red and white diamond-shaped daymark on the north end of the cape, marks the south side of the west entrance to Arriaga Passage. The cape, locally known as **Snail Point**, is a neck of land that projects about 0.6 mile in a north direction from the northwest end of Noyes Island. A long rounded ridge and a pinnacle rock at the extremity of the cape give it an appearance, from east and west, that accounts for its local name.

(483) **Ulitka Bay**, east of Cape Ulitka, affords fair-weather anchorage for fishing boats in depths of 6 to 8 fathoms. The head of the cove should not be approached too closely as the shores are foul.

(484) The point 2.2 miles east of Cape Ulitka shows well at night from the west entrance. Rocks extend off this point for about 0.2 mile. An 11-fathom bank, usually marked by kelp, is 0.7 mile north-northwest from the point. The shoreline between this point and Cape Ulitka should be given a berth of at least 0.4 mile.

(485) **Steamboat Bay**, about 3 miles east of Cape Ulitka, is 0.8 mile wide at the entrance and 0.2 mile wide at the head. A 6-fathom spot, marked by kelp, is just within the entrance, slightly west of midchannel. Good anchorage in 18 fathoms may be had about 0.4 mile from the head of the bay. The bottom is sand with a rather hard crust, through which a heavy anchor sinks into softer and better holding ground. During heavy southeast weather the wind draws through with considerable force and may cause vessels to drag their anchors. At low water, a sand and gravel beach extends several hundred yards from the head of the bay. Small boats anchor close to the head of the bay. The bay is open to the north; during north blows it affords little protection. It is reported that the ocean swells enter the bay. At night, deep shadows are cast by the mountains and the entrance cannot always be readily distinguished. **Steamboat Point**, rounding and indefinite, is the west entrance point of the bay. A landslide has left a prominent grey scar at about the 1,000-foot level on the northwest side of Steamboat Point, showing well into Arriaga Passage and Sonora Passage.

(486) The ruins of a 285-foot wharf are on the west shore of the bay near the head. The facility is maintained by a caretaker and is scheduled to be demolished.

(487) **Point Incarnation**, 3.6 miles east of Cape Ulitka, is the east entrance point. A light marks the point, which is the north extremity of a low wooded islet. Rocks and kelp are off the point, close-to. From the point 8- to 10-fathom spots extend in a north direction for 0.8 mile.

(488) **St. Joseph Island**, at the northwest end of Arriaga Passage, has a number of high timbered knobs. The west coast is rocky and foul, and the northwest section should be given a berth of at least 1 mile. Rocks and irregular bottom extend off the north coast for about 0.7 mile. The east and south coasts are, in general, rocky shelves that drop off rapidly. A 10-fathom spot is 0.3 mile southwest from the south point of the island and a 9½-fathom rock is about 0.4 mile southeast from the southeast point of the island.

(489) **San Lorenzo Islands**, at the northeast end of Arriaga Passage, consists of two timbered islands separated by a narrow channel. This channel is locally known as **Hole in the Wall**.

(490) A midchannel course through the very narrow southeast entrance is safe, but, when inside, the northeast side of the channel should be favored when passing the vertical bluff on that side. A submerged rock that covers 5 feet is about 150 feet off the west shore, opposite the vertical bluff. A depth of 3 fathoms can be carried past the rock on its northeast side.

(491) **Sonora Passage**, between St. Joseph Island and the San Lorenzo Islands, connects Iphigenia Bay with Arriaga Passage. It is about 1.7 miles wide but has a very irregular bottom. Sonora Passage affords the only ship channel among the islands. The chart shows the known dangers. Vessels using this passage should follow a midchannel course, but the use of Arriaga Passage is considered preferable. The channels between the islands that are used by small boats are numerous but have many dangers, mostly indicated by kelp.

(492) The **Gulf of Esquibel** is 8 miles long from Noyes Island to Tonowek Bay and 6 miles wide from San Fernando Island to the Maurelle Islands. It is clear of islands and is connected to the sea by several passages. The navigation of the Gulf of Esquibel presents no difficulty. The waters are generally deep except near the shores. The known dangers are shown on the chart; the principal one, Curacao Reef, is marked by a buoy. Small craft with local knowledge pass inside all the islands of the St. Philip and Culebra groups. A rock awash and a submerged rock are about 300 yards southeast and east-southeast, respectively, of the 130-foot island off the southeast end of St. Philip Island.

(493) The **Hermagos Islands**, on the southeast side of the Gulf of Esquibel, are a group of low wooded islands north of Garcia Cove about 0.3 miles offshore from San Fernando Island. A small island, with a prominent evergreen on its north side, is halfway between the group and San Fernando Island. Either side of this island has a small-boat channel.

(494) **Point Garcia** and **Point Aguirre** are low, wooded points on the northwest end of San Fernando Island. Foul ground extends offshore for 0.5 mile in a northwest direction.

(495) **Garcia Cove** is a small inlet at the northwest end of San Fernando Island and 0.4 mile east of Point Garcia. In 1983, a rock that bares at low water was reported in the approach to Garcia Cove in about 55°33'52"N., 133°25'47"W. A group of small islets extends south from the east side of the entrance to the cove. A rock that uncovers 7 feet is on the west side of the cove at the entrance. In 1983, a large rock was reported in the center of the cove in about 55°33'28"N., 133°25'41"W. A 9-foot-high rock is just south of the large rock. An islet was reported on the southwest side of the cove in about 55°33'22"N., 133°25'54"W. Anchorage with restricted swinging room may be found in 9 fathoms, mud bottom about 150 yards south of the 9-foot rock in the center of the cove.

(496) **Aguirre Bay** is an open bight south of Point Aguirre. Rocks awash extend part way across the entrance.

(497) **Blanquizal Islands**, **St. Philip Island** and **Culebra Islands** are in the east part of the Gulf of Esquibel close to the Prince of Wales Island shore, distant 3, 4.5 and 6 miles, respectively, northwest of Larzatita Island Reef Light. They are comparatively low and heavily wooded. At the southeast end of St. Philip Island is an old Native American village, known locally as **Bobs Place**. Fair anchorage for moderate-sized vessels can be had in midchannel off the village.

(498) A rock awash, marked by kelp, is 0.5 mile off St. Philip Island at a point 1.4 miles 311° from the west point of Blanquizal Islands.

(499) **Curacao Reef** is 0.8 mile west of the south end of Culebra Islands, with deep water between. The reef has a least depth of ½ fathom and is small in extent and marked by a buoy off its southwest extremity.

(500) The **Maurelle Islands** are a group of islands, rocks, reefs and breakers forming the west side of the Gulf of Esquibel, covering an area about 12.5 miles long in a north-northwest direction and about 9 miles wide.

(501) **Currents** appear to be entirely tidal; the strongest are reported around Timbered Island and the north end of St. Joseph Island but do not exceed 2 knots. Between Timbered Island and the Wood Islands and to the southeast, also to the north of St. Joseph Island, currents run northeast in flood and southwest in ebb; between Emerald Island and Feather Rock, the current runs east on flood and west on ebb. Southwest of Emerald Island and Gull Island, flood sets southeast and ebb northwest. In the vicinity of Lambda Rock, south of Twin Islands, the flood runs east and the ebb, west. In the area between this rock and the San Lorenzo channels, little, if any, current was observed. In the small passage east of Wood Islands, the flood runs north and the ebb south.

(502)

### Caution

(503) Without local knowledge, navigation among these islands, except in small craft, is dangerous.

(504) **Anguilla Island**, one of the largest of the group, is timbered and rises to an elevation of 630 feet. From offshore the summit may be recognized, appearing rather sharp; its skyline to the west and southeast appears lower and somewhat flat. **Anguilla Bay**, on the south side of the island, is foul at its head.

(505) **Esquibel Island**, **Turtle Island**, **Sonora Island**, **Twin Islands** (**Princesa Island** and **Favorita Island**) and the unnamed islands are generally wooded and have no characteristics of marked interest to the navigator. The largest and highest of the **Wood Islands** is wooded and rises conically to a height of 280 feet; it is somewhat prominent from offshore. An anchorage for small craft is in the west side of **Nagasay Cove**, on the north side of Esquibel Island, in 4 fathoms, mud bottom.

(506) **Timbered Island**, very prominent from offshore, the westernmost of the Maurelle group, is 198 feet high and wooded. The shores are brown sheer cliffs and ravines. Many rocks are close by. Tide rips are north and south of the island. A barren, gray island, slightly smaller, is just south of Timbered Island.

(507) From Timbered Island to the Wood Islands is a line of rocks and breakers that show in a moderate swell. In heavy weather, breakers may be seen for about 800 yards around the rock 0.8 mile 205° from the center of Emerald Island (55°44.0'N., 133°40.7'W.). The body of water between the two groups of rocks that are about 0.8 mile northwest and about 0.6 mile west from the west shore of Little Dome Islet (55°41.5'N., 133°37.9'W.) breaks in heavy weather.

(508) About 550 yards south of Feather Rock, 1.8 miles west of Little Dome Islet, is a small area, marked by kelp, that is dangerous in heavy weather.

(509) About 0.5 mile west of the Wood Island group is an extensive area of rocks and breakers that are marked by kelp. Near the south end of this patch is a low, bare, round-topped rock.

(510) Tide rips, heavy for small craft, were observed in the vicinity of Timbered Island, the north end of St. Joseph Island and Feather Rock.

(511) **Launch Passage**, between Anguilla Island and Esquibel Island, is frequently used. In making passage from the Gulf of Esquibel, keep south of the rocks awash at half tide and the submerged rocks just inside the entrance. When abeam the inner rock, change course to pass close to and just south of the two islands in midchannel. Keep close to the islands. From here the channel is clear to the anchorage in Nagasay Cove, on the north side of Esquibel

Island; the chart is the best guide for mariners without local knowledge.

(512) Northwest of the anchorage in Nagasay Cove are numerous islands. The channel between these and the Anguilla Island shore is used. In passing north, favor the islands, passing west of two rocks in midchannel. When past these rocks, favor the Anguilla Island shore. Near the north end of the channel are shoal spots. There is a rock awash 250 yards west of the northwest island. The two islands off the southwest shore of Anguilla Island should be given a berth of at least 0.2 mile. Deep water was found on all sides of the rock awash, 0.3 mile northwest of the north end of Turtle Island.

(513) There is a launch channel north of the San Lorenzo Islands, just south of **Escurial Island**.

(514) **Tonowek Bay** extends northeast for about 6 miles from the Gulf of Esquibel to Tonowek Narrows and borders the southeast side of Heceta Island. **Kabanof Rock**, awash, is near midchannel about 0.9 mile south-southwest of the 1,085-foot hill on Heceta Island. Approximately 0.4 mile southwest of Kabanof Rock, there is an 8¾-fathom shoal in about 55°43'40"N., 133°25'44"W.

(515) **Warm Chuck Inlet** on the northwest side of Tonowek Bay, has considerable foul ground, as indicated on the chart. A rock, with ½ fathom over it, is in midchannel, 0.5 mile east of a well-defined point on the southwest shore. About 0.7 mile north of this point is a group of wooded islets. Rocks that uncover 7 feet are 150 yards south of the group.

(516) **Salt Lake Bay**, on the southeast side of Tonowek Bay, is about 2 miles northeast of the Culebra Island Group. The entrance is choked by a group of wooded islands. Two channels are used, one north of the group with a depth of 1½ fathoms, the other south of the group with a depth of 2½ fathoms. The northeast and southwest ends of the bay are shoal; depths of 7 to 15 fathoms are found in the center. A number of freshwater streams, emptying into the bay, attract salmon in considerable numbers.

(517) **Harmony Islands**, on the east side of Tonowek Bay, are a group of high, wooded islands. There are channels between the islands of this group, but they are made difficult by numerous dangers. Rocks that cover are off the south and west points of the group.

(518) The channel east of the Harmony Islands and east of the islands to the south, off the entrance to Salt Lake Bay, is used extensively by small craft plying between San Christoval Channel and Tonowek Narrows. The midchannel is safe and partially protected. It is a continuation of the small-craft channel east of Blanquizal Island, St. Philip Island and Culebra Islands.

(519) **Nossuk Bay**, in the northeast part of Tonowek Bay 1.5 miles south of Tonowek Narrows, is largely filled with islands and shoals. **Nossuk Anchorage**, in the north part of the bay, 0.7 mile south of Tonowek Narrows, affords excellent anchorage in 10 fathoms, soft bottom. The north entrance is narrow; the chart shows the least depths.

(520) **Bocas de Finas** is the passage leading from the junction of the Gulf of Esquibel with Tonowek Bay to Iphigenia Bay and the Pacific Ocean. It is between Anguilla, Tonina, Bushtop and Twocrack Islands, which are the northeasternmost of the Maurelle group, and the southwest coast of Heceta Island.

(521)

### Currents

(522) Between Emerald Island and Dead Tree Point, the estimated velocity of the current is about 2 knots.

(523) The Heceta Island shore, on the northeast side of the passage, is steep with no outlying dangers. The southwest side of the passage is foul for about 0.3 mile off the Anguilla Island shore and should be avoided. The least width about 0.7 mile between Twocrack Island and Heceta Island is at the northwest end of the passage.

(524) **Heceta Island** shows up prominently from the west. The south end is rocky, rugged and mountainous, and the west shore is formed by light-colored cliffs; the north part of the island is lower and more heavily timbered. **Bald Mountain** has several bare summits and is a prominent landmark near the south end of the island. **Timber Knob**, centrally located on the south part of the island, and lower than Bald Mountain, is timbered and has moderate slopes; from a considerable distance offshore to the west, it may be recognized over the coast ridges. **Cone Peak** shows from the west over long, wooded ridges as a low wooded cone. The 1,050-foot peak to the north shows prominently from offshore.

(525) **Point Desconocida** (55°41.7'N., 133°31.7'W.), the south point of Heceta Island, marks the north side of the east entrance to Bocas de Finas. **Desconocida Reef**, an area of broken ground, boulders, and submerged rocks, extends 700 yards south-southeast of the point. A rock, barely covered at low water at the outer end of the reef, is marked by a buoy on its southeast side.

(526) There is a secure anchorage in the west bight on the north side of Anguilla Island, about 0.5 mile south of Bushtop Island. When entering, pass about 200 yards east of Bushtop Island and stand in on a south course. Anchor in 11 to 15 fathoms, soft bottom. Kelp and broken ground are on the west side of the anchorage.

(527) **Tonina Island** is about 300 yards north of the west end of Anguilla Island, with islets and rocks between. **Twocrack Island**, on the south side of Bocas de Finas, is wooded and has two prominent crevices that can be seen only from the north and south. The island shows up dark against Heceta Island.

(528) **Bushtop Island**, about 0.8 mile southeast of Twocrack Island, is 45 feet high and conspicuous from Bocas de Finas; 200 yards east of it is a small bare rock with a rock awash close west.

(529) **Dome Islets** are two small wooded islands close together, about 0.6 mile southwest from the south end of Twocrack Island. **Feather Rock**, 5 feet high, is about 2.4 miles west from Twocrack Island.

(530) From Bocas de Finas to Cape Lynch the coast is rugged, with numerous outlying islets and reefs, most of which show above water. The main passage follows the general trend of the shoreline at a distance of 0.2 to 0.5 mile. The southwest side of the passage is fringed by an area of broken ground, reefs and islets that extend about 3.6 miles northwest from Emerald Island to Losa Island. This section of the passage is exposed to the swell from seaward, and during and after gales, vessels traversing it are subjected to a disagreeable beam sea that breaks furiously over the rocks on both sides of the passage. Too much reliance should not be placed on the position of the buoys, especially after severe storms.

(531) **White Cliff** (55°43.9'N., 133°38.6'W.), on the Heceta Island shore, is a precipitous wooded point with white cliffs 100 feet high. About 0.8 mile southeast of White Cliff is a conspicuous landslide that extends down to the water from near the summit of the ridge. A lighted bell buoy, 0.6 mile west of White Cliff, marks the outer limit of dangers on the east side of the passage.

(532) **Emerald Island**, about 1.2 miles west of White Cliff, is 45 feet high and flat, has several clumps of stunted spruce, and shows up green. The southeast side has a very small sand beach. The ground in the vicinity of this island is foul. A buoy, about 0.6 mile north-northeast of Emerald Island, marks the outer limit of dangers on the southwest side of the passage.

(533) **Dead Tree Point**, about 1.2 miles north-northwest of White Cliff, juts out from the higher land of Heceta Island and is low and wooded with bare cliffs at the water. **Raso Rock**, a large bare rock 20 feet high, is 0.6 mile west-southwest of Dead Tree Point. A rock, 6 feet high, is about 0.7 mile northwest of Raso Rock.

(534) **Gull Island** is about 2.3 miles west-northwest of Emerald Island. The island, 87 feet high, is light colored, grass covered at the top, and somewhat flat and has rather steep shores. Rocky islets and foul ground extend in a north direction for about 1.3 miles. The ground is foul to the east-southeast for about 0.4 mile. A rock that bares is 0.9 mile west-southwest from Gull Island.

(535) **Losa Island**, about 2 miles west-southwest of Cape Lynch and 1.5 miles northwest of Gull Island, is only 5 feet high and is the westernmost of the chain of islands and reefs south and southwest of Heceta Island. Foul ground extends for 0.2 mile northwest of Losa Island.

(536) **Cape Lynch Light** (55°46'52"N., 133°42'06"W.), 50 feet above the water and shown from a spindle with a red and white diamond-shaped daymark on an islet off the southwest end of Cape Lynch, marks the west end of Heceta Island. The light also marks the northwest approach to Boca de Finas, the approach to Davidson Inlet, and the east side of the entrance to Sumner Strait.

(537) A kelp-marked ledge, with 1½ to 4¼ fathoms over it and a 2¾-fathom spot at its outer end, extends 0.7 mile northwest of the cape.

(538) **Cone Bay**, northeast of Cape Lynch, is open and exposed to the west. The bottom is irregular, and kelp extends well into the bay along the south shore.

(539) **Tonowek Narrows** (55°45.5'N., 133°20.1'W.), locally known as **Little Skookum Chuck**, connects Tonowek Bay and Karheen Passage. It has a least width of 100 yards between the 10-fathom curves.

(540)

### Currents

(541) The currents in Tonowek Narrows set northeast on the flood and southwest on the ebb. The velocity of the current is 3.0 knots. (See the Tidal Current Tables for daily predictions.) Tide rips have been reported, but they are seldom dangerous even to small boats.

(542) **Karheen Passage** extends from Tonowek Narrows to Sea Otter Sound. The southeast part of the passage is characterized by islets, ledges and generally broken ground, surrounded by comparatively deep water. Much of the area is filled with kelp. The channel is marked by a daybeacon, buoys and an unlighted range as far as Karheen Cove and is used by vessels with a draft of about 17 feet.

(543)

### Currents

(544) Currents in Karheen Passage set northwest on the flood and southeast on the ebb. The velocity of the current is 0.4 to 0.5 knot.

(545) **Point Swift** is on the east side at the northeast end of Tonowek Narrows. Two totem poles and a gravesite can be seen on an island about 0.4 mile west of Point Swift, on the west side of Tonowek Narrows. **Point Swift Rock** uncovers 5 feet and is 0.3 mile north-northeast of Point Swift. A buoy is about 0.3 mile north-northeast of the rock and marks the north end of the shoal area that extends from the rock. A daybeacon is on a small islet 16 feet high, on the west side of the channel, about 0.6 mile north from Point Swift.

(546) **Ham Islands**, a group of wooded islets, are about 1.8 miles northeast of Tonowek Narrows and extend about 1 mile in a south-southeast direction from the east end of Heceta Island. Reefs and broken ground extend east, south and southwest of the islands. A buoy about 1.1 miles northeast of Point Swift marks a submerged rock about 0.3 mile south of the southernmost of the three larger central islands of the group. Another buoy is on the west side of a submerged rock marked by kelp, about 1 mile northwest of Kauda Point, the south extremity of Tuxekan Island.

(547) **Trim Island** is about 0.5 mile northeast of the larger Ham Island, close to the Tuxekan Island shore. **Cob Island** is about 0.3 mile northwest of Trim Island and 1 mile south-southeast of Karheen Cove. Reefs extend about 200 yards southeast, south and west of Cob Island. A daybeacon marks the reef on the west side of the island.

(548) **Chapin Island**, small and wooded, is on the west side of Karheen Passage west of Cob Islet. An unlighted range of two daybeacons on the north end of the island, in line **306°**, marks the center of the channel north of Ham Islands and south of Trim Island and Cob Island. Local fishing craft prefer the shortcut known as **Canoe Pass**,

which extends southwest from Chapin Island between Heceta and Ham Islands. Strangers and larger vessels should use the longer route through Karheen Passage.

(549) For 1.5 miles northwest from Cob Island, Karheen Passage has an average width of about 0.5 mile. The depths are generally good except for an extensive kelp-marked ledge, with a least depth of 1¾ fathoms over it, in midchannel west of Karheen Cove. During summer, streamers of kelp are visible along the west half of the passage, just north of Chapin Island, in 3 to 5 fathoms.

(550) **Karheen Cove** is a small indentation on the northeast side of Karheen Passage at its northwest end. A bare rock is off the south point at the entrance. A buoy marks the outer end of the ledge that extends about 400 yards southwest from the south point.

(551) **Peep Rock**, a conspicuous rock, marked by a light, is about 0.7 mile northwest of Karheen Cove. Shoal areas, marked by kelp, extend for about 700 yards west and about 500 yards northwest of the rock. The channel east and north of the rock is clear and is generally used in preference to the channel south, where there are unmarked dangers.

(552)

## Tuxekan Passage

(553) **Tuxekan Passage** has its south entrance on the southeast side of Karheen Passage and extends north along the east side of **Tuxekan Island** for about 10 miles to El Capitan Passage. The shores are heavily wooded throughout its length and are indented with numerous bights, coves and bays that provide anchorage in any desired depth. The width varies from a maximum of about 2 miles north of Staney Island to about 225 yards in **Tuxekan Narrows**. This passage is preferred to Karheen Passage by some operators enroute between Tonowek Bay and El Capitan Passage.

(554)

### Currents

(555) The currents in Tuxekan Passage set generally north on the flood and south on the ebb. The velocity of the current is weak, being less than 1 knot. (See the Tidal Current Tables for daily predictions.)

(556)

## Kauda Point to Nundei Cove

(557) **Kauda Point** (55°46.4'N., 133°15.5'W.), at the south tip of Tuxekan Island and on the west side of Tuxekan Passage, is a small islet at high water and is conspicuous from the southwest and northeast.

(558) **Kaguk Cove**, at the south end of Tuxekan Passage, about 2 miles southwest of Kauda Point, affords a well-protected anchorage in depths of 4 to 8 fathoms, with a gentle sloping bottom.

(559) The **Dasani Islands** are in the south entrance to Tuxekan Passage midway between Kauda Point and the entrance to Kaguk Cove. The islands are wooded and have boulder-strewn beaches. An extensive kelp patch usually extends northeast from the north island. Other kelp patches, over rocks awash, are east of these islands.

(560) **Gaohi Islands**, across the passage from Kauda Point, form the southwest shore of Winter Harbor, where good small-boat anchorage is available in depths of 2 to 10 fathoms. They are difficult to identify when approaching from the west.

(561) **Yahku Cove**, on the west side of Tuxekan Passage 1.5 miles north-northeast of Kauda Point, and **Nundei Cove** on the east side of the passage opposite Yahku Cove are not recommended for small-boat anchorages. Nundei Cove is deep and exposed to the north. A rocky reef that is uncovered at high water constricts the entrance to Yahku Cove.

(562)

## Stanley Island to White Cliff Passage

(563) **Staney Island**, about 3.5 miles northeast of Kauda Point (55°46.4'N., 133°15.5'W.), is the largest and most northwest of a chain of wooded islands that extend into Tuxekan Passage from the east shore. The passage to the west and southwest of Staney Island is clear, but from other directions it should be approached with caution. A 1¾-fathom rock and a 1½-fathom rock are 0.8 mile and 0.5 mile north, respectively, of the island. Northeast from Staney Island the waters are generally foul with a number of submerged rocks and rocks that uncover 1 to 7 feet.

(564) **Naukati Bay** is the largest indentation in the east shore of Tuxekan Passage. Its entrance, about 2 miles north of Staney Island, is constricted by rocks and kelp, and the entire area has numerous islets, reefs and rocks. In the narrow winding channel, 3 fathoms can be carried well in toward the head of the bay.

(565) **Klinau Island**, on the west side of the entrance to Naukati Bay, should be given a wide berth. A rock that uncovers 5 feet is about 0.3 mile south-southwest of the island, and the waters around it from east through south to west are foul.

(566) **Nichin Cove** on the west side of the passage, about 1.3 miles west-southwest of Klinau Island, affords good small-craft anchorage. Larger vessels will find unprotected anchorage in 6 to 8 fathoms, mud bottom, off the entrance to the cove. A ramp and float, with a 60-foot face, are on the west side of the cove near the entrance.

(567) **Little Naukati Bay**, on the east side of Tuxekan Narrows and about 6.5 miles north of Kauda Point, is not recommended as a small-boat anchorage. At low water its entrance is almost closed by rocks and reefs. The best water into it is the north channel. The narrows northwest of Little Naukati Bay is relatively clear and deep.

(568) **Village Rock**, about 0.5 mile northwest of the north end of Tuxekan Narrows, is awash at high water and is marked by a daybeacon. The safest and recommended route for northbound transit vessels is south and west of Village Rock. Mariners transiting the waterway about 100 yards east of Village Rock should use care; detached

rocks and shallow water extend about 0.2 mile off Kinani Point.

(569) **Jinhi Bay** extends southwest from Village Rock. This bay shoals gradually to mud flats that bare in its southwest extremities. It is studded with small islets and numerous rocks that bare at various stages of tide. Only those with local knowledge should attempt to enter this bay.

(570) **Elghi Island**, near the north extremity of Jinhi Bay, is one of the more prominent features of Tuxekan Passage. The waters to the west are foul, and a large rock that uncovers 4 feet is about 0.1 mile east of its north tip.

(571) **Aikens Rock**, 3 feet high and marked by a daybeacon, is about 400 yards east of the north end of Elghi Island. **Kassan Islands**, about 1.4 miles north of Elghi Island, separate Tuxekan Passage from El Capitan Passage. These islands are heavily wooded and separated only by a narrow channel that runs dry at half tide.

(572) **Kahli Cove**, between Kassan Islands and Prince of Wales Island, provides suitable anchorage for small craft. The southwest entrance is constricted by rocks and reefs, but a narrow winding channel is open. The northwest entrance is less winding and has fewer rocks.

(573) **Davidson Inlet** is the west part of a large expanse of water, northeast of Iphigenia Bay, between Heceta Island and Kosciusko Island. The east part, Sea Otter Sound, is separated from it by a chain of islands that extend southwest from Marble Island and Orr Island. The shores and islands in the inlet and sound are wooded and generally high. The entrance to El Capitan Passage is at the northeast end of Sea Otter Sound.

(574) The entrance to Davidson Inlet is 2 miles wide between Whale Head and Surf Point, the northwest extremity of Heceta Island. **Surf Point Light** (55°50'01"N., 133°38'00"W.), 29 feet above the water and shown from a monopile with a red and white diamond-shaped daymark on the point, marks the southeast side of the entrance. **Surf Point** is low and wooded. From it broken ground extends about 0.7 mile north, with a 1¼-fathom shoal 0.3 mile northeast of the light. During severe weather the seas are reported to pile up heavily and it is advisable to give the point a berth of at least 1 mile.

(575) **Whale Head** (55°51.1'N., 133°40.9'W.), a prominent cliff 50 to 300 feet high that shows up conspicuously offshore to the southwest, marks the northwest side of the entrance. It is the south extremity of **Whale Head Island**.

(576) Broken ground extends 0.6 mile south of Whale Head, with a 1½-fathom shoal that breaks about 0.5 mile, and a 3¾-fathom patch, marked by kelp, about 0.6 mile south-southeast of the head. **Whale Rock** uncovers 3 feet and is 0.5 mile south-southwest of the head. A midchannel course through the entrance clears all dangers.

(577) North of Whale Head Island is a chain of islands that extend to the south end of Kosciusko Island. The passes between these islands are suitable for small craft only.

(578) **Fake Pass**, the southernmost of the two larger channels north of Whale Head Island, has a minimum depth of 4 feet. A rock awash is near the center of the southwest entrance. The seas pile up heavily on this rock and in the pass during moderate to severe southwest weather. **Cosmos Pass**, the northernmost channel, has a controlling depth of about 5 feet and current of not more than 3 knots and is used by small boats bound to and from Warren Channel. Breakers cover the west entrance to Cosmos Pass in heavy southwest weather. A rock awash is near midchannel.

(579) **Port Alice**, on the south side of Davidson Inlet east of Surf Point, is a secure anchorage. A ledge, about 0.4 mile inside the entrance, extends about 0.5 mile from the east shore into the bay; two rocks that uncover 8 and 5 feet are near its center. To enter, give the points at the entrance a berth of about 0.5 mile and enter in midchannel. Follow the west shore at a distance of about 250 yards, passing west of the ledge until about 0.5 mile from the head of the port, where good anchorage will be found in the middle in 14 to 18 fathoms, soft bottom. Water can be obtained by boats from several small streams.

(580) **Green Island**, 4.2 miles northeast of Whale Head, is about 0.5 mile in diameter. A shoal with a depth of 2¼ fathoms near its center extends about 0.7 mile south-southwest from the small island southeast of Green Island. The 2¼-fathom spot and a 3½-fathom patch about 300 yards to the southwest are surrounded by kelp.

(581) **White Cliff Island** is on the east side of Davidson Inlet about 4.2 miles east of Green Island. A rock, with 1¼ fathom over it, is about 1.4 miles west of the island, and a 3½-fathom shoal, marked by kelp, is about 1.9 miles west-northwest from the northwest extremity of the island. Davidson Inlet and Sea Otter Sound have numerous other unmarked isolated dangers and shoals. They are shown on the chart and, with close attention, can be avoided.

(582) **Edna Bay** is on the west side of Davidson Inlet, 5.5 miles north of Whale Head. It has good anchorage about 0.3 mile from the south shore in 14 to 17 fathoms, soft bottom. Islets and foul ground make out 0.5 mile from the west end of the bay; foul ground makes off in the north part of the bay, about 750 yards from the west shore and about 500 yards south from an islet.

(583) In 1986, an uncharted reef, covered 5 feet, was reported about 50 feet southwest of the face of a T-float at the north end of Edna Bay.

(584) **Limestone Point**, the north entrance point to the bay, is marked by **Edna Bay Entrance Light** (55°56'19"N., 133°36'58"W.), 23 feet above the water and shown from a skeleton tower with a red and white diamond-shaped daymark on the end of the point.

(585) **Entrance Island** forms the southwest side of the entrance to the bay. A narrow channel, west of the island, has a controlling depth of 3 fathoms but should be used only by those with local knowledge. Kelp-marked reefs extend 300 yards south of the island. A shoal, with depths of 3½ fathoms near its south end and 7¾ fathoms at the north end, extends 0.2 mile north of the island and about halfway across the entrance. At about midchannel 18 fathoms are found. A 9-fathom spot is just inside the

entrance about 0.3 mile west of Edna Bay Entrance Light. Near the center of the bay are two unmarked shoals with depths of 6 and 8 fathoms. The chart is adequate for the entrance east of the island.

(586) A rock, covered 9 feet and marked by a buoy, is at the southeast end of the extensive shoal area making out from the west side of the bay. About 300 yards southeast of this shoal is an unmarked 8-foot shoal.

(587) **Edna Bay Light 3** (55°56'28"N., 133°39'30"W.), 20 feet above the water and shown from a small house with a green square daymark on the west escarpment of the bay, is the guide for a channel between these shoals, leading northwest to an inner bay. The 10- and 14-foot shoals are near midchannel about 275 and 375 yards, respectively, north of the light. Strangers should not attempt this channel without first obtaining local information.

(588) Small boats will find excellent shelter in the extreme southwest part of the bay from winds from the southeast through south to west, in depths of 3 to 12 fathoms, with good holding ground, sticky mud.

(589) **Van Sant Cove** is a small open bight on the west side of Davidson Inlet, about 4 miles northeast of Edna Bay. A reef is off the south point of the entrance.

(590) **Tokeen Cove**, opposite Van Sant Cove, is on the northwest end of Marble Island. Anchorage can be had west of the ruins of a wharf, on the east side of the cove, in 14 to 18 fathoms. Small craft can find anchorage in 4 to 8 fathoms, soft bottom. The cove is shoal south of the wharf site. A rock that uncovers 6 feet is 300 yards west from the northeast point of the cove.

(591) **Tokeen Bay**, on the east side of Davidson Inlet, about 12 miles northeast of Whale Head, extends east-northeast for about 4 miles. Its east side is connected with El Capitan Passage by a high-water boat passage. A shoal, with about 1½ fathoms over it, is in the middle of the bay, about 2.4 miles east of the north point at the entrance. Elsewhere in the bay a midchannel course is clear, but there are rocks near the shores and care is required in its navigation.

(592) Anchorage can be found in the middle of Tokeen Bay, about 0.5 mile east from the north point at the entrance in 14 to 16 fathoms; also at the north end, northeast side, and southeast end of the bay. There are several sheltered anchorages for small craft, one of which is at the head of the bay behind the small islet in 4 fathoms, mud bottom. The area east of the small wooded islands in the southeast part of the bay also offers good anchorage in 4 to 10 fathoms, mud bottom.

(593) **Marble Passage** extends northeast from the northeast part of Davidson Inlet between **Marble Island** and **Orr Island**. The approaches to the channel at each end are obstructed by rocks and ledges, and about midway between the ends the channel shoals to depths of about 2 feet. Numerous rocks both submerged and awash are throughout the passage. The tides meet in the north part of this passage.

(594) **Sea Otter Sound** extends west from Karheen Passage and Tuxekan Island along the north side of Heceta Island to Davidson Inlet. Its northwest shore is formed by numerous islands, large and small. The sound is about 6 miles in extent, with depths of 15 to 75 fathoms, irregular bottom. The sound has few desirable anchorages. With the assistance of the chart, depths suitable for anchorage can be found on its east side, but care is required because of submerged rocks that are generally marked by kelp during summer.

(595) **Turn Point** (55°50.8'N., 133°21.5'W.), low and wooded, is on the east shore of the sound and forms the north point at the northwest entrance to Karheen Passage. The cove east of Turn Point has considerable foul ground.

(596) About 1.7 miles south of Turn Point are a group of wooded islands that form the south shore of the northwest entrance of Karheen Passage. Shoals, marked by kelp, extend for about 0.5 mile north of the west islands of this group. Good anchorage for small vessels can be found back of the islets and shoals about 1.2 miles west-southwest of the light on Peep Rock (55°49.2'N., 133°19.8'W.). By running on a northwest course, keeping Clump Island on range with the gap between the two largest islands in this group, the mariner will find suitable depth in less than 20 fathoms.

(597) The cove on the north end of Heceta Island, just west of Camp Island and about 5 miles southwest of Turn Point, is shoal in its east part. Protected anchorage for small craft can be found in the westernmost of two bights at the head of the cove, with restricted swinging room.

(598) **Gas Rock** is the bare islet about 0.6 mile from Heceta Island and 4 miles east of Whale Head. **Clump Island**, 2.8 miles east-northeast of Gas Rock, is the outer one of a group 1.3 miles south of Eagle Island, with foul ground between. A shoal with depths of 4¾ to 6½ fathoms is about 0.9 mile south-southwest of Clump Island.

(599) **White Cliff Island** is about 0.9 mile north of **Eagle Island**. It is wooded and has a prominent white cliff on the southwest side, **Fox Rock** is about 0.4 mile west of the Eagle Island group. **Dove Island**, **Owl Island**, **Hoot Island** and **Cap Island** are some of the small wooded islands in the north part of Sea Otter Sound. The passages between Owl Island, Hoot Island, and Orr Island should be used only with local knowledge.

(600) **Cyrus Cove**, North of Owl Island, is a small bight in the north part of the sound and is an excellent anchorage for small boats. The best anchorage, in depths of 5 to 11 fathoms, good holding ground, mud bottom, is in the center of the north part where the cove branches to east. Five fathoms can be carried through midchannel to this anchorage. Smaller vessels may anchor in shoaler water in midchannel in the east arm of the cove.

(601) The channel close east of White Cliff Island is known as **White Cliff Passage**. A rock, with 9 feet over it, is in midchannel about 0.35 mile southeast of the southeast end of White Cliff Island.

(602)

## El Capitan Passage

(603) **El Capitan Passage** has its entrance on the northeast side of Sea Otter Sound. It extends about 18 miles in a north direction from Sea Otter Sound to Aneskett Point, then trends west for about 6.5 miles to Shakan Strait. The south part of the passage is 1 to 4 miles wide, forming a bay about 7 miles long with numerous rocks and islets. To the north of this section the passage is 0.3 to 1 mile wide and is comparatively clear to Aneskett Point. The shoreline should not be approached too closely, as numerous rocks, awash at various stages of the tide, are close-to. From a point about 3.5 miles west of Aneskett Point to Shakan Strait a 12-foot channel has been dredged through the shoals to provide a protected route for fishing vessels and log rafts.

(604) Numerous bights and inlets indent the shores of the passage. The islands in the passage are heavily wooded without any marked characteristics of interest to the navigator.

(605)

### Channels

(606) Local knowledge is desirable for safe navigation through the channels in El Capitan Passage. This applies in particular to the section between Aneskett Point and Shakan Strait, including **Dry Pass**. From north of Tenass Island to Aneskett Point, midchannel courses hold good; from Sea Otter Sound to Tenass Island, various courses among the islands may be followed. The charts are the guide to safe navigation. The channel above Aneskett Point favors the south shore until about 1.8 miles west of the point, where it takes a turn to the south-southwest and narrows. Here a small wooded islet in the midchannel should be left to the west. Then for about 1.5 miles a midchannel course should be followed to the east end of a federal project about 2.8 miles long that provides for a 12-foot channel dredged through seven shoals, including Dry Pass, to the west entrance of El Capitan Passage at Shakan Strait. Daybeacons mark the dredged sections of the channel.

(607)

### Anchorages

(608) All of El Capitan Passage is protected, and large vessels can anchor wherever the depths are suitable; the chart is the best guide. Small craft can usually find anchorage in the bights and inlets that indent the shores of the passage.

(609)

### Tides and currents

(610) In the south part of El Capitan Passage, the current floods north from Sea Otter Sound. In the channel between El Capitan Island and Tuxekan Island, the velocity of the current may reach 3 knots. In the channel north of Tenass Island the current is reported to be negligible. In Dry Pass, the current floods east with a velocity of 1.8 knots and ebbs west with a velocity of 0.9 knot. (See the Tidal Current Tables for daily predictions.) High and low water in this vicinity occur at practically the same time as at Sitka.

(611)

## Cap Island to Tenass Pass

(612) **Cap Island** is at the south entrance to the passage. **Knob Island**, about 0.5 mile north of Cap Island, is a small wooded island with two knobs. The channel between it and El Capitan Island is about 100 yards wide and has depths of 2 to 3 fathoms. Rocks are offshore on either side of this channel. Rocks extend off the shore of the island for about 100 yards. **Dot Island** is the larger of two islands about 0.3 mile north of the northernmost point of Cap Island.

(613) **El Capitan Island** is near the south end of the passage. A narrow inlet is in the south side of the island where rocks and depths less than 1 fathom are found. Off the southeast end of the island, separated from it by a narrow, high-water channel, is a small wooded island. A daybeacon marks a group of rocks off the east side of El Capitan Island. On the west side of El Capitan Island, about 1.6 miles north of Knob Island, is a deep bight with three islands in the entrance.

(614) **New Tokeen** is a small settlement at the head of the bight.

(615) **New Tokeen Harbor Entrance Light** (55°56'11"N., 133°19'51"W.), 35 feet above the water, is shown from a skeleton tower with a red and white diamond-shaped daymark on the south end of the southernmost island at the entrance.

(616) The bight is entered from the south through a clear channel. A wharf, with a 100-foot face and reported to be in poor condition, is on the north side of the bight; depths of about 24 feet were reported alongside in 1976. A mooring float 180 feet long is anchored in the bight for the use of fishing vessels. Limited amounts of ice, gasoline, diesel fuel, water and provisions can be had during the fishing season.

(617) New Tokeen maintains radiotelephone communications with other parts of Alaska and with other states. Charter seaplane service is available with Ketchikan and communities on Prince of Wales Island.

(618) **Twin Islands** are a group of small islands about 12 feet high about 0.6 mile west of the south end of El Capitan Island. Several rocks are on the reef 0.4 mile northeast of Twin Islands.

(619) **Fir Rock** is a rock awash at higher high water 0.3 mile west-northwest of Twin Islands. Rocks awash are close-to.

(620) **Keski Island** is a wooded island about 1 mile north of Knob Island on the west side of El Capitan Island. Foul ground extends 250 yards west from the south end of the island, and irregular bottom extends 0.25 mile west off the northwest part of the island.

(621) **Flat Island** is a small island on the south end of the large shoal area east of and close to Teal Island.

To the northeast of Flat Island is another small island. Submerged rocks extend in a north direction from Flat Island for 250 yards to a rock awash at high water.

(622) **White Point** is the northwest point of a bight on the west side of El Capitan Island east of Singa Island. Foul ground extends for about 100 yards south of White Point. **Teal Island** is the southernmost of three large islands west of El Capitan Island. Rocks extend off the south shore for about 0.2 mile.

(623) **San Island** is the largest and middle of the group west of El Capitan Island. Between San Island and Teal Island are several islets and foul ground.

(624) **Singa Island** is the northernmost of the three large islands west of El Capitan Island. Between Singa Island and San Island are several islets with channels between, navigable by small boats.

(625) **Scow Island** is a small island north-northeast of Singa Island and about 0.3 mile northwest of the north end of El Capitan Island.

(626) **Hub Rock** (55°56.5'N., 133°17.8'W.), 8 feet high, almost in midchannel, east of El Capitan Island, is a prominent landmark marked by a daybeacon. Foul ground and irregular bottom extend for almost 0.2 mile from north through west to south from the rock.

(627) **Graveyard Island**, about 1.4 miles north-northeast of Hub Rock, is a small island with a few graves on it at the entrance to Sarkar Cove.

(628) **Brockman Island**, about 0.6 mile to the northwest of Graveyard Island, is the largest and most southerly of a group of three islands.

(629) **Burnt Island** is the small island about 325 yards north-northeast of Brockman Island. The island is covered with a heavy growth of underbrush and a few young second-growth trees. **Burnt Island Light 5** (55°58'27"N., 133°17'45"W.), 15 feet above the water, is shown from a skeleton tower with a square green daymark on the island.

(630) **Tenass Island**, about 1 mile north of Burnt Island, is southeast of the east entrance to Tenass Pass. A 4-fathom shoal is 0.6 mile northeast of the north end of the island.

(631) **Sarkar Cove**, on the east side of El Capitan Passage, is entered about 1.3 miles southeast of Burnt Island Light 5 and is about 6 miles from Sea Otter Sound and about 18 miles from Shakan Strait. The cove affords good anchorage in 6 to 8 fathoms, mud bottom. A large lake empties into the head of the cove through a series of rapids. Water at the lower end of the lake is brackish and at the head is fresh. The lake is an important spawning ground for red salmon.

(632) In entering Sarkar Cove favor the north shore to avoid a rock, awash at high water, 0.6 mile northeast of **Sarkar Point**. A 3½-fathom patch is 0.2 mile east of Graveyard Island.

(633) **Salt Water Lagoon** is about 0.5 mile northeast of Sarkar Cove. It is connected to **Tunga Inlet** by short rapids. Water ebbs from the lagoon for about 2½ hours after low water. At slack water, about 2½ hours after high water, a launch drawing 4 feet may pass through the entrance into the lagoon.

(634) **Clam Cove** is a small cove about 1.1 miles north of Sarkar Cove. **Clam Island** and rocks block the south part of the entrance. The head of the cove is shoal. Mariners should navigate with caution, referring to the latest edition of the chart.

(635) **Rocky Cove** is a small cove about 0.4 mile north of Clam Cove. In midchannel, off the entrance, is a rock awash at minus tides with deep water on all sides; it is usually marked by kelp. The cove is foul.

(636) **Tenass Pass**, north of **Spanberg Island**, and **Brockman Pass**, south of the island, connect Tokeen Bay with El Capitan Passage. Both passes bare at low water. Tenass Pass carries slightly more water than Brockman Pass but is very narrow, having a width of 25 feet at one place where the current exceeds 5 knots at times. Boats drawing 7 feet have gone through Brockman Pass on extreme high tides.

(637)

## Sarheen Cove to Aneskett Point

(638) **Sarheen Cove** (56°03.0'N., 133°15.9'W.) is on the east shore of El Capitan Passage about 5.3 miles north of Sarkar Cove and about 6 miles south from Aneskett Point. Depths of 8 to 10 fathoms were found within the cove except toward the head where it is shoal.

(639) **Devilfish Bay** is on the west side of the passage about 3 miles north-northwest of the entrance to Sarheen Cove and 3.5 miles south of Aneskett Point. The bay consists of two parts connected by a narrows; the east part has depths of 34 to 52 fathoms at the entrance, shoaling to 7½ fathoms about 0.1 mile from the narrows. The bight in the north corner of this part of the bay is shoal.

(640) The narrows, about 170 yards wide, expands into an arm with depths of 7½ to 18 fathoms at midchannel to within 0.8 mile of the head. About 0.5 mile from the head of the arm, in midchannel, is a submerged rock with ¾ fathom over it. The narrows is constricted by a rock in midchannel, awash at high water. Depths of 3½ fathoms west and 5 fathoms east of the rock were found, but the channel should not be attempted until seen at low water. Currents of 2 to 3 knots were observed in the vicinity of the rock.

(641) **Aneskett Point**, bold and wooded, is on the west side of the passage where its trend turns from north to west. North from the point is a wooded island that may be passed on either side.

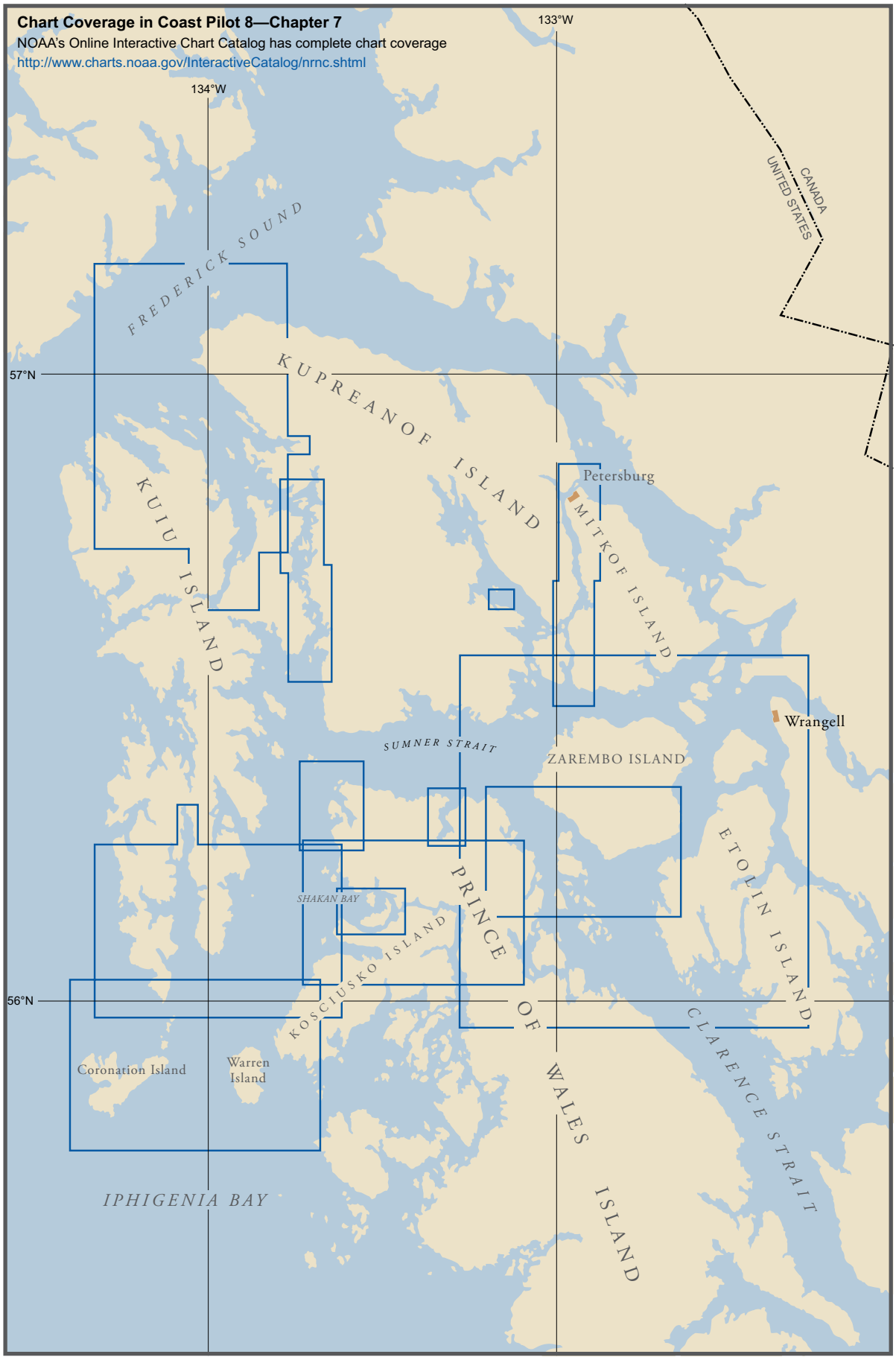


Chart Coverage in Coast Pilot 8—Chapter 7
NOAA's Online Interactive Chart Catalog has complete chart coverage
http://www.charts.noaa.gov/InteractiveCatalog/nrnc.shtml
133°W
134°W
57°N
56°N
CANADA
UNITED STATES
FREDERICK SOUND
KUPREANOF ISLAND
KUIU ISLAND
Petersburg
MITKOF ISLAND
Wrangell
SUMNER STRAIT
ZAREMBO ISLAND
ETOLIN ISLAND
SHAKAN BAY
PRINCE OF WALES ISLAND
KOSCIUSKO ISLAND
CLARENCE STRAIT
Coronation Island
Warren Island
IPHIGENIA BAY

# Sumner Strait

(1) This chapter describes Iphigenia Bay; Sumner Strait, and the many bays bordering it; the south part of Keku Strait including Rocky Pass, Duncan Canal, Wrangell Narrows, Dry Strait, Stikine River; and the city and harbor of Petersburg.

(2) **Sumner Strait** is one of the great inlets into southeastern Alaska from the sea. The strait has three entrances. The main entrance from the sea, between Coronation Island and Warren Island, is about 5.8 miles wide. Warren Channel, the entrance east of Warren Island, between it and Cape Pole, is about 1.2 miles wide and is used by vessels bound to and from Davidson Inlet and Bucareli Bay. Decision Passage, the entrance between Cape Decision and the Spanish Islands, is about 1 mile wide and is used by vessels bound to and from Chatham Strait. These entrances are described under separate headings.

(3) The usual route of vessels bound north from Clarence Strait is by way of Snow Passage or Stikine Strait to Sumner Strait, and thence to Wrangell Narrows. Vessels too large to make the passage through Wrangell Narrows with safety continue west through Sumner Strait, round Cape Decision, and go north through Chatham Strait or west to sea by way of Cape Ommaney. In fog or thick weather, vessels bound around Cape Decision, instead of using the channel north of Spanish Islands, can continue south and round Helm Point, entering Chatham Strait between Hazy Islands and Coronation Island, or pass to sea south of Hazy Islands. Almost all of Sumner Strait has been examined, and the dangers are shown on the chart.

(4) **Voluntary vessel traffic procedures** have been adopted for gillnet vessels and deep-draft vessels transiting the north section of Clarence Strait, Snow Passage and Sumner Strait in the vicinity of Point Baker. Traffic lanes, about 0.2 mile wide, have been established for these areas as follows:

(5) **328°** from a point in Clarence Strait abeam of Point Stanhope in about 55°59.4'N., 132°39.8'W. to about 56°09.3'N., 132°50.8'W., thence;

(6) **333°** to a point about 56°15.9'N., 132°57.0'W., thence around the east side of Bushy Island to about 56°17.2'N., 132°58.0'W., thence;

(7) **299°** to a point about 56°18.6'N., 133°04.9'W., thence;

(8) **315°** to a point about 56°21.0'N., 133°09.5'W., thence;

(9) **277°** to a point about 56°23.0'N., 133°38.7'W., thence around Point Baker, about midway between Helm Rock and Mariposa Reef to a point about 56°22.5'N., 133°39.9'W., thence;

(10) **204°** to a point abeam of Calder Rocks in about 56°15.1'N., 133°45.7'W.

(11) Cruise ships, ferry vessels and other deep-draft vessels are requested to observe the following practices:

(12) 1. Announce your presence 30–45 minutes prior to entering the areas and at regular intervals while transiting through the area.

(13) 2. Avoid meeting and do not overtake vessels in Snow Passage.

(14) 3. Travel along indicated tracklines as much as possible and maintain a safe speed.

(15) Gillnet vessels should:

(16) 1. Adequately mark the net end with lights and radar reflectors.

(17) 2. Monitor VHF-FM channels 13 and 16 and listen for broadcasts by deep draft vessels in the area.

(18) 3. Provide for two-way traffic of large vessels along the designated tracklines.

(19) 4. Warn other gillnetters if they appear to be in the lane when there is commercial vessel traffic approaching.

(20) 5. Do not place sleep sets within or adjacent to the shipping lane.

(21)

## Currents

(22) From the south entrance to Sumner Strait in Iphigenia Bay, the current floods north to the vicinity of Point Baker, where it turns east with an estimated velocity of 2 knots. West of Zarembo Island the current divides. One branch passes through Snow and Kashevarof Passages and meets the flood current from Clarence Strait near Key Reef. The second branch sets north and east of the island until it meets and is overcome by the current from the Stikine River. The ebb sets in generally the opposite direction with considerably greater velocity. The edge of the current from the Stikine River is well defined by its muddy white appearance. Near the end of the ebb, it is sometimes noticed to be west of Vank Island and south in Chichagof Pass and Stikine Strait. Between Point Baker and Strait Island, the irregularities of the bottom produce heavy swirls and surface disturbances.

(23) The ebb current flows from the vicinity of Wrangell through Sumner Strait and through Stikine Strait and Chichagof Pass to Clarence Strait.

(24) It is reported that strong currents and heavy tide rips occur off Cape Decision, Fairway Island, Point St. Albans and the small islands to the north.

(25) (See the Tidal Current Tables for daily predictions.)

(26)

### Weather

(27) The south part of Sumner Strait is most susceptible to strong winds with a south component, whereas the north part is vulnerable to easterlies. These winds blow year round but are strongest from October through February when gales in the nearby open sea occur about 10 percent of the time and wave heights of 10 feet or more are encountered about 15 to 20 percent of the time; many of these open-ocean waves arrive from southeast through southwest. Reduced visibility is a problem from June through September. Visibilities of less than 2 miles are encountered 10 to 15 percent of the time, most often in the north part of the Strait.

(28)

## Iphigenia Bay

(29) **Iphigenia Bay** extends between the Maurelle Islands on the east and Coronation Island on the west and is the approach from the sea to Sumner Strait, Warren Channel, Davidson Inlet, Bocas de Finas, Sonora and Arriaga Passages. The depths are generally good, but the bottom is very irregular, and there are several dangers. On the east side of the bay, deep water prevails until within 1.5 miles of a line passing from the northwest end of St. Joseph Island to Timbered Islet to Losa Islet, where the depths become irregular.

(30) Vessels bound from the south for Davidson Inlet and Warren Channel should give Timbered Islet a berth of 1 to 1.5 miles; those bound for Sumner Strait should favor the Coronation Island side of the entrance. Those bound for Cape Ommaney can pass between Hazy Islands and Coronation Island on a midchannel course or pass outside of the Hazy Islands, giving them a berth of at least 1 mile.

(31)

## Warren Island to Decision Passage

(32) **Warren Island** is almost rectangular in shape, with numerous peaks. **Warren Peak**, near the north end of the island, is snow covered from November to May. From north it shows prominently as a sharp, almost conical peak. From west. the skyline appears as a series of jagged summits; near the south end of the island it appears lower and rounding. From the south, the skyline appears ragged and irregular. The land rises abruptly from the shore and is heavily timbered; the peaks are generally bare.

(33) With the exception of small stretches of sand beach in Warren Cove, False Cove and the two small coves in the north coast, the shoreline is a rocky shelf. Off-lying rocks that bare at different stages of the tide are from 50 to 600 yards off the west coast and about 175 yards off the south coast.

(34) Off the south end of Warren Island are three groups of dangerous, rocky, unmarked shoals. The outermost group, about 2.8 miles south of **Boot Point**, does not show but breaks occasionally with a long heavy break at low water. Another group, about 2.7 miles southwest of Boot Point, has two rocks awash, one of which uncovers 8 feet. The third group, about 1.5 miles southwest of the point, has a rocky islet 15 feet high. **Alice Rocks**, with a least depth of 1¾ fathoms, are about 0.3 mile northwest of the islet. Between the islet and Boot Point heavy tide rips were observed when the wind was against the current. Broken ground and shoals with a least depth of 2 fathoms were found in this area, and it should be avoided.

(35) **Point Borlase** is an indefinite point at the northwest end of Warren Island. **Borlase Rock**, with two rocky heads that uncover 3 feet and generally show as a breaker, is 0.7 mile west of Point Borlase. A group of rocks with a least depth of 2 fathoms is from 1.3 to 1.6 miles south of Borlase Rock and about 0.5 mile offshore. A 6½-fathom spot is about 0.4 mile northeast of the north end of Warren Island. A large kelp patch with a depth of 3¾ fathoms is 500 yards off the northwest shore of the island about 1.4 miles northeast of Point Borlase.

(36) The two small coves in the northwest coast of the island close east of Point Borlase offer protection for small craft in southeast weather. Anchorage may be had in 4 fathoms, mud bottom.

(37) **Warren Cove** is on the east shore of Warren Island, about 2 miles from the south end. In entering, favor the south shore and give it a berth of at least 300 yards until inside the entrance, thereby avoiding a shoal covered 1½ fathoms that extends about 250 yards north from the south point at the entrance. A rock awash is 250 yards south of the north point at the entrance. Between this rock and the shore is a bare rock. This area is usually kelp marked. At low water a sand beach extends a considerable distance from the head of the cove. There is a small gravel beach just inside the entrance on the south side of the cove; the light color of it may often be distinguished at night.

(38) Anchorage may be had in 7 fathoms, sand bottom, in the center of Warren Cove. A heavy swell enters the cove during southeast weather. At night, in the approach to the cove from the south, the entrance is not readily picked up, because the headland to the north shows prominently, while that to the south does not, and the entrance to False Cove is easily mistaken for that to Warren Cove.

(39) **False Cove**, the small bight 1.5 miles north of Warren Cove, affords anchorage in depths of 4 to 5 fathoms, sand bottom, behind the kelp-marked rocks awash that extend across the north half of the entrance.

(40)

### Local magnetic disturbance

(41) Differences of as much as 4° from normal variation have been observed in False Cove.

(42) **Warren Channel** leads between Warren Island and **Kosciusko Island** to the east. No outlying dangers were found in the channel proper, which has depths of 17 to more than 100 fathoms. Numerous islets and rocks above water extend about 2.8 miles south from the southwest point of Kosciusko Island; **Black Rock**, the southernmost, is 50 feet high and pointed on top. **Cape Pole** is the west point of Kosciusko Island. In 1975, a

rock awash was reported south of Black Rock in about 55°52'00"N., 133°45'41"W.

(43) The tidal currents set north on the flood and south on the ebb. The currents have a velocity of 1.4 knots on the flood and 2.4 knots on the ebb. Heavy tide rips form northwest of the entrance to Pole Anchorage.

(44) **Halibut Harbor**, on the south side of Kosciusko Island, east of its southwest point, is protected by numerous islands and affords anchorage for small vessels in 16 fathoms. The entrance is foul, and only those with local knowledge should attempt to enter.

(45) **Coronation Island**, west of Warren Island, is triangular in shape, divided into three peninsulas by Windy Bay on the west side and Aats Bay on the north side, the heads of which are separated by a range 1 mile in the center of the island. From offshore, the northeast peninsula shows heavily wooded ridges of moderate slopes but without characteristics of interest to the navigator. The west and north sides of the island are described with Chatham Strait.

(46) The south end of Coronation Island appears from offshore to the west as timbered ridges with gentle slopes from **Needle Peak**, in the center of the island, to Helm Point, where they terminate in yellow and reddish cliffs. The summit of Needle Peak is not very definite and appears flat with a series of sharp knobs of a grayish color.

(47) **Windy Peak**, on the northwest side of Windy Bay, is prominent. From the west and southwest it shows as a cone marked by a large landslide. From the northwest and south it shows as a flat-topped mountain with a small knob on the west end.

(48) **Pin Peak**, on the northwest end of the island, is easily recognized as a long ridge covered with trees and shrubs. Near the south part of the ridge is a conspicuous knob or point. The ridge for several hundred feet below the summit is loose rock, without vegetation, and shows as light yellow from a west direction. The peak is not conspicuous from a north direction, because it shows against higher peaks to the south. From the summit the ridge has a rounding slope to the depression between it and Windy Peak. To the north the slope is gradual and drops in a long hollow or concave shoulder to a height of 900 feet, where there is an abrupt and noticeable change to a steep slope that ends at the shoreline.

(49) **Helm Point**, perhaps the most conspicuous and prominent headland in southeastern Alaska, is the south extremity of Coronation Island. Differing from most of the capes and points in this section, which have moderate slopes, it rises vertically in sheer weather-beaten cliffs to a height of 1,085 feet and ends abruptly in what appears to be flat tableland. The point is cut by numerous crevices and caves, one of which shows prominently from the south. Devoid of vegetation, of a light yellow to reddish color, barren and bleak, it is the nesting place of thousands of sea birds. Local conditions are such that it is generally visible in moderately thick weather when other sections are not visible. In approaching Helm Point in thick weather, the soundings give very little indication of shoaling or the existence of rocks. Two rocks, awash at half tide, and a reported 5-fathom shoal, are 1.4 miles 240°, and 0.4 mile southeast, respectively, from Helm Point Light.

(50) **Helm Point Light** (55°49'35"N., 134°16'11"W.), 140 feet above the water, is shown from a skeleton tower with a red and white diamond-shaped daymark on the south extremity of a point about 0.4 mile east-northeast of Helm Point. This point has the appearance of a dome-shaped grassy islet that is prominent from northeast and southwest. The light marks the west side of the entrance to Sumner Strait.

(51) **China Cove**, just north of Helm Point Light, is an open bight into which a heavy swell enters in southeast weather. The sandy bottom slopes gently, and anchorage may be had in 5 to 10 fathoms.

(52) From Helm Point to Cora Point, the coastline is marked by ledges and cliffs. Rocks extend about 600 yards offshore.

(53) **Cora Point** is the extremity of a projecting ledge at the northeast end of Coronation Island. **Cora Island**, a small wooded islet about 0.7 mile south of Cora Point, is about 170 feet high and has a cluster of rocks close-to. A clump of trees on the island shows prominently from the direction of Helm Point. Small craft may find protected anchorage in southeast weather behind the island, in 6 fathoms, mud, sand and gravel bottom.

(54) The **Spanish Islands** are a chain of wooded islands and rocks that extend north from the northeast extremity of Coronation Island in the direction of Cape Decision. At its northeast end, the south large island has a wooded summit that shows prominently from the west. A small rocky islet with a scrub growth is 0.3 mile off the west shore.

(55) A submerged rock is about 1.6 miles west-northwest of the northwest end of the southernmost of the Spanish Islands. During severe weather the seas pile up heavily. Rocks awash and submerged rocks extend up to 0.2 mile off the east side of the north island.

(56) A narrow 20-fathom channel separates Coronation Island and the south Spanish Island. The chart shows the dangers, and courses can be laid out as desired. Tide rips are usually very heavy in this channel.

(57) **Spanish Islands Light** (55°59'13"N., 134°06'17"W.), 38 feet above the water, is shown from a skeleton tower with a red and white diamond-shaped daymark on the north extremity of the northernmost of the Spanish Islands. The light marks the southeast side of Decision Passage.

(58) **Cape Decision**, the south extremity of Kuiu Island, is a low, bare, rocky point, from which the land rises gradually to an irregular, timbered ridge. It stands out well when approached from a direction to pass through the passage between it and the Spanish Islands. Avoid the large kelp patches 1.5 and 2 miles northwest from the cape and about 0.8 mile off the Kuiu Island shore.

(59) **Cape Decision Light** (56°00'05"N., 134°08'09"W.), 60 feet above the water, is shown from a white square

tower on a white square building at the south end of the cape.

(60) **Decision Passage**, 1 mile wide between Cape Decision and the Spanish Islands, is used by large vessels bound from Sumner Strait to Chatham Strait or Cape Ommaney. The passage is clear; however, the cape and the islands should be given a berth of not less than 0.2 mile. Vessels rounding the cape are cautioned to give this area sufficient berth.

(61) The large body of water to the west of the Spanish Islands and to the north of Coronation Island has been closely surveyed, and all dangers found are shown on the chart. After prolonged severe gales, very heavy breakers have been seen on spots where the shoalest water was found.

(62)

## Keku Strait to Mariposa Reef

(63) This section covers the west side of Sumner Strait from Cape Decision to the south entrance to **Keku Strait**. From Iphigenia Bay to Strait Island, Sumner Strait follows a north direction, and at Strait Island it turns east to its junction with Stikine Strait near the town of Wrangell.

(64) The west side of Sumner Strait between Cape Decision and Keku Strait is indented with many inlets and bays and has many islets, rocks and reefs that extend from 1 to 2 miles off the main shore into the strait. Lighted buoys mark the outermost dangers.

(65) **Fairway Island** (56°02.4'N., 134°03.1'W.), small and wooded, is on the west side of the south end of Sumner Strait about 3.6 miles northeast of Cape Decision Light. It is surrounded by kelp, rocks and reefs, bare at various stages of tide. Two rocks with 6- and 7-foot heights are 0.5 mile south of the island and nearby is another rock that uncovers 10 feet.

(66) **Port McArthur** is about 4.5 miles north of Cape Decision. It is protected at the entrance by a group of islands and reefs, and it affords anchorage that is not secure because large swells run to the head of the bay. For small craft the most secure anchorage is in 4 fathoms behind South Island. In bad weather the landing can be made behind the island, from where an emergency trail leads to Cape Decision Light. In 1968, this trail was reported poorly maintained and difficult to follow. The entrance to Port McArthur leads north and west of North Island and has a clear width of 300 yards between the kelp patches. Fresh water can be had from small streams at the head of the harbor.

(67) **North Island** and **South Island**, at the entrance to Port McArthur, are low and wooded, with surrounding ledges; they are about 0.5 mile apart north and south. Between them are a rocky islet and numerous rocks awash and ledges surrounded by kelp. The passages south of South Island, and between South and North Islands, are shoal and rocky and should not be attempted without local knowledge.

(68) Two large kelp patches are about 0.4 mile and 0.5 mile east and east-southeast, respectively, from North Island. The south patch has a least depth of 1½ fathoms, and the north patch has a least depth of 3 fathoms.

(69) Kelp patches and an area of foul ground extend to the west and north of North Island for a distance of 0.3 mile. When entering Port McArthur, give this area a good berth.

(70) **Lemon Point**, on the opposite side of the entrance channel, is low and has several bare rocks off it. On the southeast and south sides kelp extends a short distance out, and the point should be given a berth of 400 yards in rounding into the port. A reef, covered at half tide, 0.4 mile east-northeast of the outer bare rock off Lemon Point, is marked by **Lemon Point Rock Light** (56°04'22"N., 134°06'42"W.), 26 feet above the water with a red and white diamond-shaped daymark on a skeleton tower. The reef is surrounded by kelp and is the only serious danger on the west side of the channel.

(71) To enter Port McArthur, pass north and west of North Island and southeast of Lemon Point Rock Light. When the outer rock off Lemon Point is abeam, round the point and keep in midchannel to the anchorage.

(72) The shores of Port McArthur are steep-to; the 5-fathom curve is less than 200 yards off the high water line except at the head of the bay. Anchorage depths are about 16 fathoms with the exception of south of Lemon Point where there is a depth of 12 fathoms.

(73) **Affleck Canal**, the entrance to which is west of Point St. Albans and northwest of Fairway Island, is 14 miles long in a north direction. The depths in general are great but very irregular, especially near the shores and at the head of the canal.

(74) **Marble Islet**, named from its formation, marks the west point of the entrance to Affleck Canal. Near it are several rocks awash.

(75) **Bush Islets**, on the south side of the entrance to Kell Bay, are three in number and from 10 to 12 feet high. The two north islets are sparsely wooded. The area to the west is foul and covered with thick kelp during the summer.

(76) A dangerous rock, covered 1 fathom, is in Affleck Canal, 1,300 yards 151° from the center of Bush Islets. From this rock a kelp patch extends in a northwest direction for about 250 yards.

(77) **Kell Bay** is about 7 miles north of Fairway Island on the west side of Affleck Canal. One mile inside the entrance and about 500 yards off the south shore is a wooded islet 10 feet high; deep water exists between this islet and the south shore of the bay. An area of foul water, marked by thick kelp in the summer, extends for a distance of about 0.4 mile northwest from the north end of the islet. Within this area are several rocks and islets, bare from 3 to 15 feet at high water, and, in addition, there are rocks with 2 to 9 feet over them at low water. The north shore of the bay is very broken, with numerous indentations, wooded islets and rocks.

(78) At the head of the bay are two arms that extend in a northwest and southwest direction. The northwest arm is

about 1.5 miles long. Two wooded islands and numerous rocks mark the south side of the entrance. Vessels entering this arm should proceed with caution, favoring the north shore until abreast the largest wooded islet, and then favor the south shore in order to avoid the rocks awash and bare 8 feet at low water, near the north shore. The entrance to the extreme head of the arm is blocked by obstructions that do not permit entry of even small vessels at low tides.

(79) The southwest arm is separated from the main body of Kell Bay by three wooded islands. To enter, pass midchannel between the islands and the southwest shore, follow the southwest shore at a distance of 150 yards until the south point of the west island has passed abeam. Then stand in midchannel, taking care to round the south side of the island at a distance of 200 yards so as to avoid the ledge that extends about 150 yards offshore. Anchorage may be had in 9 to 12 fathoms, soft bottom.

(80) The basin at the head of the southwest arm affords excellent anchorage for small craft in depths of 4 to 5 fathoms, soft bottom. The entrance is constricted, being only 30 to 35 yards wide, and vessels entering are advised to proceed with caution keeping close to the west shore, which is abrupt and steep-to.

(81) Affleck Canal is clear east of the small wooded islet, about 10 feet in elevation, about 1 mile north of Kell Bay. There are several rocks in the immediate vicinity of this islet. A lagoon, connected with Affleck Canal at high water, is on the west shore about 2 miles north of Kell Bay.

(82) **Bear Harbor** is on the west side of Affleck Canal, about 4 miles north of Kell Bay. From the entrance to its head, it is about 2 miles long in a northwest direction. The harbor has three arms; the east is deep and open to the south; the middle and west arms are sheltered and afford suitable anchorage for small vessels. The approach to these two arms is south of the island at the entrance. The deepest part of the channel, about 5¼ fathoms, is 100 yards off the shore of the island. Favor the shore of this island in entering and navigate with caution. After the east tip of the island is passed abeam by 100 yards, a midchannel course will lead over a ½-fathom spot marked by kelp. This spot is the end of a reef making out from the south shore.

(83) After the entrance is passed, midchannel courses lead into the west arm that is deep except along the south shore near the head.

(84) A midchannel course is followed in the middle arm until about 1 mile from the entrance when the east shore is followed at a distance of about 200 yards. This arm is deep to within 0.5 mile of its head where it shoals gradually to the tidal flats off the mouth of the principal streams that empty into Bear Harbor.

(85) On the west shore of Affleck Canal, about 3 miles north of Bear Harbor, is a grass-topped islet, about 5 feet high. A depth of about 10 fathoms can be carried to about 1 mile south of the head of the canal by favoring the west shore at all times in order to avoid the extensive kelp patches and shoals in the east side. About 1 mile south of the head of the canal, the east shore is foul and studded with rocks; the foul area extends from 300 to 400 yards offshore.

(86) The two main inlets on the east side of Affleck Canal are not recommended as shelter; the heavy ground swell runs into both, well toward their heads. The entrances of both are free of obstructions. The south inlet, which is about 500 yards long, is about 5.5 miles north of the east entrance point of Affleck Canal. Inside are depths of 5 to 7 fathoms, soft bottom. A group of rocks that bare 7 feet and are surrounded by kelp are about 0.7 mile 232° from the south entrance point of this inlet.

(87) The north inlet about 1 mile further north has an entrance about 350 yards in width and extends east for about 0.8 mile. Its center has depths of 9 to 12 fathoms. Vessels desiring to enter this inlet should favor the north shore, as a rock that bares 6 feet is about 340 yards inside the entrance and about 70 yards off the south shore.

(88) **Point St. Albans** is about 7.5 miles northeast of Cape Decision. Rocks and heavy kelp extend 1.1 miles south, and a 3-fathom spot is 1.8 miles south of the point; heavy tide rips and swirls may be experienced off this extensive kelp patch. Off-lying rocks and reefs extend to a distance of 0.3 mile offshore along the east shore of Affleck Canal to the point opposite Marble Islet.

(89) **Point St. Albans Reef** is an extensive foul area, about 1.6 miles east-northeast of Point St. Albans. The highest part of this area is a rock awash at high water, in the northwest part of the kelp patch. Numerous other rocks bare at various stages of the tide. A lighted whistle buoy, off the east end of the reef, also marks a 6¾-fathom shoal. Vessels should pass to the east of the buoy.

(90) From Point St. Albans to **Point Amelius**, about 7.5 miles to the north, islands and reefs extend offshore to a distance of 1.5 miles. This section of the coast is foul and marked by kelp. A rock awash at low water is in the kelp patch about 2.8 miles northeast of Point St. Albans. There are passages between and inside the group of islets located 4 miles north of Point St. Albans. This area is foul, with numerous rocks and kelp patches, and only those with local knowledge should enter. Small vessels may find shelter in the two small bays 3 miles and 4.5 miles north of Point St. Albans. The bays are exposed to the east, and there are shoals off the approaches.

(91) **Amelius Island Shoal**, a rocky shoal with a least depth of 4¼ fathoms, is about 1.8 miles east-southeast of **Amelius Island**, the outermost islet off Point Amelius. A lighted buoy is on the east side of the shoal. Deep-draft vessels should avoid passing close to the buoy.

(92) The bight west of Point Amelius is exposed to the southeast and is used only as a temporary anchorage. **Louise Cove**, on its west side near the head, affords anchorage for small vessels in 3½ fathoms.

(93) An isolated 3¼-fathom shoal is about 2.5 miles north of Amelius Island and about 0.3 mile offshore.

(94) **Port Beauclerc** is a large arm on the west side of Sumner Strait, the entrance to which is about 11 miles north of Point St. Albans and 10 miles west-southwest

of Point Baker. **Beauclerc Island**, small and wooded, is off the middle of the entrance, with a wooded islet close north of it.

(95) **Beauclerc Island Light** (56°15'27"N., 133°51'16"W.), 30 feet above the water, is shown from a skeleton tower with a red and white diamond-shaped daymark on a rock on the east side of the island. A reef extends 300 yards east from the small wooded islet.

(96) The narrow passage south of **Edwards Island** is clear and deep in midchannel. The east shore of the cove, northwest of Edwards Island, is formed by a small island with a very small islet off its north end. The entrance to the cove is north of the islet.

(97) There is anchorage, exposed to the south, in the bight on the east shore, 3 miles from the entrance to Port Beauclerc.

(98) Anchorage in Port Beauclerc may be had north of the small island that is about 1.4 miles north of Edwards Island, but the anchorage is obstructed by a large kelp patch, with a depth of 3 fathoms and possibly less, which is 0.7 mile north from the small island. Good anchorage may be found south of Edwards Island in 20 fathoms, sand bottom; enter from the east in midchannel on a course of **278°**. Small-boat anchorage is available in the small cove west of the charted rock awash on the south side of this island, or in the cove on the Kuiu Island side south of the east end of Edwards Island.

(99) Anchorage may also be had in the south arm in 4 or 6 fathoms, mud bottom. Enter by the narrow passage south of Edwards Island and slightly favor the east shore of the arm to avoid a sunken rock, marked by kelp, 1 mile west of the west end of the narrow passage south of Edwards Island. On the east shore of the arm, 1 mile southeast from the narrow passage, is a point close to a 3½-fathom spot.

(100)

### Caution

(101) Where local knowledge is lacking, caution is advised in entering Port Beauclerc.

(102) **Boulder Point**, about 4 miles north from Beauclerc Island, is a bold rounding point with numerous rocks close-to.

(103) **Reid Bay** is on the west side of Sumner Strait, 3 miles north of Boulder Point. It has two islets and several outlying rocks along its northwest shore and rocks awash south of the islets in midchannel. Small craft may anchor in the cove on the west side of the peninsula point at the south side of the entrance to the bay in 5 to 6 fathoms, mud bottom. There are dangers off the points at the entrance to this cove, and it should be entered with caution. A kelp-marked reef with rocks awash is 1.8 miles west-southwest from the south end of Sumner Island.

(104) **Sumner Island** is 4.3 miles north-northeast of Boulder Point. It has steep, rocky shores and is surrounded by small rocky islets that extend northwest to Kuiu Island and southeast from the southeast point of the island for about 0.5 mile. Several reefs extend a short distance off the northeast shore of the island and should be approached with caution.

(105) **Alvin Bay**, northwest of Sumner Island, is clear of dangers except for a depth of 1¾ fathoms in the center near where it starts to narrow. At this point a small islet is on the south side of the bay with a rock between it and the south shore; there are also rocks north of the islet.

(106) To enter, pass north of the islet leaving the detached rocks on the starboard side. Good anchorage may be had inside in 4¼ fathoms, mud bottom. With caution, this entrance can be made easily. The bay is used extensively for anchorage during the fishing season.

(107) **Strait Island** is in the middle of Sumner Strait 3 miles northwest of Point Baker. It is divided into two parts at high water and is low and wooded. **Mariposa Reef**, which partly bares, extends about 0.8 mile south from the island. A lighted bell buoy is about 250 yards off the south end of the reef.

(108) A rock that uncovers at low water is 0.3 mile west-northwest of the northwest tip of Strait Island; it is not marked by kelp, and there are strong currents around it. A shoal covered 2¼ fathoms is 0.35 mile south of this rock, and another shoal area, covered 2¾ fathoms, is about 0.2 mile west-southwest of the rock.

(109)

## Western Channel to Point Hardscrabble

(110) **Warren Channel** to **Point Baker** covers the east shore of Sumner Strait below Strait Island. Shipley Bay, Shakan Bay, Shakan Strait and Port Protection are the important harbors in this section. The coast is bold and rugged with many off-lying rocks and islets. Calder Rocks and Helm Rock are the principal offshore dangers.

(111) **Voluntary vessel traffic procedures** have been established for gillnet vessels and deep-draft vessels transiting **Sumner Strait** in the vicinity of Point Baker. See the description of Sumner Strait at the beginning of this chapter for designated tracklines and procedures.

(112) **Pole Anchorage**, on the east side of the south end of Sumner Strait, affords an anchorage for small vessels, protected from northeast and southeast winds; it is exposed to west winds and swells. The southwest point of the entrance is a large mass of grassy-topped rocks, about 10 feet high, that extend about 0.6 mile north of **Cape Pole**; the passage between them and the cape has many bare rocks and almost dries. There is considerable kelp for some distance north of the grassy-topped rocks. The north point at the entrance is a wooded islet close to shore; kelp extends some distance northwest of it, also about 100 yards west.

(113) Anchorage can be had in 10 to 11 fathoms, mud bottom, with the north end of Warren Island showing about midway between Cape Pole and the grassy-topped rocks. Small fishing vessels may find suitable anchorage southeast of Cape Pole, east of a large kelp patch, in any desired depth.

(114) **Fishermans Harbor**, a bight northeast of Pole Anchorage, is used extensively by small fishing craft. **Cape Pole** is a settlement at the east side of the harbor. A 60-foot small-craft and seaplane float is operated by a logging camp on the east side of the harbor. In 1976, the reported depth alongside was 18 feet. A T-shaped wharf is on the southwest side of the harbor opposite the small-craft and seaplane float. In 1983, the T-shaped wharf was reported not in use. South of the small-craft and seaplane float are groups of piling used for log storage. Gasoline, water, limited provisions and a small machine shop are available in an emergency only. A freight boat from Ketchikan visits weekly, and radiotelephone communications are maintained.

(115) **Fishermans Harbor Light** (55°58'02"N., 133°47'43"W.), 17 feet above the water, is shown from a skeleton tower with a red and white diamond-shaped daymark on the edge of a reef on the southeast side of the harbor. A daybeacon is on a reef on the east side of the entrance to the harbor.

(116) To enter Fishermans Harbor at the south end, **steer 149°** heading for Fishermans Harbor Light, being careful to avoid the reefs and a submerged pile on the northeast side of the channel in about 55°58'21"N., 133°47'54"W., then haul gradually south, heading for the west side of the float on the east side of the harbor. When abreast of the float, anchor in any desired depth. The channel has a controlling depth of 2½ fathoms about 0.3 mile northwest of the light but deepens gradually when approaching the float.

(117) **Point Hardscrabble**, about 2.2 miles northeast of Cape Pole, is not very prominent. Two small islets are about 600 yards west of the point. There are depths of from 4½ to 11 fathoms between the extensive kelp patches that are between the islets and the point. A small cove, 5.5 miles north-northeast of Cape Pole, affords protection from south weather for small vessels but is open to north.

(118)

## Ruins Point to Calder Rocks

(119) **Ruins Point** (56°04.0'N., 133°42.0'W.), 8 miles north-northeast of Cape Pole, is on the south side of the entrance to Shipley Bay. The point is poorly defined and has no prominent features. **Finger Shoal** and other foul ground extend about 0.5 mile from the shore in the vicinity.

(120) **Shipley Bay**, entered about 2 miles northeast of Ruins Point, has good anchorage available at the head. **Bluff Island**, 200 feet high and wooded, is in the middle of the entrance. The vertical east face is a rookery for sea birds; the west side has gradual slopes. Islets and rocks extend about 0.4 mile from the west extremity of the island.

(121) The south approach to Shipley Bay extends between the south tip of Bluff Island and a tiny islet 0.5 mile north of the south shore. The area between the islet and the south shore is mostly foul, and passage should not be attempted except by small craft with local knowledge. A rock awash at minus tides is 1 mile southeast of the south tip of Bluff Island; navigable water extends on all sides of this rock that is surrounded by thick kelp and is easily distinguishable at all stages of tide during summer. From a small wooded islet on the north side of the entrance, foul ground extends for about 0.7 mile southeast. This constricts the passage to a width of only about 0.5 mile along the south shore. east of this point, however, the bay is generally clear, although the depths are irregular and there are several rocks 100 to 200 yards off the south shore.

(122) About 4 miles from the entrance, the bay is constricted by a promontory jutting out from the south shore. A small wooded islet surrounded by foul ground is off the point. West of the point is a large bight in which are two islands. Anchorage in 3 to 10 fathoms is available in the bight west of the islands, poor holding ground. Winds are reported to draw with great force through the gap to the south during southeast storms.

(123) The best anchorage is near the south shore at the head of the bay, just east of the point 1 mile from the head of the bay, in depths of 15 fathoms, mud bottom, and good holding ground. A small cove just west of the point is suitable for small craft; depths are 3 to 5 fathoms, mud and sand bottom.

(124) Shipley Bay may be entered safely from either side of Bluff Island.

(125) **Shakan Bay** is on the east side of Sumner Strait about 6 miles north-northeast of Ruins Point. The bay, including Shakan Strait, is circular in shape. Its entrance is between Shakan Island on the south and the Barrier Islands on the north. The center of the bay is almost filled with islands. At the east extremity of Shakan Strait, the bay connects with El Capitan Passage.

(126) The north shore of the bay is foul for about 1.5 miles offshore and should be avoided. The east part of the outer bay is extremely foul.

(127) **The Nipples**, 1 mile southeast of Shakan Strait, and Mount Calder, north of the bay and 2 miles northeast of Barrier Islands, are good landmarks for the bay.

(128) **Station Island**, off the south point at the entrance, is marked by **Shakan Bay Light** (56°08'57"N., 133°37'33"W.), 25 feet above the water and shown from a small house with a red and white diamond-shaped daymark on a brown skeleton tower on the north side of the island. There are submerged rocks and rocks awash between Station Island and Shakan Island, which is close west.

(129) **Shakan Island**, 0.3 mile west of Station Island, is about 18 feet high and is covered by scrubby trees. A rock awash and a 3-fathom shoal are about 0.2 mile and 1.2 miles, north-northwest and southwest, respectively, of Shakan Island. The area south of the islet and east of the 3-fathom shoal has several detached rocks, all marked by kelp, and other dangers. The chart is the best guide.

(130) **Shakan Strait**, comprising the south part of Shakan Bay, is about 4.6 miles long, averages 0.4 mile in width, and is semicircular in shape. It affords a clear and safe route to El Capitan Passage. The west entrance, marked by a daybeacon on an islet off the southwest end of Hamilton Island, is 0.3 mile wide but between the 5-fathom curves is constricted to about half that, by reefs on both sides. About midway of its length is a 5¼-fathom rocky shoal in midchannel, marked by a buoy, about 0.2 mile east of the daybeacon marking the southeast end of Hamilton Island. Off-lying dangers are few, and none is more than 200 yards offshore. A log storage area is along the east shore, 0.5 mile south of the entrance to El Capitan Passage.

(131) **Hamilton Island**, **Middle Island**, **Divide Island** and **Fontaine Island** are heavily wooded islands in the center of Shakan Bay. Of the several passages between and around them, Shakan Strait is the principal one; the others are used only by small craft with local knowledge. Good anchorage, with mud bottom, in 8 to 9 fathoms, was reported 0.3 mile south of Fontaine Island in about 56°08'36"N., 133°28'33"W.

(132) **Mount Calder**, a sharp conical peak projecting above the dark timbered slopes, is an outstanding landmark. Easily identified by its light-gray color, it can be seen from the entrance to Sumner Strait in clear weather.

(133) **Calder Bay** is on the north side of Shakan Bay north of Middle Island. Depths shoal gradually from about 9 fathoms at its entrance to the tidal flat about 0.6 mile from the entrance.

(134)

### Local magnetic disturbance

(135) Differences of as much as 6° from the normal variation may be expected in Shakan Strait.

(136) Enter Shakan Bay with Beauclerc Island Light astern and Shakan Bay Light a little on the starboard bow.

(137) In entering Shakan Strait, favor the north point slightly. When 1.2 miles inside the entrance to the strait, favor the north shore slightly, otherwise follow a midchannel course to the anchorage, about 0.8 mile south-southwest of the entrance to El Capitan Passage, a distance of 4 miles. Anchor about 0.3 mile offshore in 7 to 9 fathoms, mud bottom.

(138) At night, deep shadows make it difficult to distinguish the entrance to the channel between Hamilton Island and Kosciusko Island. The channel between Divide Island and Middle Island is used by small craft.

(139) **Barrier Islands**, on the north side at the entrance to Shakan Bay, are two islands with numerous rocks and islets around and between them. Both islands are almost level and wooded. A reef extends about 0.7 mile south from the south point of the west island. A rock with 2½ fathoms over it, about 0.7 mile west from that point, is marked on the west side by a lighted bell buoy.

(140) **Calder Rocks** are dangerous kelp-marked reefs off the east shore of Sumner Strait, the southernmost point that is about 2 miles northwest of the Barrier Islands. From this southernmost point, which bares 3 feet, the reefs extend 1.2 miles in a north direction with little depths over them and with deep water close-to. A lighted buoy is close west of the north end. There is good passage on each side of Calder Rocks; the east one is generally used by small craft, and the west one is used by larger vessels.

(141)

## Hole in the Wall to Merrifield Bay

(142) **Hole in the Wall** (56°15.7'N., 133°38.5'W.) is a small cove on the east side of Sumner Strait, east of Calder Rocks and 2.5 miles north of Barrier Islands. The entrance is through a very narrow passage 0.5 mile long, between high bluffs, and opens into a basin 400 yards in diameter. Two rocks that bare are in the narrow entrance. Depths in the basin are from ½ to 7 fathoms; it may be used for anchorage, but is subject to strong winds drawing through the entrance. The bottom is sand and mud. Small craft pass through the narrow entrance only at half tide or higher water.

(143) **Labouchere Bay** is about 1.8 miles north of the entrance to Hole in the Wall and about 4 miles south of Point Baker. It is studded with islets and rocks, the entrance being partially closed by Labouchere Island and the islands and reefs that extend southeast of it to the shore.

(144) There is sheltered anchorage for small vessels just inside the bay on the south side in about 56°17.2'N., 133°39.0'W., in depths of 3 to 21 fathoms, mud and sand bottom. Three detached rocks that cover at half tide are near the head of the anchorage. Small fishing craft anchor southeast of the rocks and near the sand beach in 2 to 5 fathoms. The recommended entrance to Labouchere Bay is from the northwest. Small fishing vessels may enter Labouchere Bay from the south on a north course, through a channel passing east of the kelp-marked submerged reef at the entrance, 0.5 mile southeast of Labouchere Island, and avoiding the large kelp beds on their right.

(145) In 1976, a logging camp was at the cove about 1.7 miles east-northeast of Labouchere Island. There are a small-craft float, a seaplane float and log storage in the cove. Water and gasoline are available in an emergency only. A road connects Labouchere Bay with Port Protection. The logging camp maintains radiotelephone communications with the Alaska Loggers Association in Ketchikan.

(146) **Protection Head**, a bold white bluff, 1 mile north of Labouchere Island, is an outstanding landmark visible from the south for many miles.

(147) **Port Protection** has its entrance 1.5 miles south of **Point Baker**, the northwest extremity of Prince of Wales Island, and 1.5 miles north of Protection Head. The entrance is marked by **Port Protection Light** (56°19'35"N., 133°36'45"W.), 19 feet above the water, shown from a pile with a red and white diamond-shaped daymark on the northeast end of the wooded island at the

southwest side of Wooden Wheel Cove, 1 mile inside the entrance, and by a daybeacon on a detached reef, 0.3 mile off the north shore. A ship may enter Port Protection on either side of the daybeacon while being careful to pass the reef at a safe distance. There is good anchorage for large craft 1.8 miles in from the daybeacon and southwest of the chain of small wooded islands in the upper half of the bay, in 6 to 18 fathoms, mud and sand bottom. A more sheltered anchorage may be had east of the chain of islands.

(148) To reach the second anchorage, proceed from the first on an east-northeast course, keeping the two north of the small wooded islands to the northwest. Pass close to the tangent of the larger island on the right. Depths in the passage between the islands are 6 to 11 fathoms. Good anchorage in 10 fathoms, mud bottom, is directly ahead and about halfway between the island passed on the right and the east shore of the bay. This is the best shelter in the bay, affording protection in all weather. Small vessels may find anchorage in 5 to 8 fathoms a little farther in.

(149) The shores of Port Protection are usually fringed with kelp, and the soundings, though deep, are irregular and the bottom rocky. Log raft mooring facilities are along the southwest shore about 1.2 miles south of Port Protection Light.

(150) **Port Protection** is a small settlement on the northeast side of the port in **Wooden Wheel Cove** and south of Port Protection Light. Along the beach are several homes and a fish cannery facility. A 250-foot state-maintained small-craft float is anchored on the west side of the cove with 4 to 8 fathoms reported alongside in 2005. Water is available. A microwave tower is about 150 yards south of the facility.

(151) **Joe Mace Island** is on the north side of the entrance to Port Protection. **West Rock**, in a cluster of dry rocks and rocks on a reef, is about 300 yards north of Joe Mace Island. The rock is marked by **West Rock Light** (56°21'12"N., 133°38'14"W.), 20 feet above the water, and shown from a skeleton tower with a red and white diamond-shaped daymark.

(152) **Point Baker** is a settlement with two general stores on the inner bay east of Point Baker and about 0.4 mile south of Point Baker Light. Gasoline, provisions, water, diesel fuel and fishing supplies can be had at the stores. A state-maintained 391-foot small-craft float with a seaplane float at its end is at Point Baker. In 1976, depths of 10 to 12 feet were reported alongside. A 45-foot grid is in the mudflats about 60 yards north-northwest of the float. During the fishing season, a fish-buying scow usually moors at Point Baker. Provisions, fishing supplies, gasoline, diesel fuel and water are available from the scow. The settlement maintains radiotelephone communications. A freight boat visits weekly from Ketchikan, and charter seaplanes are available from Ketchikan.

(153) The shores of the bay are steep-to and lined with thick kelp. The midchannel passage, with a controlling depth of 2½ fathoms, leads to the float. The inner bay is restricted by several submerged off-lying dangers and is not recommended as an anchorage. This port is used extensively during the fishing season.

(154) **Point Baker Light** (56°21'33"N., 133°37'05"W.), 20 feet above the water, is shown from a skeleton tower with a red and white diamond-shaped daymark on the northwest end of the outer island on the east side of the entrance to Point Baker anchorage. **Point Baker Anchorage Daybeacon** is on the east side of the passage about 0.2 mile south of the light. A narrow constricted passage that extends from the head of Point Baker Harbor into Port Protection is used considerably by very small craft drawing up to 3 feet at half tide or higher.

(155) **Helm Rock**, covered 2½ fathoms, is about 0.75 mile north-northwest of West Rock Light and on a line between the south point of Strait Island and Point Baker and 0.8 mile from the latter. A lighted buoy is about 0.2 mile north of the rock. There are usually heavy tide rips and swirls around it. A rocky shoal with 3 fathoms over it is 700 yards north-northeast of Point Baker. The usual course is midchannel between Point Baker and Strait Island. Small craft frequently pass between Point Baker and Helm Rock to avoid the current and swirls around the rock.

(156) **Merrifield Bay**, 1 mile east of Point Baker, is good anchorage for small vessels in 8 to 10 fathoms, mud bottom, but is open to the north. On the west side at the entrance are several bare rocks, and a little west of the entrance about 0.55 mile east of Point Baker Light is **East Rock**, a large rock, awash at highest tides.

(157)

## Keku Strait to Meadow Island

(158) **Keku Strait**, marked by lights and daybeacons, connects Summer Strait with Frederick Sound and separates Kuiu Island from Kupreanof Island. Aids to navigation are exposed to high currents and are frequently destroyed by ice and debris. The strait consists of three parts: a large bay at the south and north ends and a narrow, intricate passage, about 18 miles long, known as Rocky Pass, that connects the two bays. The following description covers the south bay and Rocky Pass. The north part is described with Frederick Sound, chapter 8.

(159) The bay forming the south entrance to the strait is very foul, particularly the east and northeast shore. Navigation through any part of the bay should be with caution. The entrance to the bay is between Sumner Island and Point Barrie.

(160) In the south bay, anchorage can be had about 300 yards off the east shore, east of Meadow Island. Anchorage can also be had in Threemile Arm, or in the northeast part of the bay, north-northeast of Monte Carlo Island.

(161) **Point Barrie** forms the east point at the south entrance to Keku Strait. Reefs and shoals extend from 0.5 to 1 mile off the point. **Barrie Island**, 0.9 mile southeast of the point, is a wooded island making a good mark for entering Keku Strait from the east. Foul ground extends from the island to the shore.

(162) West and northwest of Point Barrie are numerous off-lying rocks, reefs and islets. **Trouble Island**, 2 miles north-northwest of Point Barrie, is a prominent wooded islet at the outside edge of the foul area. Small craft with local knowledge can follow an irregular passage through this area, but this should not be attempted when the extensive kelp beds are not showing.

(163) **Conclusion Island** is the large densely wooded island about 4.5 miles west-northwest of Point Barrie and 3 miles north of Sumner Island; it has several peaks and is generally steep-to.

(164) **No Name Bay**, about 3 miles west of Conclusion Island, is constricted at its head by several wooded islets. Near the head is anchorage suitable for small craft.

(165) **Seclusion Harbor** is a small inlet about 3.5 miles north-northwest of the west end of Conclusion Island. A chain of islands is east of its entrance.

(166) **Threemile Arm**, north of Seclusion Harbor, makes off to the west at the northwest end of the bay. Its entrance is obstructed by rocks. By proceeding with care, vessels can enter passing northeast of the islet in the middle of the entrance and find good protected anchorage in the middle of the arm in 5 to 8 fathoms, soft bottom.

(167) In 1974, a survey revealed a rock awash in the middle of the arm in 56°35'45"N., 133°50'10"W.

(168) **Meadow Island** is a low, wooded island in the east part of the bay, 4 miles north of Point Barrie. The island is used as a fox farm. Foul ground extends 300 yards south and 0.6 mile north of the island.

(169)

## Skiff Island to Entrance Island

(170) **Skiff Island** (56°31.1'N., 133°41.0'W.), on the east side of the bay at the south end of Keku Strait, is low and wooded and is surrounded by rocks and reefs. A small-boat passage is east of the island.

(171) About 1.1 miles west-northwest of Skiff Island is a small, wooded island, divided at high water. The cut is quite prominent from east and west. The south point of the island is a bold, light-colored cliff, easily identified.

(172) **Monte Carlo Island**, near the center of the bay, is a relatively large, low, wooded islet, 2.5 miles south-southwest of the entrance to Rocky Pass. It is surrounded by foul ground and heavy kelp, particularly to the south, east and north. Clear of the foul ground to the north is a passage leading to the west that affords indifferent anchorage in 6 to 7 fathoms, sticky bottom. The small cove on the north side of the island affords anchorage for small craft, but the entrance is difficult because of the numerous rocks and reefs.

(173) **Rocky Pass** has its south entrance about 8 miles north of Point Barrie. The east side of the entrance is bounded by foul ground and heavy kelp, offering a few bays for small boats.

(174) A federal project provides for a channel dredged to a depth of 5 feet through Devils Elbow and The Summit, the shallowest parts of the pass.

(175) The pass is used by fishing vessels, cannery tenders, and tugs with log rafts. The draft which can be carried through depends on the tide. Because of strong currents, narrow channel, and sharp turns, it is advisable to make passage at or near high-water slack.

(176) The depths through Rocky Pass are generally shallow, and small craft can anchor practically anywhere with the aid of the chart. Larger craft can enter the south end of the pass for a distance of 2 miles until opposite **Tunehean Creek** and select anchorage according to draft, either to north or south of the midchannel reef off the mouth of the creek. At the north end of Rocky Pass, larger craft can anchor in Big John Bay or Stedman Cove or in the channel as far south as 1 mile below High Island.

(177) **Devils Elbow**, about 14 miles north of Point Barrie, is the most dangerous part of the pass. The channel here makes a full right-angle turn. In 2007, the channel had a controlling depth of 3.7 feet with shoaling to 2.5 feet along the edge of the channel at Daybeacon 17.

(178)

### Local magnetic disturbance

(179) Differences of as much as 3° from the normal variation have been observed in the Devils Elbow in the vicinity of 50°38'N., 133°41'W.

(180) **Beck Island** is a small island in the center of the pass about 6.5 miles north of the south entrance and about 0.7 mile south of Summit Island. South of Beck Island is **Brown Bear Head Island** with off-lying rocks awash to the south.

(181) **Summit Island**, a relatively large island about halfway through the pass, is at the south end of the most constricted part of the pass, known as The Summit. The island is low and wooded to the high-water mark, with large tide flats about the north and east sides.

(182) **The Summit** is the narrow passage, west and northwest of Summit Island, through which a channel has been dredged. The channel had a controlling depth of 4 feet in 2009. Passage through The Summit should be attempted only with local knowledge.

(183)

### Local magnetic disturbance

(184) Differences of as much as 4° from normal variation have been observed in Keku Strait, north of The Summit, in the vicinity of 56°42'N., 133°44'W.

(185) **High Island**, about 10.5 miles north of Keku Strait south entrance and 1.8 miles south of Beacon Island, is the largest island in Keku Strait. The west arm of the island has a conspicuous conical peak. Boats awaiting the tide often are off the northwest point of this part of the island. Just south of the point are several clusters of mooring piles close-in along the shore, and anchorage in 12 to 18 feet can be secured just northwest of the point.

(186) **Beacon Island** marks the turn in the general direction of the pass from north to west. A low-water rocky ledge extends all around the island to the extent of 125 yards east of the island and 200 yards southwest of the island.

(187) Passage east of Beacon Island leads into **Big John Bay**, a large bay that extends north and east of Horseshoe Island. Fishing vessels often anchor in the southeast arm of Big John Bay in 18 to 24 feet, soft bottom. This anchorage is protected from all directions except northwest. The north part of Big John Bay is considered good game country. Entering from the west the channel leads north of Horseshoe Island and between the larger two of the islands west of Horseshoe Island.

(188) **Berry Island**, southwest of Horseshoe Island and about 1.2 miles west-northwest of Beacon Island, is small but quite prominent in the vicinity; the vegetation has a rather distinct shade. The island is on the southwest part of a reef that extends about 0.3 mile northeast. This reef, which covers at half tide, should be given a wide berth.

(189) **Stedman Cove**, the deep bight in the southwest shore of **Horseshoe Island**, affords the best anchorage in the vicinity for small craft; it is well protected from almost every direction, particularly from southeast and from north to northwest. It is a convenient place to await favorable tidal conditions before proceeding south through the pass.

(190) When entering the cove, care should be taken to avoid the long sandspit that extends about two-thirds the distance across the entrance from the east shore. The point of this spit is usually marked by a pole. Continue beyond the second point along the east shore and anchor in 12 to 18 feet in the inner cove.

(191) **Entrance Island**, a long narrow island marking the north entrance to Rocky Pass, is low and wooded to the high-water line. A low-water ledge extends 225 yards off the south shore of the island. Strong tidal currents run around the north end of Entrance Island, and this area is not very favorable for use as an anchorage. Even the head of the bight northeast of Entrance Island is a poor anchorage area, being too exposed.

(192)

### Tides

(193) The range of tide at The Summit is about the same as at Ketchikan, but the time of tide occurs about ½ hour later than at Ketchikan. In the south and north bays of Keku Strait, the range of tide is about 0.8 of that at Ketchikan, and the time of tide is about the same as at Ketchikan. When proceeding in either direction, it is best to enter Rocky Pass about 1½ to 2 hours before high water. There are many places at each end of Rocky Pass where vessels waiting for the tide can anchor. Strangers should make passage on a rising tide and be careful to remain in the channel because of the many unmarked dangers close to the channel edge.

(194)

### Currents

(195) The flood current enters Keku Strait at both ends and meets in varying places between High Island and The Summit. At the entrance to Rocky Pass the tidal current has a velocity at strength of 0.9 to 1.2 knots.

(196) At Devils Elbow the velocity of current is 1.8 to 2.4 knots, this being the strongest current encountered in the pass. Slack water occurs at practically high and low water. The period of slack at low water lasts only 5 or 10 minutes, and the current attains considerable velocity within a half hour of this time. The high-water slack lasts considerably longer, and passage through Devils Elbow can easily be made within an hour before and after the high-water slack.

(197) At The Summit strong currents set in within 1 hour of high-water slack attaining a velocity of about 2.6 knots. Through The Summit and the passages north of The Summit, the currents are quite variable because of frequent shallow depths and the intricate topography. High-water slack occurs near high water, but the ebb current runs for a considerable time after low water. (See the Tidal Current Tables for daily predictions.)

(198)

### Point Baker to Duncan Canal

(199) Point Baker and Helm Rock have been described earlier in this chapter.

(200) In **Buster Bay**, the open bight 6.5 miles east of Point Baker (56°21'N., 133°37'W.), vessels may find anchorage with shelter from south winds in 10 fathoms, sand bottom, about 0.7 mile from shore.

(201) **Totem Bay**, about 10.5 miles northeast of Point Baker, is a large indentation on the north shore of Sumner Strait, midway between Point Barrie and Mitchell Point. A reef extends 1.2 miles east from the west point at the entrance. A shoal extends 0.2 mile off the east point at the entrance.

(202) To enter the bay, approach from east, keeping about 1 mile off **Moss Island** and about 0.5 mile off the east point at the entrance. The bay has depths of 7 to 8 fathoms, mud bottom, and is good protection except in south weather. Shoals extend over 0.2 mile from the shores of the bay.

(203) **Shingle Island**, low and wooded, is about 1.5 miles south of the entrance. The bay and its approaches have reefs that extend south of the island and detached submerged rocks.

(204) **The Eye Opener** is a rocky ledge near the middle of Sumner Strait, about 11.7 miles east of Point Baker. It is marked by **The Eye Opener Light** (56°23'09"N., 133°16'36"W.), 34 feet above the water and shown from a skeleton tower on a brown cylindrical base with a red and white diamond-shaped daymark. A rock with 1 fathom over it, not marked by kelp, and a rock with 5¼ fathoms over it and marked by a buoy, are 0.4 mile southwest and 1.8 miles southeast, respectively, of the light.

(205) **Douglas Bay** is a bight, open south, about 4 miles north of The Eye Opener and east of Moss Island. It has depths of 5 to 6 fathoms but is not important as an anchorage.

(206)

## Red Bay

(207) **Red Bay** indents the south shore of Sumner Strait, 11 miles east of Point Baker and 3 miles west of Point Colpoys. The chart shows all known dangers. It is used extensively for anchorage during the fishing season.

(208) The entrance is through a narrow and rocky channel about 0.7 mile long, with depths of 1 to 4½ fathoms. The narrowest part of the channel is between the southwest side of Bell Island and a rock awash off the southeast end of Danger Island. At about 0.8 mile south of this area, the channel leads between two grassy rocks 13 and 16 feet high, and then west of **Range Islet** (56°18'15"N., 133°19'48"W.), which is wooded. A reef, bare at low water, is about 90 yards north-northwest from the north end of Range Islet. south of Range Islet the bay is about 2 miles long and 0.4 mile wide, with depths of 3 to 15 fathoms. A rock awash is near the south end of Red Bay in 56°16'52"N., 133°19'08"W., about 1.4 miles south of Range Islet.

(209) **Dead Island**, small and wooded, is close north of Bell Island and forms the east point at the entrance; a reef with bare heads extends 0.2 mile northeast of the islet. **Pine Point** forms the northeast entrance of the outer bay. **Bell Island** and **Danger Island**, low and wooded, form the east and west sides of the narrow entrance and are separated from the main shore by shallow passes useless for navigation except for a high-water canoe channel behind Bell Island.

(210) Vessels not wishing to enter or waiting for the proper stage of tide may anchor at the entrance to Red Bay in the bight west of Dead Island. Another anchorage is in the middle, northeast of Dead Island, in 7 to 10 fathoms, mud bottom. Larger vessels should anchor farther out with more swinging room in 18 to 20 fathoms. Inside the entrance the anchorage most used is the small bay east of **Flat Island** in 4 to 10 fathoms, mud bottom. This is good shelter in all weather. Vessels wishing to go farther into the bay may find anchorage in 5 to 9 fathoms, mud bottom.

(211) Tidal currents in the narrow entrance to the bay have velocities of 3 to 5 knots, with very short intervals of slack at times of high and low water.

(212) About 12 feet is the greatest draft that can be safely carried in at low water. The safest time to enter is at, or shortly before, high-water slack. All dangers are marked by kelp, but it is run under during the strength of the current.

(213) Enter between the bare rock at the northeast end of Danger Island and the southwest end of Dead Island, favoring the latter, and then favor the west or Danger Island shore until halfway through the passage, when the east or Bell Island shore should be favored to avoid the rock close to the southeast point of Danger Island. Bring the east grassy rock in line with the west side of Range Islet, about 0.3 mile south of Flat Island, steer that range until near the rock, and then pass midway between the two grassy rocks and west of Range Islet. Then follow a midchannel course up the bay and select anchorage as required.

(214) Two miles east of Red Bay (56°20'N., 133°18'W.) is an open bight, sheltered from south winds, that affords anchorage for vessels of any size in 10 to 15 fathoms, mud bottom, about 0.5 mile offshore. The shore from Pine Point to Point Colpoys is rocky and should not be approached closely.

(215)

## Point Colpoys to St. John Harbor

(216) **Point Colpoys**, low and wooded, is on the northwest side of Clarence Strait where it joins with Sumner Strait. **Point Colpoys Light** (56°20'11"N., 133°11'54"W.), 19 feet above the water, is shown from a skeleton tower with a red and white diamond-shaped daymark on the point. Irregular bottom extends about 0.3 mile north from the point. A rock that uncovers 5 feet and is marked by a daybeacon is 1.2 miles east of the light. Shoals and foul ground extend about 2 miles southeast from the rock to Rookery Islands.

(217) **McArthur Reef**, covered 3 fathoms, is about 3.2 miles east of The Eye Opener and 3.6 miles north of Point Colpoys. The reef is marked by a lighted bell buoy.

(218) **Mitchell Point**, on the southeast end of Kupreanof Island and about 6.7 miles north of Point Colpoys, is low, level, and rocky. A broad tapering reef, showing considerable kelp, extends about 2.2 miles southeast from the point. The extreme outer end of the reef bares; at high water it is usually marked by tide rips. A lighted buoy marks the south-southwest entrance of the narrow channel leading to the west of Level Islands.

(219) **Level Islands**, heavily wooded, are about 2.5 miles east of Mitchell Point. South of the west island is a small islet surrounded by rocks, and the entire group is surrounded by a shelving ledge and by kelp that extends out nearly 0.5 mile. A pinnacle rock, with 3 fathoms over it, marked by a lighted buoy, is 0.6 mile southeast of Level Islands in the direction of Vichnefski Rock. The passage southwest and west of Level Islands is foul. A white tower on the north side of the east Level Island is reported obscured by trees from Sumner Strait.

(220) **White Rock** is 1 mile northeast of the east end of Level Islands and can be readily recognized by its white appearance and detached position. Several rocks awash are south of White Rock. The outermost, 0.2 mile south, is marked by kelp.

(221) **Kah Sheets Bay**, north of Level Islands, is shoal and has many dangers. Three wooded islands are south of the north entrance point. Small fishing craft frequently anchor west of the south island in 1½ fathoms, mud bottom.

(222) **Vichnefski Rock**, on the southeast side of Sumner Strait, about 0.8 mile north of Point St. John, Zarembo Island, is long and bare and awash at extreme high water.

It is marked by **Vichnefski Rock Light** (56°26'18"N., 133°00'56"W.), 33 feet above the water is shown from a skeleton tower with red and white diamond-shaped daymark. Southeast of Vichnefski Rock are several ledges that partly bare, and the passage between the rock and **Point St. John** should not be attempted except by small craft with local knowledge.

(223) **St. John Harbor**, on the northwest side of Zarembo Island and east of Vichnefski Rock Light, is sheltered except from north. **Low Point** and Point St. John, respectively, are to the north and south of the entrance. **Northerly Island** and **Southerly Island** are in the outer part of the harbor. Two large rocks are close to the north side of Northerly Island, and rocks that bare and are marked by kelp are just outside of them. Vessels should enter midway between Northerly Island and Low Point.

(224) Anchorage in about 14 fathoms, mud bottom, can be had midway between the middle of Southerly Island and the first bight in the opposite shore of Zarembo Island. Anchorage in 7 fathoms can be had farther in, but the currents are strong.

(225) Small craft can enter St. John Harbor southwest of Northerly Island and Southerly Island, taking care to avoid a rock, awash at half tide, 200 yards southwest of the south point of Northerly Island and a similar rock that is 80 yards south of Southerly Island. A daybeacon is on the point about 1 mile east of Low Point.

(226)

## Duncan Canal

(227) **Duncan Canal** has its entrance 3 miles west of the entrance to Wrangell Narrows. From its head a low marshy valley, sometimes used as a portage, extends to Portage Bay. The soundings in the canal generally are less than 20 fathoms and somewhat irregular. Commercial crabbers and shrimpers operate in the canal.

(228) A daybeacon marks the west side of the entrance to Duncan Canal; a light on Butterworth Island marks the east side.

(229)

### Anchorages

(230) Several good anchorages were found in Duncan Canal, usually in depths of 8 to 15 fathoms, sticky mud bottom, good holding ground.

(231)

### Currents

(232) The flood enters Duncan Canal with a velocity of 1 to 2 knots and runs in the direction of its axis, except at the west entrance of Beecher Pass, through which it passes into Wrangell Narrows, causing a crosscurrent in this immediate vicinity. The ebb flows in an opposite direction, and the same crosscurrent, with a west set, is found at Beecher Pass. The flood current has a west set in the vicinity of the rocks that are off the south end of Woewodski Island. Strong tide rips are found at the entrance to the canal.

(233) In 1959 a survey vessel experienced moderate to strong currents in the entrance between Kupreanof and Woewodski Islands, especially near Butterworth Island. Strangers should use caution when navigating this passage. The effect of the current diminishes inside the canal proper, but light to moderate tide rips have been noted in midchannel as far as Indian Point.

(234)

### Routes

(235) Enter Duncan Canal east of Lung Island, proceed in midchannel west of Butterworth Island, and follow midchannel courses. The known dangers are shown on the chart. Navigate with caution.

(236)

### Pilotage, Duncan Canal

(237) Pilotage, except for certain exempted vessels, is compulsory for all vessels navigating the waters of the State of Alaska.

(238) Duncan Canal is served by the Southeastern Alaska Pilots Association. (See **Pilotage, General** (indexed), chapter 3, for the pilot pickup station and other details.)

(239)

### Towage

(240) Three 500 hp tugs from Wrangell are available for assistance in docking and undocking vessels at the Alaska Barite Facility in Duncan Canal. Arrangements should be made in advance through ship's agents.

(241)

## Foremost Rock to Butterworth Island

(242) **Foremost Rock** (56°30.2'N., 133°00.3'W.) uncovers 12 feet and is marked by a daybeacon. It is near the east end of a reef 0.8 mile long off the entrance to Duncan Canal, almost on a line joining White Rock and the west point at the entrance to Wrangell Narrows and about 1 mile from the point.

(243) **Lung Island**, wooded, is on the west side of the entrance to Duncan Canal. A small islet, 25 feet high and wooded, is in midchannel west of Lung Island; each side of this islet has a narrow passage, the west passage being foul.

(244) **Baby Island** is on the east side of the entrance to Duncan Canal, about 1.1 miles east-northeast of the southeast end of Lung Island.

(245) **Butterworth Island**, wooded, is close off the west shore of Woewodski Island and on the east side of Duncan Canal, about 1.5 miles from the entrance. The narrow passage between Butterworth Island and Woewodski Island is navigable for small craft at high water but is not recommended for strangers.

(246) **Butterworth Island Light 2** (56°32'13"N., 133°04'31"W.), 21 feet above the water, is shown from a frame structure with a red triangular daymark on the west side of the island. The light marks the east side of the entrance to Duncan Canal.

(247)

## Woewodski Island to Wilson Islands

(248) **Woewodski Island** separates the lower part of Duncan Canal from the lower part of Wrangell Narrows and is separated from Lindenberg Peninsula by Beecher Pass. The island is wooded and mountainous.

(249) **Duncan Canal Light 4** (56°34'47"N., 133°04'27"W.), 15 feet above the water, is shown from a skeleton tower with a red triangular daymark on the northwest point of the island. In the first bight to the south of the light are the buildings of the abandoned **Olympic Mine**. A trail leads inland to **Harvey Lake**. A 4¾-fathom shoal and a 3¼-fathom shoal are on the east side of Duncan Canal, about 1 mile and 1.7 miles, respectively, south of Duncan Canal Light 4.

(250) **Beecher Pass**, 4 miles within the entrance to Duncan Canal, connects the canal with Wrangell Narrows; it is filled with islets and reefs showing much kelp. **Fair Island** is at the west end of the pass. A reef extends about 700 yards in a north direction from the northwest end of Woewodski Island, and rocks are off the east end of Fair Island in the middle of the channel to the south of Fair Island. Reefs extend about 250 yards off the north shore of Fair Island, and a rock is about 250 yards east of its east point. All known dangers are charted. The pass is used by tugs with tows and extensively by fishermen and hunters and is easily navigated with proper caution. Boats may pass either north or south of Fair Island with safety. Depths of about 10 feet can be carried through Beecher Pass to Wrangell Narrows.

(251) To go through Beecher Pass, steer midchannel courses from west until beyond the east end of **Big Saltery Island**, and then with the chart as a guide, favor the south shore until almost abeam of No Thorofare Point.

(252) The bay between Keene Island and Big Saltery Island is good shelter and used extensively. A rock, which uncovers at extreme low tide, is about 0.2 mile east of Big Saltery Island in 56°36.0'N., 133°00.0'W. Anchor in 8 to 13 fathoms, mud bottom. Small craft also anchor near the west end of the pass in the small cove on the north side, north of Fair Island in 2 to 3 fathoms.

(253) **Little Duncan Bay**, entering the west shore of Duncan Canal opposite Beecher Pass, about 5 miles from the entrance, is shallow but affords protected anchorage for small craft. **Emily Island** is a small, wooded islet on the south side of the bay. Foul ground extends in a southeast direction from the north point at the entrance.

(254) **Grief Island**, on the east side of Duncan Canal northwest of Beecher Pass, must not be approached closely, as foul ground is found close inshore and southwest of it. A rock that bares is 1.2 miles 340° from the island.

(255) A rock with a depth of ½ fathom over it, 1.7 miles 323° from the northwest point of Grief Island, is marked by a daybeacon close west. In 1972, a survey revealed a shoal covered 6½ fathoms in 56°38'33"N., 133°09'22.8"W., about 0.6 mile southeast of a mooring facility.

(256) **Castle Islands** are a group of small islands, most of them wooded, on the southwest side of Duncan Canal, about 9 miles from the entrance. **Castle River** empties into the bight west of the islands. The head of the bight is filled with a mudflat. The entire area is shoal to the west of the Castle Islands from the south end of Big Castle Island, the largest in the group. A shoal covered ¼ fathom is about 2.1 miles north-northwest of Big Castle Island in 56°41'57"N., 133°12'00"W.

(257) **Mitkof Island**, triangular in shape, is mountainous and wooded at the north and south ends, with a low divide in an east and west direction through the central portion. Wrangell Narrows is to the west and Federick Sound and Dry Strait to the north and east, respectively.

(258)

### Wrangell Narrows to Wrangell

(259) **Point Alexander**, the east point of the south entrance to Wrangell Narrows, is marked by **Point Alexander Light** (56°30'33"N., 132°57'01"W.), 17 feet above the water and shown from a skeleton tower with a red and white diamond-shaped daymark on a reef off the point. **Point Howe**, 4.5 miles to the east of Point Alexander, presents no special features.

(260) **Woodpecker Cove** is a small indentation on the north side of Sumner Strait, close west of Point Howe. It affords anchorage for small craft with protection from Stikine winds.

(261) **Station Island**, about 1.7 miles east from Point Howe, is small and timbered. The shoreline is rocky with cliffs 15 to 30 feet high. **Station Island Light** (56°29'40"N., 132°45'48"W.), 19 feet above the water, is shown from a square frame structure with a red and white diamond-shaped daymark on a rock off the east side of the island.

(262) **Blind Slough** enters the south end of Mitkof Island about 2 miles northeast of Station Island. It has a wooded island at the entrance and another island 1.7 miles inside. The head of the slough divides into several arms. A large stream empties into the east arm. From the head of the slough, low ground extends to Wrangell Narrows. The slough is too shallow to be of use as an anchorage except for small craft, and then local knowledge is desirable. There is log storage along the north shoreline of the slough.

(263) An inter-island ferry terminal, marked by lights, is in the slough. Ferry service to Wrangell and Coffman Cove is available Friday through Monday during the summer. The terminal is connected by road to Petersburg, about 25 miles to the north.

(264) **Baht Harbor**, on the north shore of Zarembo Island, about 3.5 miles east of Low Point (56°27.1'N., 132°56.9'W.), is a broad, open bight, affording anchorage in southeast winds. The anchorage is in the middle of the bight, in 12 to 15 fathoms, about 0.2 mile offshore. At

high water, the navigator should not seek less than 15 fathoms.

(265) **Little Baht Harbor**, 1 mile west of Craig Point, affords anchorage for small craft in 11 fathoms, soft bottom, behind a wooded islet and off the mouth of a small creek. There is considerable current at the anchorage, and its use is recommended only in case of emergency.

(266) **Craig Point**, marked by a light, is on the north shore of Zarembo Island, about 2.5 miles east of Baht Harbor.

(267) **Vank Island**, about 2 miles off the northeast end of Zarembo Island, is timbered and has two prominent hills. The south shore is marked by cliffs 40 feet high in places; the north shore is low and strewn with rocks. A small church on the north end of the island is visible from north. A light is on Neal Point at the south end of the island. Mud Bay is to the northwest of Neal Point. It is deep at the entrance, shoals rapidly, and is not regarded as a favorable anchorage. The bight in the north end of Vank Island at times is used as a small-craft anchorage.

(268) **Two Tree Island**, a small rocky islet off the north end of Vank Island, is marked by a light. A 2-fathom spot is about 1 mile north-northwest from Two Tree Island. Passage may be made on either side of Vank Island, but the south is preferred.

(269) **Sokolof Island**, northeast of Vank Island, is timbered. The center is low and is drained by a stream running west, which empties into a bay used as an anchorage by small boats except during west winds. In 1976, log storage took up most of the bay.

(270) **Wilson Islands** are at the south end of Dry Strait about 2.2 miles north of Sokolof Island. The two low, rocky islands are thickly wooded with spruce.

(271)

## Dry Strait to Stikine River

(272) **Dry Strait**, mostly bare at low water, affords passage for small craft at high water between the head of Sumner Strait and the head of Frederick Sound. It is extensively used by fishing boats and towboats operating between the towns of Wrangell and Petersburg. The channel requires local knowledge for safe navigation. Boats should attempt the passage only on the upper half of a rising tide. There are no abrupt changes in depth. The water is muddy at all times, and strong currents are experienced in places, 5 knots having been observed at times at Blaquiere Point.

(273) **Dry Strait Light 1** (56°35'02"N., 132°32'33"W.), 29 feet above the water, is shown from a skeleton tower with a green square daymark on **Blaquiere Point** on the west side of the south entrance to Dry Strait. The channel passes close east of Blaquiere Point and to the west of the small islet 0.9 mile north of the point. A light on the west shore, about 3.5 miles northwest of the islet, marks the north end of the shoal water area through the strait.

(274) **Dry Island** and **Farm Island** are on the east side of Dry Strait north-northeast of Blaquiere Point. Boats should not attempt passage between these islands. A poor channel can be followed at high tide between Farm Island and **Sergief Island** to the south.

(275) **Kadin Island**, about 2.5 miles south of Sergief Island, is 1,810 feet high, and wooded. **Rynda Island** and **Greys Island**, west of Kadin Island, and **Pocket Island** and **Hidden Island**, northwest of Dry Island, are within Dry Strait. Fivemile Island, marked by a light, is about 1.8 miles north from the north end of Woronkofski Island and is described with Stikine Strait.

(276) In 2001, shoaling had progressed 0.6 mile southwest of the southeast tip of Kadin Island toward **Liesnoi Island**, a small wooded island to the south of Kadin Island. Mariners are advised to use extreme caution while navigating in this area due to the constantly changing nature of the bottom.

(277) The **Stikine River** has its source in a small lake in British Columbia near 57°10'N., 128°00'W., and is about 200 miles long. It flows in a southwest direction through glaciers and gorges; one of the latter, very narrow and about 30 miles long, is known as the Grand Canyon. The river freezes in the winter, and with the spring freshets the current builds up great force. The river is usually navigable from about May 1 to October 15. The highest water is generally in July. Vessels drawing 3 feet and less navigate the river to Telegraph Creek, BC, about 143 miles above the mouth.

(278) Stikine River empties by two mouths: one, the north channel, following the mainland west, enters the head of Frederick Sound; the other follows the mainland south and forms the only navigable entrance to the river. The north channel can be navigated only by small craft at high water. The south entrance has a least depth of about 2 feet at mean lower low water. The mean range of tide is about 11½ feet, and the diurnal range is about 14 feet. The channel is from 0.2 to 0.5 mile wide. Tidal effects have been noted for a distance of about 17.4 miles above the mouth.

(279) The federal project provides for snagging of the Stikine River from its mouth to the Canadian border, a distance of about 26 miles above Gerard Point (56°31'N., 132°20'W.). Snagging operations are made annually by the U.S. Forest Service.

(280) No permanent directions can be given since the channel across the mud flats at the mouth of the river changes with every freshet. Strangers can obtain directions from the masters of the river boats at Wrangell. The channels of the south arm of the Stikine River are followed by experienced boatmen by the appearance of the water. There is a strong south current in the channel. The water appears to boil in the deeper parts, while over the shoals it runs smoothly and evenly.

(281)

## Wrangell Narrows

(282) **Wrangell Narrows** extends in a general north direction for 21 miles from near the east end of Sumner Strait to the east part of Frederick Sound. The channel

is narrow and intricate in places, between dangerous ledges and flats, and the tidal currents are strong. It is marked by an extensive system of lights, lighted ranges, daybeacons and buoys that, with the aid of the chart, renders the navigation of the narrows fairly easy for small craft, even without local knowledge. It is safest to enter either end late on a flood tide. Waterborne traffic through the narrows consists of cruise ships, state ferries, barges and freight boats carrying lumber products, petroleum products, fish and fish products, provisions and general cargo.

(283)

### Channels

(284) The federal project for Wrangell Narrows provides for several dredged sections 24 feet deep through the narrows, except for a dredged section west of Turn Point, that has a project depth of 27 feet. In 2008, the controlling depth in the dredged section from Frederick Sound to Lighted Buoy 53 was 17.1 feet (21.1 feet at midchannel), thence 24.0 feet to Scow Bay, thence 18.8 feet (20.6 feet at midchannel) in the dredged section from Lighted Buoy 42 to Light 8, thence 21.6 feet in the dredged section south of Battery Islets. Some of the cuts have a tendency to fill, and considerable maintenance dredging has been required. Channel edges are sharply defined in most places; large vessels are advised to stay as close to midchannel as possible. Once or twice each year exceptionally low tides occur, at which the water level may fall as much as 4 feet below chart datum. In 2006, shoaler areas caused by boulders were found in the channel near Green Point, restricting the depth in this reach to less than 20 feet.

(285)

### Tides

(286) Tidal currents can be significant throughout Wrangell Narrows, creating a near riverine environment in some areas. See the Tidal Current prediction service at *tidesandcurrents.noaa.gov* for specific information about times, directions, and velocities of the current at numerous locations throughout the area. Links to a user guide for this service can be found in chapter 1 of this book.

(287)

### Currents

(288) The currents enter Wrangell Narrows from both ends on the flood and meet just south of Green Point (56°42.0'N., 132°57.2'W.). At the north end of the narrows during the turn of the tide on the last of the flood and the first of the ebb, an unexpected current of about 2 knots sets northwest directly across the channel. The velocity of the current in the narrows varies from place to place. Off Petersburg, the velocity of the current is 3.5 knots. The strongest currents occur off Turn Point, Spike Rock and South Ledge, where the velocity of the current can reach between 4 and 5 knots. During spring and tropic tides, velocities of 6 to 7 knots may occur. (See the Tidal Current Tables for daily predictions.)

(289) In a 2006 survey, NOAA ship RAINIER noted time differences of up to 30 minutes in the times of predicted and observed slack water.

(290)

### Ice

(291) Occasionally a few stray pieces of ice from Le Conte Bay work into Wrangell Narrows as far as Green Point (56°42.0'N., 133°57.2'W.). The pieces are sufficiently large to make them dangerous to navigation.

(292)

### Routes

(293) Specific courses for Wrangell Narrows would be of little help and could be confusing. The navigator should pay close attention to the chart as the narrows are well marked with aids to navigation that should be closely followed.

(294) In some cases with twin screw vessels, the engines are reversed in order to help make the sharp turns. Inquiry of local pilots showed that they did not use courses in the narrows because of strong currents and sharp turns. In foggy weather vessels come to anchor at either end of the narrows and wait until the fog clears away. The anchorage off Anchor Point, about 8.5 miles above the south entrance, is also available to vessels under the stress of weather.

(295) On the course between **Deception Point** and Point Lockwood, there is a strong tendency to be set to the west with a flood current. At Point Lockwood Rock Light, a sharp turn is necessary and usually the time required to get on course makes it necessary to immediately change to the next course. Commercial vessels make this turn by going hard left and hard right without steadying.

(296) On the course between Burnt Island Reef and South Ledge, there is a tendency to be set to west on the flood.

(297) On the course out of the north end of the narrows during the flood, there was found to be a strong west set especially in the vicinity of Prolewy Rocks.

(298) Low-powered vessels usually enter the narrows on the last of the flood and carry a favorable current all the way through. The currents meet about 8 miles from the north entrance and 12 miles from the south entrance.

(299) Vessels expecting to reach the vicinity of Bush Top Island at slack low water are advised that the channel in this area contains depths shoaler than the charted controlling depths. A survey conducted by NOAA ship RAINER in 2005 found depths as shoal as 19 feet midchannel. Mariners are advised to transit this area with caution.

(300) Vessels too large to make the passage through Wrangell Narrows safely continue west through Sumner Strait, round Cape Decision, and go north through Chatham Strait, or west to sea by way of Cape Ommaney. Smaller vessels regularly using Wrangell Narrows sometimes use the longer passage to their advantage when not favored by suitable conditions of tide or daylight in the narrows.

(301) (See **33 CFR 162.255**, chapter 2, for navigation regulations for the Wrangell Narrows.)

(302) **Midway Rock** is about 1.3 miles north of Point Alexander, the east point at the south entrance to Wrangell Narrows, and 400 yards from the east shore. It is low and marked by a light.

(303) Anchorage with protection from north and northeast winds can be had near the west shore of the south end of the Narrows west of Midway Rock, in 6 to 12 fathoms, sticky bottom.

(304) **Point Lockwood**, 1.6 miles north of Midway Rock, is marked by a light. A ledge is close to the west shore nearly 0.5 mile above the point. A dangerous flat that bares extends 300 yards off the mouth of a stream on the east shore opposite the ledge.

(305) **Point Lockwood Rock**, covered ¾ fathom, is 200 yards off the west shore, about 0.6 mile north of Point Lockwood. The rock is marked on the northeast side, its highest point, by a light. A rock, covered 2¾ fathoms but with no kelp, and marked by a light, is about 300 yards north of Point Lockwood Rock and the same distance south of the southernmost **Battery Islets**. The main channel leads west of Battery Islets and has a clear width of 100 yards with rocks on both sides. Two lighted buoys mark the edge of the shoal water on the west side of the channel, and on the east side of the channel a light marks the northwest edge of the reef off the northernmost islet. The tow channel used by small craft and tows runs east of Battery Islets and is marked by buoys. Dense kelp extends into this channel from both sides.

(306) **Boulder Point**, on the west side of the narrows about 0.4 mile northwest of Battery Islets, is marked by a light.

(307) **No Thorofare Point**, on the west side of the channel 5 miles above Point Alexander, is the south point of the east entrance of Beecher Pass. Beecher Pass has been described with Duncan Canal earlier in the chapter.

(308) **Spike Rock**, about 0.6 mile north of No Thorofare Point and 475 yards southeast of Keene Island, is close to the west edge of the channel and is marked by kelp in the summer and fall. Mariners are advised to use extreme caution when transiting the area. A lighted channel buoy is close south of the rock. The dredged channel east of the rock is marked by lights, on the east edge, and by a lighted centerline range. Pick up the lighted range promptly when approaching Spike Rock from the north.

(309) **Caution** is advised when transiting in the channel east of **Keene Island**. A rock covered 3.1 fathoms and in the side of the channel is about 60 yards south-southwest of Daybeacon 10A in 56°36'13"N., 132°58'32"W.

(310) **Burnt Island**, small and wooded, is on the west side of the channel about 6.1 miles above Point Alexander. A light marks the end of the rock ledge that extends south from Burnt Island. The east edge of the reef off the north side of the island is marked by a buoy. **Caution** is advised when transiting this area due to the proximity of the ledge to the west channel limit. **Burnt Island Reef** is on the east side of the channel, northeast of Burnt Island, and is marked by a light. The dredged channel that leads west of the reef is marked by a lighted range.

(311) **South Ledge**, a reef marked by kelp in the summer and fall, is on the east side of the channel about 7 miles above Point Alexander. The east edge of the channel northwest of the ledge is marked by a light. The west edge of the channel is also marked by a light.

(312) **North Ledge** is a bare reef marked by a light on the east side of the channel 0.5 mile north of South Ledge. **North Point** is on the west side of the narrows between North and South Ledges. A reef that extends off the point is marked by a light.

(313) **Bush Top Island**, north of North Ledge, is to the west of the channel. The southeast edge of the reef surrounding the island is marked by a light.

(314) **Spruce Point**, low and wooded, is on the east side of the channel opposite Bush Top Island.

(315) **Colorado Reef** is a reef that bares, on the west side of the narrows opposite **Anchor Point**, about 8.5 miles above Point Alexander. A mud flat fills the large bight between Anchor Point and **Blind Point**. A narrow channel, called **Blind Slough**, is navigable for small craft at high tide and leads across the mudflat to the mouth of **Blind River**. A fixed highway bridge with a 38-foot span and a clearance of 6 feet is about 3.5 miles above the entrance to the river.

(316) The winding channel between Anchor Point and Rock Point, about 2.2 miles to the north, is well marked by lights, buoys and a daybeacon.

(317) The dredged anchorage area, 200 yards wide, is on the west side of the channel northwest of Anchor Point. The controlling depth in the anchorage was 24½ feet in 1997.

(318) **Vexation Point** is the east point of **Woody Island**, about 9.5 miles north of Point Alexander. The edge of the reef that makes off to the northeast of the point is marked by a light. The tow channel, with a reported controlling depth of 23 feet in 2001, passes to the west of the main channel between Anchor Point and Woody Island.

(319) **Danger Point Ledge** is a reef that bares off **Danger Point** on the east side of the channel opposite Vexation Point. It is marked by a light.

(320) **Green Rocks** are wooded and about 0.8 mile north of Vexation Point. The north end is marked by a daybeacon and south end by a light. The main channel passes east of Green Rocks.

(321) **Papkes Landing**, on the east side of the narrows, about 11 miles north of Point Alexander, is the site of a state-maintained small-craft float. In 2002, the 100-foot-long float had a reported depth of 2 feet alongside. A lumber company bulkhead pier that runs dry at low water is close north of the float. The U.S. Forest Service maintains a log pond and rafting area just north of the pier. A road extends north about 10 miles along the east shore of the narrows from Papkes Landing to Petersburg and southeast about 17 miles through Blind Slough to Dry Strait.

(322) **North Flat** is a wide flat that bares, on the east side of the channel, north of Papkes Landing and southeast of **Green Point** (56°42.0'N., 133°57.2'W.). **South Flat** is a

smaller flat that bares on the opposite side of the channel. The main ship channel between the flats is marked by lights and a lighted buoy.

(323) From the light off Green Point the channel widens to almost the whole width of the narrows, and the water deepens to 15 to 20 fathoms.

(324) A logging company has an 80-foot floating pier on the west side of the narrows about 0.75 mile north of Green Point.

(325) **Mountain Point**, about 2.3 miles north of Green Point, is marked by a light 43 feet above the water.

(326) **Scow Bay**, on the east side of Wrangell Narrows, is about 2 miles below Petersburg and immediately south of Blunt Point. At night, the lights from the community of Scow Bay show prominently on the narrows.

(327) A wharf, formed by a landfill, is about 0.2 mile southeast of Blunt Point with 400 feet berthing space; deck height, 20 feet; 14 feet reported alongside in 2002; receipt and shipment of containerized general cargo; approximately six acres of open storage, forklifts to 45-tons; and operated by Alaska Marine Lines and Northland Services, Inc.

(328) A dock, approximately 0.3 mile northwest of Blunt Point, has a 230-foot face; 15 to 20 feet reported alongside in 2002; handling supplies for fishing vessels; and operated by Reid Co.

(329) At **Blunt Point** the channel narrows and boulder patches, marked by kelp, are on either side. A light marks the edge of the reef on the east side of the channel off Blunt Point. The light is most brilliant down channel, diminishing around the rest of the horizon.

(330) At **Turn Point**, about 1.5 miles north of Blunt Point, a shoal extends to northwest halfway across the narrows. Frequent dredging is necessary to keep the channel open at this point. The dredged channel is marked by two lighted ranges, lighted buoys and three lights.

(331) **Petersburg Creek**, which empties into the narrows from the west side opposite Turn Point, is navigable for small craft at high tide.

(332) **Bayou Point** is the north point at the entrance to Petersburg Creek. A road extends along the shore behind the point.

(333) **West Petersburg** is a small settlement on the west side of Wrangell Narrows, 1.6 miles inside the entrance opposite Petersburg.

(334) **Prolewy Rocks**, off the west point just inside the north entrance to Wrangell Narrows, are marked by a daybeacon. A dangerous 1¾-fathom reef is 0.15 mile east-northeast of the daybeacon and adjacent to the north side of the channel. Mariners are advised to the use caution when transiting this area. A lighted bell buoy marks the north entrance to Wrangell Narrows.

(335) **Petersburg** is a fishing center on Mitkof Island, on the east side of Wrangell Narrows, 1 mile inside the north entrance. The city has two cold storage plants, four canneries, two oil terminals, and a sawmill. Petersburg is the home port of over 300 fishing boats. The deepest draft of a commercial vessel calling at the port was 20 feet in 2003. Commodities handled at the port include fish and fish products, logs and lumber products, machinery, petroleum and petroleum products, provisions and general cargo.

(336)

### Prominent features

(337) A church spire, about 1.2 miles east-northeast of Turn Point, is conspicuous from seaward.

(338)

### Channels

(339) A federal project provides for a depth of 24 feet in the approaches to the existing wharves, a small-craft basin 11 to 15 feet in depth and a short channel 8 feet deep to the south side of the Whitney-Fidalgo Pier. In 1993, the project depths were generally available throughout the harbor except for lesser depths along the basin edges.

(340)

### Anchorages

(341) Petersburg Harbor affords excellent protection for small craft. Larger vessels may find protected anchorage 0.3 mile south of Scow Bay in 4 to 5 fathoms, mud bottom.

(342)

### Dangers

(343) All known dangers are charted, and most are marked.

(344)

### Weather

(345) Petersburg has a typical maritime climate with mild winters, cool summers and an annual precipitation of more than 100 inches. Petersburg's location shields it from most of the high winds observed in the channels of southeastern Alaska with a resulting average annual wind speed of about 4.3 knots. The high winds can occur from almost any direction but most commonly blow from either north, north-northeast, south-southeast or southeast. About 45 percent of the winds, 21 knots or more, blow from the south-southeast and southeast, and about 30 percent from the north and north-northeast; higher winds have been observed from other directions.

(346) Fog is observed on an average of 10 to 12 days in each month except September and October, when fog occurs on an average of 16 to 19 days each month. Snowfall, however, is the greatest restriction to visibility in the winter.

(347)

### Pilotage, Petersburg

(348) Pilotage except for certain exempted vessels is compulsory for all vessels navigating the inside waters of the State of Alaska. (See Pilotage, Alaska, indexed as such, chapter 3, for details.)

(349) Vessels en route Petersburg meet the pilot boat about 1 mile northwest of Guard Islands Light (55°27.5'N., 131°53.9'W.).

(350) The pilot boat, a tugboat, can be contacted by calling "PETERSBURG PILOT BOAT" on VHF-FM channels 16, 13 or 12.

(351)

### Towage

(352) Tug assistance is not normally required for docking or undocking vessels at Petersburg. If such services are required or desired, commercial towboats up to 320 hp operating from Petersburg and engaged in towing of barges and log rafts are available. Towboats up to 1,270 hp are available from Wrangell.

(353)

### Quarantine, customs, immigration and agricultural quarantine

(354) (See chapter 3, Vessel Arrival Inspections, and Appendix A for addresses.)

(355) **Quarantine** is enforced in accordance with regulations of the U.S. Public Health Service. (See Public Health Service, chapter 1.)

(356) Two Coast Guard cutters are stationed at Petersburg.

(357)

### Harbor regulations

(358) A **speed limit** of 7 knots is prescribed for Wrangell Narrows off Petersburg Harbor. (See **33 CFR 162.255**, chapter 2, for regulations.)

(359) Petersburg city ordinance prescribes a 4 mph and "no wake"**speed limit** inside the floats at the city boat harbors.

(360)

### Wharves

(361) All the wharves in Petersburg are privately owned and operated except City Pier, which is owned by the city, and the Ferry Terminal, which is owned and operated by the State of Alaska.

(362) **NorQuest Seafoods Wharf** (56°48'24"N., 132°58'45"W.): 210-foot face; 11 feet alongside in 2004; deck height, 24 feet; a 2-ton forklift; receipt of seafood; mooring commercial vessels; icing vessels; and handling supplies for fishing vessels; owned and operated by NorQuest Seafoods, Inc.

(363) **State of Alaska, Petersburg Ferry Terminal Dock** (56°48'31"N., 132°58'34"W.): 150-foot face; 22 feet alongside in 2004; total berthing space, 600 feet; load and discharge passengers and vehicles; operated by the State of Alaska.

(364) **Petro Marine Services, Petersburg Wharf and Floats** (City Pier) (56°48'36"N., 132°58'19"W.): 160-foot face; 18 to 20 feet reported alongside in 2002; deck height, 27 feet; receipt of petroleum products; fueling vessels; and mooring U.S. Coast Guard and U.S. Forest Service vessels; owned by the City of Petersburg and operated by Harbor Enterprises, U.S. Coast Guard and U.S. Forest Service.

(365) **South Harbor Crane Wharf** (56°48'38"N., 132°57'43"W.): 120-foot face; 18 feet reported alongside in 2002; deck height, 25 feet; receipt of seafood; handling supplies for fishing vessels; owned by the State of Alaska and operated by the City of Petersburg.

(366) **Ocean Beauty Seafoods** (56°48'46"N., 132°57'50"W.): 300-foot face; 20 feet reported alongside in 2002; deck height, 27 feet; two 2-ton forklifts; receipt of seafood; handling supplies for fishing vessels; icing fishing vessels; mooring government-owned vessels and mooring vessels for repair; owned by Ocean Beauty Seafoods, Inc. and operated by Ocean Beauty Seafoods, Inc., Piston and Rudder Service, U.S. Forest Service, and Alaska Department of Fish and Game.

(367) **NorQuest Seafoods Wharf** (56°48'48"N., 132°57'33"W.): 65-foot face; 12 feet reported alongside in 2002; deck height, 26 feet; three 1½-ton forklifts; receipt of seafood; icing vessels; owned and operated by NorQuest Seafoods, Inc.

(368) **Petersburg Fisheries Wharf** (56°48'51"N., 132°57'37"W.): West face 175 feet; 23 to 26 feet reported alongside in 2002; deck height, 26 feet; thirty 2-ton forklifts; receipt of seafood; icing vessels; and mooring vessels; owned and operated by Petersburg Fisheries. A strong current is reported to set on the wharf on the flood and ebb.

(369)

### Supplies

(370) Provisions, fishing supplies and some marine supplies can be obtained in Petersburg. Water is available at all wharves. Gasoline, diesel fuel, distillates, lubricating oils and greases can be had at the oil companies' wharves. Only diesel oil is available in Petersburg for large vessels. Fishing vessels can obtain ice at the wharves of the canneries and cold storage plants.

(371)

### Repairs

(372) There are no drydocking or major facilities for larger vessels in Petersburg or in southeastern Alaska. The nearest facility is Alaska Ship and Drydock, Inc. in Ketchikan, AK, which can accommodate ships up to 400 feet. Other major facilities are in British Columbia and the State of Washington. A 300-ton marine railway and a grid capable of handling vessels to 40 feet is available about 0.4 mile southwest of Ocean Beauty Seafoods Wharf. A 210-foot small-craft grid is on the east side of the north boat harbor. Emergency shaft repair and minor repairs can be made in several machine shops adjacent to the waterfront. Repairs to electronic equipment can be made by several local firms.

(373)

### Small-craft facilities

(374) The city of Petersburg operates a boat harbor immediately north of the Ocean Beauty Seafoods Wharf and two boat harbors immediately south of the Seafoods Wharf. In 2003, depths of 9 to 15 feet were available in the north boat harbor. In 2002, 15 feet was reported in the south boat harbor and 12 feet was reported in the middle boat harbor. Water and electricity are available on all floats. Surfaced boat-launching ramps are in the southeast corner of the north boat harbor and in the southwest corner of the south boat harbor. The **harbormaster** assigns berths, controls the use of the small-craft grids and maintains an office on the approach pier in the northeast

corner of the north boat harbor. The harbormaster's office monitors VHF-FM channel 16.

(375) The U.S. Forest Service owns the south float of the Ocean Beauty Seafoods Pier. Alaska Department of Fish and Game operates a float on the north side of the pier.

(376) A seaplane float is approximately 530 yards southwest of the Ocean Beauty Seafoods Pier.

(377) A state-maintained 95-foot small-craft float is 0.5 mile west of the Ocean Beauty Seafoods Pier at West Petersburg close northeast of Bayou Point. In 2002, a depth of 3 feet was reported alongside.

(378)

### Communications

(379) Petersburg has regular passenger, express and freight service to Puget Sound ports, British Columbia and other Alaska ports by water and air. The Alaska State Ferry System has daily service during the summer to Prince Rupert, BC, Ketchikan, Wrangell, Juneau, Haines, Skagway and Sitka and weekly service to Hoonah, Kake and Seattle. This schedule is less frequent during winter. Scheduled airlines operate daily from Petersburg; charter air service is available. A highway parallels the north shore of Mitkof Island along Frederick Sound for about 5 miles from Petersburg and parallels the west shore of Mitkof Island to Blind Slough, across to Blind Slough on Sumner Strait, and along the south and east shores of Mitkof Island to about 1 mile above Blaquiere Point, about 27 miles from Petersburg. Petersburg maintains telephone and radiotelephone communications, and cellular coverage is quite good throughout this area.

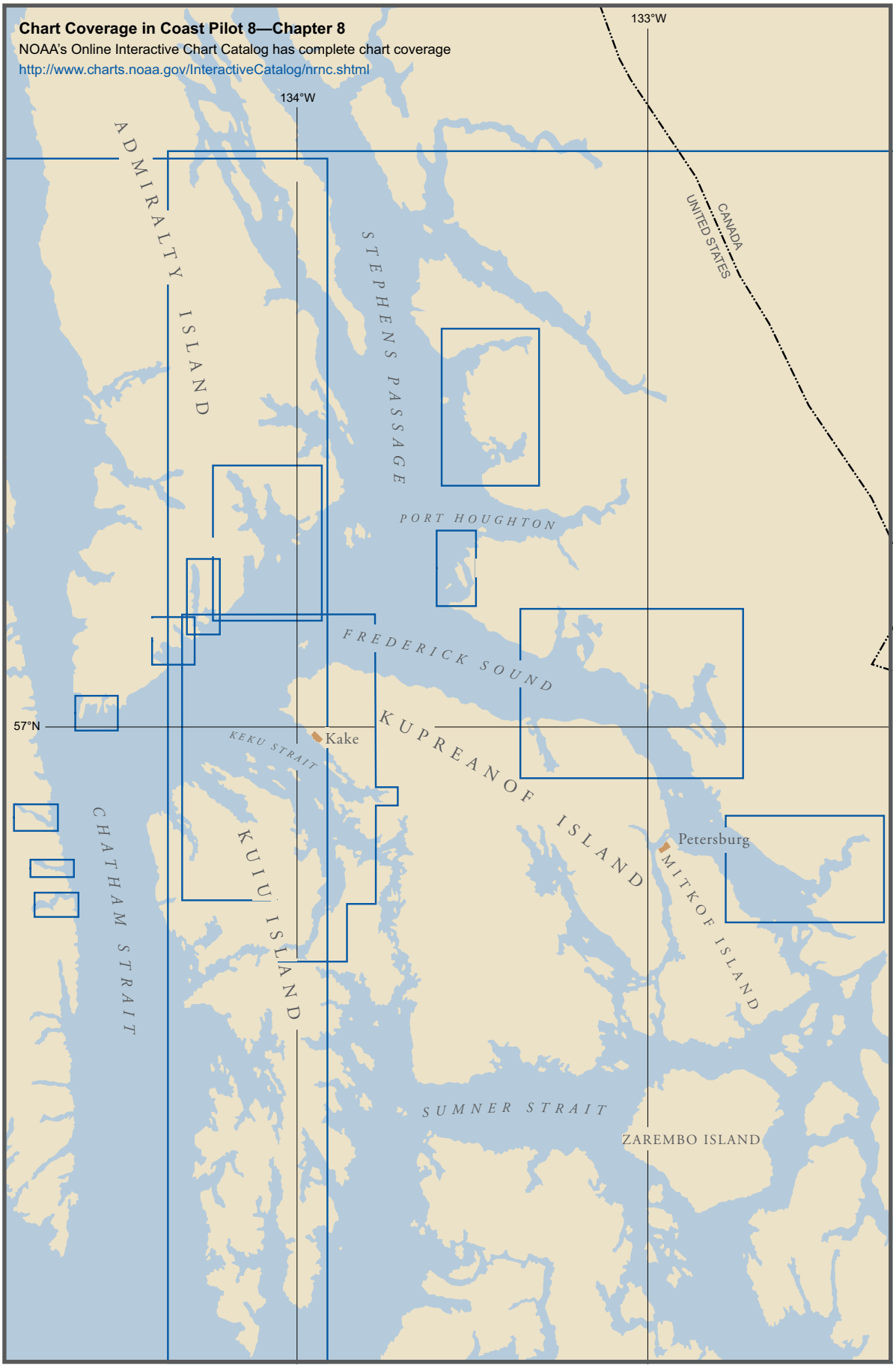


Chart Coverage in Coast Pilot 8—Chapter 8
NOAA's Online Interactive Chart Catalog has complete chart coverage
http://www.charts.noaa.gov/InteractiveCatalog/nrnc.shtml
133°W
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ADMIRALTY ISLAND
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CANADA
UNITED STATES
PORT HOUGHTON
FREDERICK SOUND
KUPREANOF ISLAND
KEKU STRAIT
Kake
Petersburg
MITKOF ISLAND
CHATHAM STRAIT
KUIU ISLAND
SUMNER STRAIT
ZAREMBO ISLAND

# Frederick Sound

(1) This chapter describes Frederick Sound, Le Conte and Thomas Bays, the north part of Keku Strait, Skanáx and Security Bays and the city and harbor of Kake.

(2) **Frederick Sound** has its entrance from Chatham Strait between Kingsmill Point and Point Gardner and extends northeast to The Brothers and Cape Fanshaw, at the entrance to Stephens Passage, and southeast to Dry Strait, a high-water boat passage connecting it with the east end of Sumner Strait. The sound is open and clear of obstructions and has few offshore dangers to navigation. The shores and islands of the sound are all high.

(3)

### Currents

(4) The tidal current on the flood enters Frederick Sound from Chatham Strait; it sets north into Stephens Passage and through the east arm. The ebb sets in the reverse direction.

(5) Strong flood and ebb currents were observed in the vicinity of Cape Fanshaw and Round Rock and in the passage between Turnabout Island and Kupreanof Island. Standing waves were sometimes observed in the vicinity of Cape Fanshaw when strong winds shift rapidly from southeast to north.

(6) Current observations made between Cape Fanshaw and Cape Strait indicate that the ebb or west current is considerably stronger than the flood. In the vicinity of Cape Strait the ebb velocity is about 1.5 to 2 knots and it is probable that the current floods only with the largest tides of the month.

(7)

### Weather

(8) Although sheltered from the open Gulf, Frederick Sound and its surrounding waterways are subject to local effects because of the high ground that surrounds the area. Many locations are vulnerable to strong southeast winds, which are a problem from October through February. Visibilities are most often a problem from about November through March and least often a hazard in April, May and June. The winter maximum indicates restrictions of visibilities because of snow. Precipitation is most likely from September through December with an October peak, when about 9 inches falls on 18 days on average. Temperatures fall below freezing on about 90 days during the year, while in summer they climb to 70°F or above on just a few. Extremes range from just below 0°F to about 80°F over the open water. To the southeast, in the more restricted and more continental regions, the temperature range is much greater and extremes range from about -15°F to the mid 80s.

(9)

### Ice

(10) Glacial ice from Le Conte Bay is generally present in the east arm of Frederick Sound and at times in large quantities. The ice generally follows the north shore of the sound as far as the entrance to Thomas Bay. Under certain conditions of wind and weather, ice may be expected as far as the Sukoi Islets, and it may also be found at Cape Strait and Turnabout Island. Occasionally a few stray pieces of ice work into Wrangell Narrows as far as Green Point, making navigation dangerous.

(11)

### Pilotage, Frederick Sound

(12) Pilotage, except for certain exempted vessels, is compulsory for all vessels navigating the waters of the State of Alaska.

(13) Frederick Sound is served by the Southeastern Alaska Pilots Association. (See **Pilotage, General** (indexed), chapter 3, for the pilot pickup station and other details.)

(14)

## Ideal Cove to Sukoi Islets

(15) **Camp Island**, **Pocket Island**, and **Hidden Island** are wooded islands on the flats north of Dry Strait.

(16) **Ideal Cove** has its entrance on the south side of Frederick Sound, about 13.8 miles southeast of Wrangell Narrows and 1.2 miles south of Coney Island. Log storage extends along the east shore of the cove to the head. At times, logs take up the whole cove. Small craft desiring moorage will tie up to the log booms. A well-defined rock awash is close to the east point of the entrance. A small islet is on the west side at the entrance. Cosmos Point, the east point of the entrance, is wooded.

(17) **Coney Island** is steep-to; the edge of Stikine River flats is about 0.5 mile east of it, and reefs extend 0.3 mile north from the point 0.8 mile south of the island.

(18) **Le Conte Bay**, on the north side of the head of Frederick Sound, at times is inaccessible because of floating ice. The great depths in the bay prevent anchorage. Le Conte Bay is entered from Frederick Sound through a very narrow passage just north of Stikine River flats. At the entrance, a reef that bares at low water extends from the north shore halfway across the passage. Several groundings have occurred on this reef; extreme caution is advised. The bay is very shallow along its west edge from the mouth north to Timber Point. Boulders 1 to 3 meters in size are located in the narrow channel and are displaced about by icebergs that sweep through the area. Strong currents have also been noted in this area.

(19) Large icebergs from **Le Conte Glacier** are a menace to navigation from Camp Island to **Frederick Point**.

(20) The shores of Frederick Sound, from Wrangell Narrows to Cape Strait, are bold. The southwest shore can be safely approached as close as 0.5 mile. A ledge, which uncovers about 8 feet, is about 0.3 mile from the head of the bight, about 3 miles north of Prolewy Point, the northwest point of the entrance to Wrangell Narrows.

(21) The **McDonald Islands** are two small islands about 3.8 miles east of the north entrance to Wrangell Narrows. The east island, 228 feet high, is the larger.

(22) **Brown Cove**, on the northeast side of the sound, about 5.5 miles northeast of the entrance to Wrangell Narrows, affords indifferent anchorage in 11 to 12 fathoms at the entrance. The head of the cove bares at low water.

(23) **Sukoi Islets**, locally known as **Sockeye Islets**, are two wooded islands, with a smaller one between, about 3.8 miles north from the entrance to Wrangell Narrows and about 1 mile off the west shore of Frederick Sound. The westernmost and largest island is about 330 feet high. The easternmost island is about 120 feet high, and the middle island is low. **Sukoi Islets Light** (56°53'44"N., 132°56'39"W.), 18 feet above the water, is shown from a skeleton tower on a concrete pier with a red and white diamond-shaped daymark on the westernmost islet. The usual channel is west of the islets.

(24)

## Point Agassiz to West Point

(25) **Point Agassiz** (56°55.4'N., 132°53.0'W.), on the southeast side of Frederick Sound, is low and wooded. An extensive marsh flat extends about 2 miles to the north.

(26) **Beacon Point**, on the west shore, west-northwest of Point Agassiz and about 3.6 miles north of Sukoi Islets, is marked by a daybeacon.

(27) **Cape Strait** is marked by **Cape Strait Light** (56°59'53"N., 133°05'32"W.), 30 feet above the water, shown from a skeleton tower with a red and white diamond-shaped daymark.

(28) About 1.4 miles southeast of Cape Strait are a small valley and bight. A reef, which has a wooded islet, extends 0.2 mile off the point on the east side of the bight.

(29) **Thomas Bay**, about 3.6 miles east of Cape Strait, is the large estuary on the north side of Frederick Sound between Wood Point and Point Vandeput. The entrance, marked by buoys, is about 10 miles north of the north entrance to Wrangell Narrows and 22 miles east-southeast of Cape Fanshaw. Good anchorage with protection from southeast weather can be had off the south shore well inside Wood Point. Very good small-craft anchorage can be had in either of two small coves on the east shore of Ruth Island in depths of 3 to 10 fathoms, soft bottom.

(30) Thomas Bay, from the bar to **Baird Glacier**, at its head, is about 10 miles long. The moraine of Baird Glacier has encroached to about 0.4 mile north of Scenery Cove. Shoaling to a depth of 3 fathoms or less can be expected. On the southeast side is an arm that extends south to the moraine of the **Patterson Glacier**. These glaciers do not discharge ice into the bay.

(31) **Wood Point**, the east point of the entrance to Thomas Bay, is low and wooded. A kelp-covered reef, largely bare, extends 0.6 mile off Wood Point. A lighted bell buoy and an unlighted buoy mark the west extremity of the reef.

(32) **Point Vandeput** is the south extremity of a low neck of land that extends 2.5 miles south from shore on the northwest side of the entrance to the bay. A detached clump of trees is at the end of the wooded section of the point. A narrow channel, with a depth of 4 fathoms, separates the reef south of the point from a kelp-covered bar that extends 0.8 mile farther in a southeast direction. A buoy marks the southeast end of the bar. Navigation over the bar is possible for shallow draft vessels with local knowledge.

(33) The entrance channel between the bar and the reef west of Wood Point has depths of 4¾ to 11 fathoms.

(34) The **tidal currents** have a velocity of about 3 knots over the bar at the entrance to Thomas Bay, and swirls occur at times from the shoal spot in the middle of the channel to Point Vandeput. The swirls are little felt in the channel east of the shoal spot.

(35) **Spurt Point**, in Thomas Bay, about 3.5 miles east of Point Vandeput, is steep and wooded.

(36) Several rocks that bare at low water lie about 0.9 mile west of Spurt Point; caution is advised in this area.

(37) **Bock Bight**, about 1.8 miles east of Wood Point, is a narrow and deep bight. The entrance to the bight is bare nearly 2 hours before low water, forming a dam with deep water inside that overflows with great force except at slack water.

(38) **Ruth Island** is the large island on the west side of the entrance to the southeast arm of the bay; close to its north end are a small islet and some low-water rocks. The northwest entrance to the passage west of Ruth Island is shoal but may be used by small vessels with local knowledge.

(39) **Spray Island** is on the east side of the southeast arm east of the center of Ruth Island. A mooring buoy is about 0.25 mile southeast of the island in about 56°59'51"N., 132°47'08"W.

(40) Anchorage for small boats may be had in 5 fathoms off the northwest entrance of the passage between Ruth Island and the mainland. Anchorage for small vessels may be had in the bight east of Spray Island in 18 fathoms. The anchorage is close to the beach that is steep-to. Anchorage for larger vessels may be had in 11 fathoms, mud bottom, off the bight at the southeast end of Ruth Island.

(41) **Scenery Cove**, in the north part of Thomas Bay, does not afford anchorage except for small craft. Large vessels can anchor at the entrance to the cove in 7 to 15 fathoms.

(42) **Farragut Bay** is the large indentation on the north side of Frederick Sound, about 8 miles northwest of Cape Strait. The entrance, between Grand Point and Bay Point, is about 20 miles northwest of the north entrance

to Wrangell Narrows and 12 miles east-southeast of Cape Fanshaw.

(43) **Grand Point**, the east point at the entrance to Farragut Bay, is marked by **Grand Point Light** (57°05'28"N., 133°11'13"W.), 16 feet above the water and shown on a pile with a red and white diamond-shaped daymark. The point is low and rocky at its end. **Bay Point**, the west point at the entrance, is bold and wooded.

(44) Farragut Bay has two arms. The west arm is smaller, and its entrance is obstructed near midchannel by a rock awash, and by a shoal that extends from the west shore. Vessels may enter by favoring the east shore. The east arm expands into a large bay known as **Francis Anchorage**. Southeast winds are reported to draw through the anchorage with velocities up to 60 mph. Small craft may find anchorage with adequate protection in close to the east shore, just north of the projecting point, in 4 to 5 fathoms. The extensive tidal flats at the head of the bay were reported to be encroaching in 1976. Tidal currents have little velocity in the bay.

(45) **Read Island** is just inside the entrance on the east side of Farragut Bay. A very narrow passage, which may be used by small craft, and with reported depths of 4 fathoms, leads between the island and Grand Point. In 1988, an obstruction was reported in the passage about 0.25 mile north-northwest of Grand Point Light in about 57°05'45"N., 133°11'13"W. A shoal area with a rock awash about midway and an unnamed islet at the outer end extend off the northeast end of Read Island.

(46) **Flock Rock** is a small rock islet in the middle of the passage north of Read Island. Submerged rocks are reported to be between Flock Rock and the shore.

(47) A small vessel can make a temporary fair-weather anchorage between Grand Point and the south end of Read Island in 5 to 6 fathoms, hard bottom. Of the four coves or indentations making into the east side of Read Island, the third, leading north, is reported to provide the best anchorage for small vessels in 3 to 5 fathoms, rocky bottom. A log storage area is along the east shore of the bay about 1.2 miles east of the northeast tip of Read Island. The best passage to Francis Anchorage is west of Read Island and between Flock Rock and Read Island, about 0.2 mile off the latter. The chart is a sufficient guide.

(48) **Portage Bay**, on the south side of Frederick Sound 7 miles west of Cape Strait and nearly opposite Farragut Bay, is a secure anchorage, but its entrance is narrow. The tidal currents in the entrance have considerable velocity at spring tides. Ice forms in the bay during extreme cold weather. **Portage Islets**, two in number, are in Frederick Sound, about 0.8 mile west of the entrance and 0.4 mile offshore.

(49) The entrance channel has a controlling depth of 3½ fathoms but is constricted by shoals to a width of 150 yards. Shoals make out from the shores of the bay and also from the head to 0.8 mile north of **Stop Island**. **Harrington Rock**, 3 feet high, is about 0.2 mile northwest of Stop Island.

(50) **Portage Bay Light 3** (57°00'15"N., 133°19'32"W.), 16 feet above the water, is shown from a skeleton tower with a square green daymark on the end of **East Point**. **West Point** is marked by a daybeacon.

(51) High-water slack is the best time to enter Portage Bay. Small boats have used the grass line of East Point, Hook Point and a small hill in the background as an entrance range. Round East Point about 200 yards off and follow midchannel courses.

(52) Anchor in 4 to 6 fathoms from 1 to 1.5 miles north-northwest of Stop Island. The water shoals gradually toward the shore; there are no dangers outside the 3-fathom curve.

(53)

## Point Highland to Rocky Pass

(54) From Farragut Bay to Cape Fanshaw, the shore should not be approached closer than 0.5 mile. The coast is bold and heavily wooded. **Point Highland**, 4.2 miles southeast of Cape Fanshaw, is steep-to and wooded but is not prominent.

(55) **Cape Fanshaw**, at the junction of Stephens Passage and Frederick Sound, is a long, low, wooded point terminating in a moderately long point of bedrock, with a mound of bedrock at the extreme end and deep water within 0.2 mile of the point. **Cape Fanshaw Light** (57°11'07"N., 133°34'26"W.), 33 feet above the water, is shown from a skeleton tower with a red and white diamond-shaped daymark on the point of the cape.

(56) **Turnabout Island**, about 13.5 miles west-southwest of Cape Fanshaw, is high and wooded. The shores are fairly bold except at the south end. The cove on the northwest side of the island has temporary anchorage for small craft. An islet, 0.5 mile southwest of Turnabout Island, shows as two rocks about 20 feet high, at high water but at low water the ledge surrounding the islet shows for about 800 yards southwest and on the line of the bare rocks. A clear channel 1.5 miles wide, between these rocks and Pinta Rocks, may be safely used in the daytime and with clear weather. **Turnabout Island Light** (57°07'55"N., 133°59'16"W.), 23 feet above the water, is shown from a spindle with a red and white diamond-shaped daymark on an islet north of Turnabout Island. A 5¾-fathom spot is about 0.7 mile south-southwest of the light in about 57°07'22.7"N., 133°59'56.9"W.

(57) **Pinta Rocks** are two patches of rocks surrounded by extensive kelp beds about 2.2 miles south from Turnabout Island and about 1 mile off the main shore. **East Pinta Rocks**, covered at about half tide, are marked on the north side by a buoy. **West Pinta Rocks** are marked at the west end by a light, 30 feet above the water and shown from a pile with a red and white diamond-shaped daymark.

(58) The passage south of Pinta Rocks is used extensively by small craft and is especially valuable when going against the current, since the currents here are much weaker than those north of the rocks. Slack water in this

passage occurs up to 2 hours before predicted high and low waters.

(59) **Cape Bendel**, a rounding wooded point, is about 4 miles south of Turnabout Island. In rounding Cape Bendel, keep well offshore to avoid the foul ground and rocks awash that extend 0.8 mile off the cape in the direction of West Pinta Rock.

(60)

### Keku Strait, northern part

(61) Keku Strait is divided into three parts: a south bay, a north bay and a narrow intricate passage about 18 miles long known as Rocky Pass, which connects the two bays. The south bay and Rocky Pass are described in chapter 7.

(62) The north bay of Keku Strait is about 13 miles long from the entrance to Point Camden where the bay branches, the west branch forming Port Camden and the east branch forming Rocky Pass. The northeast shore of the bay is formed by **Kupreanof Island** and the southwest shore by **Kuiu Island**. The entrance from Frederick Sound is between Point Macartney and Cornwallis Point.

(63) **Point Macartney**, the northeast point at the entrance from Frederick Sound, 2.5 miles south of Cape Bendel, is a long, low, wooded point, terminating in an abrupt wooded islet with two tree- and brush-covered masses of rock between, all connected by a rocky platform at low water. **Point Macartney Light** (57°01'30"N., 134°03'31"W.), 20 feet above the water, is shown from a pile with a red and white diamond-shaped daymark on a small islet off the point. A rock awash is about 0.8 mile southeast of the light.

(64) **Point White** is about 2 miles southeast of Point McCartney. Rocks and reefs extend southeast from a point about 1.1 miles south-southwest of Point White. The rocks and reefs connect with **Mosquito Islands**, Grave Island, **Burnt Island** and **Hamilton Island** to form a chain over 4 miles long. The chain is parallel to and about 1 mile off the northeast shore of the bay and is marked at its northwest end by Kake Entrance Light 2 (56°59'05"N., 134°01'18"W.). A narrow channel, between the chain and the Kupreanof Island shore, leads southeast to **Kake Harbor** and the city of Kake. **Grave Island**, small and scrubby, is about 1 mile south of Kake and 3 miles southeast of the northwesternmost reef. The island is marked on its northeast side by **Kake Harbor Light** (56°57'39"N., 133°57'10"W.), 16 feet above the water and shown from a square frame with a red and white diamond-shaped daymark. Anchorage may be found in Kake Harbor in 15 fathoms, soft mud, between the city and Grave Island.

(65) **Kake**, about 4.4 miles southeast of Point Macartney, is a community with three stores, a lodge and an Alaska Public Health Center with a nurse in attendance every other month. A lighted microwave tower at Kake is prominent from the strait. Reefs, marked by a light and a buoy on their outer edges, and extensive flats, also marked by a buoy, extend 600 yards offshore and about 0.9 mile southeast of Kake, respectively. A fish weir, marked by a private seasonal light, is about 250 yards northwest of the cannery pier.

(66)

### Routes

(67) The best approach to Kake Harbor is from the northwest on a southeast course from between Point White and the light about 1.1 miles to the south-southwest. The approach to the City Pier is marked by a light and a daybeacon. If bound for the piers 1 to 1.5 miles southeast of Kake, pass southwest of the buoys marking the reefs off the village and the flats southeast of it; when clear and south of the southeasternmost buoy, head for the piers, taking care to avoid the tidal flats to the north and the reef marked by a light about 0.3 mile south-southwest of the Alaska State Ferry Terminal (56°57.7'N., 133°55.1'W.). A landing on either side can be made at the cannery pier.

(68) Small craft coming from the west usually pass 100 yards off **Payne Island**, the northernmost of the Keku Islands, and head for Kake Harbor Light on Grave Island, course **088°**, until within 0.5 mile of it, and then pass north of the light. Small fishing vessels approaching Kake and the cannery from the south often pass through the reef north of Hamilton Island. The channel is marked by daybeacons but may be dangerous and should only be attempted with local knowledge, preferably on a rising tide.

(69)

### Wharves

(70) Kake has three commercial wharves and small-craft floats.

(71) **The City Pier** (56°58'21"N., 133°56'44"W.): southeast end of Kake; 67-foot face; 9 feet reported alongside; mooring vessels and landing of seaplanes; owned by the State of Alaska and City of Kake; operated by the State of Alaska, Department of Transportation and Public Facilities and City of Kake.

(72) **Kake Tribal Fuel Company Pier** (56°57'45"N., 133°55'29"W.): about 1 mile southeast of Kake; 160 feet berthing space; 15 feet alongside; fueling small vessels; owned and operated by the Kake Tribal Fuel Company.

(73) **Kake Foods Dock** (56°57'47"N., 133°55'33"W.): about 70 yards northeast of Kake Tribal Fuel Company Pier; 74-foot face; 25 feet reported alongside; deck height, 23 feet; receipt of seafood; owned by Kake Tribal Corporation.

(74) **Public Cargo Wharf** (56°57'44"N., 133°55'24"W.): about 50 yards southwest of Kake Tribal Fuel Company Pier; 300-foot face, 50 feet each side; 15 feet alongside; deck height, 30 feet; receipt and shipment of conventional and containerized general cargo, and receipt of petroleum products; one 27-ton and one 4-ton forklift; owned and operated by City of Kake, Alaska Marine Lines and Kake Tribal Fuel Company.

(75) **Alaska State Ferry Terminal** (56°57'39"N., 133°55'17"W.): 350 feet with dolphins; steel transfer bridge; passengers and vehicles; owned and operated by the State of Alaska.

(76)

### Supplies

(77) Limited amounts of provisions can be had at Kake. Gasoline, diesel fuel, oils and greases are available at the Kake Tribal Fuel Company Pier and by truck to the other piers. Water is available year-round at the fuel pier and seasonally at the cold storage dock.

(78)

### Repairs

(79) A 72-foot grid is on the south side of the approach of the City Pier. An 80-foot grid is on the east side of approach of the floats in Portage Bay.

(80)

### Small-craft Facilities

(81) A small-craft and seaplane float branches northwest from the approach of the City Pier. City-maintained floats with 30- to 48-foot stalls, providing berthing for approximately 140 vessels, are connected to shore by a 307-foot approach pier and extends into **Portage Bay**, about 2.3 miles southeast of Kake. In 2002, 5 to 15 feet was reported alongside the float, but caution should be exercised during periods of extreme spring tides that sometimes reach minus 4 feet. A light and a daybeacon mark the approach from the north. An L-shaped floating breakwater is west of the floats The south end of the breakwater is marked by a light.

(82)

### Communications

(83) The Alaska Ferry System runs twice weekly during the summer to Petersburg and Sitka. Daily seaplane service with Juneau, Petersburg and Sitka is available. Telephone and radiotelephone communications are maintained.

(84) **Keku Islands**, on the southwest side of Keku Strait, comprise a group of wooded islands, with outlying reefs, between which are no practicable channels. There are other reefs on the southwest side, but they have sections showing above water and are easily avoided in daytime. Between Keku Islands and the reefs on the northeast side is a channel about 1.5 miles wide and 8 miles long to Point Hamilton, with depths of 7 to 50 fathoms. South of Eva Island the channel is about 1 mile wide, between Point Hamilton and Hound Island, and leads between kelp-marked rocks and shoals on both sides.

(85) **Eva Island**, about 8 miles southeast of Point Macartney, is wooded and marks the turn of the channel when bound for Hamilton Bay or Port Camden. Off its west end is a bare rock.

(86) **Point Hamilton**, about 0.9 mile southeast of Eva Island, marks the entrance to Hamilton Bay. A mound-shaped islet is connected at low water with the point.

(87) **Hamilton Bay**, on the northeast side of Point Hamilton, is a secure anchorage for vessels of any size. The entrance is clear in midchannel, and extensive bare flats are at the head of the bay. Two large streams enter near the head.

(88) The islands on the southwest side of the channel, from abreast Eva Island to the middle of Hound Island, are fringed with kelp to a distance of about 0.4 mile.

(89) **Hound Island** is about 2 miles south of Eva Island. It is 1.5 miles long, low, and wooded, with outlying rocks at either end; on its north side are extensive kelp patches. A rock that uncovers 3 feet is about 1.2 miles south of Hound Island.

(90) **Pup Island**, about 2.8 miles south-southeast of Hound Island, is small, steep and wooded and marks **Point Camden**, the east point at the entrance to Port Camden.

(91) **Port Camden**, the entrance to which is on the west side of Pup Island and 14 miles from Point Macartney, is an inlet 13 miles long and 1.5 miles wide for a distance of 5 miles from its entrance. At this point are several islands; the most important and in midchannel, is **Cam Island**. From these islands the inlet contracts gradually to its head, which has a portage to Bay of Pillars. From the entrance to Cam Island there is 8 to 34 fathoms; above Cam Island there is 8 to 24 fathoms, decreasing to 4 to 8 fathoms 2 miles from its head. A good anchorage can be found in 20 fathoms in the wide part of Port Camden southwest of Cam Island, favoring the southwest shore of the inlet. Good anchorage, protected from all directions but the north, is available in 4 to 10 fathoms in the cove southeast of Cam Island. Favor the west shore of the cove to avoid a large reef and a 3-fathom shoal to the north on the east side of the cove. An excellent anchorage for small boats can be had in a small cove on the east shore east of Cam Island. The entrance shoals to 2½ fathoms. Keep close to the west shore of the entrance. Beware of the reefs on the north side of the entrance to this cove. Anchorage in 4 fathoms, well protected on all sides, can be had.

(92) **Salt Point Light** (56°50'41"N., 133°52'01"W.), 17 feet above the water, is shown on a pile with a red and white diamond-shaped daymark on the southwest end of the point and marks the entrance to Davidson Bay.

(93) **Rocky Pass**, extending southeast from Point Camden and connecting with the south bay of Keku Strait, is a high-water passage for small craft. (See description in chapter 7.)

(94) **Tidal currents** enter the northwest part of Keku Strait and Port Camden from Frederick Sound. The velocity in the open strait is reported to be about 1.2 knots. See the Tidal Current prediction service at *tidesandcurrents.noaa.gov* for specific information about times, directions, and velocities of the current at numerous locations throughout the area. Links to a user guide for this service can be found in chapter 1 of this book.

(95)

## Skanáx Bay to Band Cove

(96) **Skanáx Bay** indents the north shore of Kuiu Island for about 7 miles in a southeast direction. **Cornwallis Point**, the north point at the entrance is low and wooded.

**Cornwallis Point Light** (56°55'55"N., 134°16'25"W.), 34 feet above the water, shown from a spindle with a red and white diamond-shaped daymark on the southwest part of the point, marks the entrance to the bay. Shoal water extends about 0.3 mile west and north from Cornwallis Point. A rock that uncovers 7 feet, an extension of rock out from the point, is 0.1 mile west-northwest of the light. The high point of the rock is away from the main point of land. On an ebb tide, the current from Skanáx̲ Bay sets toward the rock. When the current is against the wind, a considerable tide rip results. Mariners are advised to give the point a wide berth when rounding it.

(97) **Sachem Island**, small and wooded, is in midchannel in Saginaw Bay, about 2.7 miles south-southeast of Cornwallis Point. Shoals and other dangers extend in a northwest-southeast direction near midchannel from a point about 1.6 miles northwest of Sachem Island to the head of the bay. In the approach to the head of the bay, there are also numerous islands with surrounding ledges.

(98) **Halleck Harbor**, on the northeast side of Saginaw Bay about 1.5 miles southeast of Cornwallis Point, is the best anchorage in Skanáx̲ Bay but is open west, and the bottom is generally hard and in places uneven. It is readily distinguished by high white bluffs on its northeast side. At the foot of these bluffs are some houses and gravesites. The best channel to enter is 0.4 mile wide between the 3½-fathom rock in the entrance and the northwest point. The bight at the northwest end of the harbor dries. Anchorage can be had in the middle of the harbor in 8 to 12 fathoms.

(99) The piling ruins of a high-water dock are in the cove on the east side of Skanáx̲ Bay about 3 miles southeast of Halleck Harbor and north of a high island that is close to the north shore.

(100) The pilings are in rotted condition, and only stubs, covered at high water, remain. These stubs are a hazard to small boats that might maneuver too close to shore in this area. A private 75-foot float, used by small boats, is anchored immediately northwest of the pile ruins. In 1976, 15 feet to bare was reported alongside. Gasoline is available in an emergency only. Anchorage in 9 to 10 fathoms, with protection from the prevailing southeast winds, can be had about 300 yards southwest of the small-craft float. In 1976, a log storage area was along the north and northeast shores of the high island in the cove.

(101) A logging camp was operating off the southwest shore of Skanáx̲ Bay, 2.5 to 3.4 miles southeast of Sachem Island. A small-craft and seaplane float is at the northwest end of the camp, and a log storage area is at the southeast end. A mailplane calls three times weekly in the summer. Gasoline and a small machine shop are available in an emergency only. Radiotelephone communications are maintained.

(102) **Security Bay**, about 4.5 miles southwest of Cornwallis Point, is a secure anchorage. Numerous islands and ledges obstruct the entrance and bay, which should be entered with caution because of the possibility of unknown dangers.

(103) **Roadstead Island** is in the middle at the entrance, from which a chain of three small islands, **Flat Island**, **Cedar Island** and **Harbor Island**, extends about 0.7 mile in a southeast direction. The usual entrance to the bay is between Roadstead Island and Paralysis Point. It is marked by **Security Bay Light 1** (56°52'36"N., 134°22'24"W.), 32 feet above the water, shown from a skeleton tower with a square green daymark on the southwest end of a ledge that extends from the north end of Roadstead Island.

(104) **Bibb Shoal**, usually showing kelp, is an extensive shoal with ½ fathom over it, on the west side of the entrance to Security Bay, north of **Paralysis Point**.

(105) **Christmas Island** is the largest of several small islands on the south side of Security Bay at its entrance; the island is bluff. Between Christmas Island and Cedar Island, the channel is 0.2 mile wide.

(106) **Cleft Island**, in the middle of Security Bay, about 1.1 mile southeast of Christmas Island, is about 0.6 mile long and has a deep notch in its west end. At its southeast end are some bare rocks. A narrow islet, about 0.3 mile long, is close to the northeast side of Cleft Island.

(107) **Retaliation Point**, about 0.4 mile north of Cleft Island, is bluff, steep-to and wooded. **Cedar Bight** is east of Cleft Island. Its entrance, between Cleft Island and Retaliation Point, is obstructed by a ledge bare at lowest tides and surrounded by kelp. The southeast part of the bight is shoal and rocky; otherwise the depths are 4 to 6 fathoms, rocky bottom.

(108) A foul area extends west about 0.2 mile from the middle of Cleft Island to a ½-fathom spot. **Indian Rock**, a few feet above high water, and **Stewart Rock**, close north, are west of the island and both surrounded by foul ground. The usual passage is through the narrow channel between the rocks and the ½-fathom spot.

(109) The best anchorage in Security Bay is about 0.5 mile southeast of Cleft Island in 9 to 11 fathoms, midway between the large island on the northeast side and a wooded islet and some bare rocks near the southwest side. Anchorage can also be had between the west end of Cleft Island and Harbor Island, in 11 to 16 fathoms, clear of the 1¼-fathom rock 0.2 mile southeast of Harbor Island. The head of the bay is foul with several reefs, some of which cover at high water.

(110) **Band Cove** is just east of **Hourigan Point** and west of Bibb Shoal, at the entrance to Security Bay. A small vessel can anchor in the entrance in about 6 fathoms, but the cove is not clear and is open from the northwest to southwest. With Security and Saginaw Bays available, the cove is not recommended as an anchorage.

(111)

## The Brothers

(112) This section covers the northwest shore of Frederick Sound from Pybus Bay to Chatham Strait. Anchorage can be had in Surprise Harbor, Herring Bay, Chapin Bay,or Pybus Bay. Small vessels can find secure anchorage in Murder Cove.

(113) **The Brothers**, a number of large and small wooded islands, are about 2.5 miles off the west shore at the junction of Frederick Sound and Stephens Passage.

(114) Secure anchorage for small craft can be found in the narrow passage close west of the **West Brother Island** and between it and the small islet surrounded by reefs close west. The entrance is from south, passing close along the west shore of the West Brother Island. The north approach is foul. Three to four knot currents have been observed between The Brothers. Tide rips can occur at the northern end of the passes between the islands. The passage between the East and West Brother offers deep water. A foul area extends 0.5 mile south of East Brother and should be avoided. The passage between East Brother and the island to the east has a shoal laying 0.15 mile east of East Brother.

(115)

## Round Rock to Spruce Island

(116) **Round Rock**, 40 feet high and bare, about 2.7 miles southwest from West Brother Island, is marked by **Round Rock Light** (57°15'35"N., 133°56'13"W.), 49 feet above the water and shown from a skeleton tower with a red and white diamond-shaped daymark. There is a clear channel about 2 miles wide between Round Rock and the northwest shore, but the bottom is irregular and the depths are from 9 to 40 fathoms. The water is much deeper east of Round Rock and between it and The Brothers.

(117) **Pybus Bay** is located on the northwest side of Frederick Sound, west of its junction with Stephens Passage and about 3.5 miles west-northwest of Round Rock Light. It is divided into two arms by a long point from which three groups of islands, rocks and reefs extend in a south direction. The best anchorage in the bay is in Cannery Cove. Good anchorage is also available in the northeastern half of Pybus Bay between the San Juan islands and Admiralty Island in 14 to 18 fathoms of water.

(118) **Point Pybus**, the north point at the entrance to Pybus Bay, is low and wooded. A group of rocks extend 0.6 mile south from the point.

(119) **San Juan Islands**, low, wooded and surrounded by foul ground, are about 0.8 mile southwest of Point Pybus. A rock with ½ fathom over it that uncovers 3 feet is 0.4 mile southwest of the southernmost and largest island; dangerous rocks are 0.2 mile west of the west point and 0.4 mile northeast of the east point of this island.

(120) The channel between Point Pybus and the San Juan Islands is not recommended except for small craft with local knowledge.

(121) **Southwest Islands** are a narrow chain of four wooded islands, parallel with the west shore of the bay, about 1.5 miles southwest of San Juan Islands. Foul ground extends about 0.6 mile south of **Elliott Island**, the largest of the group. Two rocks that uncover 11 and 14 feet are about 0.3 mile north-northwest of the northernmost island of the group. A rocky foul area, bare at half tide, is about 0.3 mile west of **Long Island**, the middle island of the group.

(122) **Grave Island**, steep-to and wooded, is on the west side of West Channel, about 0.7 mile west of the north extremity of Elliott Island, and is a prominent landmark for this channel. Bare rocks are 0.2 mile north of the island and about 0.8 mile south of the island.

(123) **Grave Island Light** (57°15'59"N., 134°05'00"W.), 18 feet above the water and shown from a small house with a red and white diamond-shaped daymark on the southeast side of Grave Island, marks the entrance to Pybus Bay.

(124) **Midway Islands** are the triangular group of wooded islands north of Southwest Islands and east of the entrance to Cannery Cove. Each island of the group has foul ground surrounding it. A dangerous rock that uncovers 2 feet is 0.7 mile southeast of the north island. A 2-fathom rock is about halfway between this dangerous rock and the north island.

(125) The best passage between the east and west arms of the bay is between the northwest Midway Island and the mainland. An unmarked rock with a depth of 2½ fathoms over it is 0.5 mile west of the north point of the north Midway Island.

(126) **Cannery Cove** indents the west shore of Pybus Bay, about 3.5 miles northwest of Elliott Island. The cove is nearly landlocked and affords secure anchorage in 6 to 15 fathoms, sticky bottom. A large island with an islet close to the south forms the north point at the entrance. A rock with ¼ fathom over it is in the middle of the entrance. Only a few broken piles mark the site of the cannery wharves that formerly stood on the south shore of Cannery Cove. A seasonal fishing lodge (57°18.4'N., 134°08.1'W.) with a floating dock protected by a log-boom breakwater is on the south shore of the cove. The lodge monitors VHF-FM channel 16.

(127) **Donkey Bay**, on the west side of Pybus Bay, about 1.8 miles north of Cannery Cove, is an open bight that bares in its west part. The entrance is foul with many shoals and rocks inshore of the 15 fathom curve. Mariners are urged to steer well clear of this area.

(128) **Henrys Arm**, the southernmost of the two coves opposite Donkey Bay, has depths of 1¼ to 6¾ fathoms. The north cove is foul at the entrance and shoals quickly. The islet northwest of this bight is surrounded by foul ground that extends northwest joining a reef. Many hazards to navigation lie between these features.

(129) Passage to the north section of the west arm of Pybus Bay is best made by favoring the west shore and using the 20-fathom contour for an inshore limit. Navigation of large vessels beyond the 20-fathom curve to the north is not recommended.

(130) **West Channel** extends between Grave Island and Southwest Islands and then between the Midway Islands and the west shore of the bay. Several dangers, which are shown on the chart, are passed when using this channel. Rocky islets about 6 feet high are about 0.6 mile south of Grave Island. They are not easily picked up at night.

Strong crosscurrents may be encountered between Spruce Island and the entrance to West Channel.

(131) **Little Pybus Bay** (57°15'N., 134°08'W.), close west of Pybus Bay and northwest of Spruce Island, is about 2.5 miles long and 1 mile wide at the entrance and is open to the south. A chain of islets, reefs and broken ground extends about 1.8 miles south from the east entrance point. Shoal water, with several islets and rocks, extends about 1.2 miles from the head of the bay.

(132) **Spruce Island**, small, wooded, and 2 miles from the Admiralty Island shore, is 3 miles south of Grave Island Light and 6 miles northwest of Turnabout Island. A ledge that uncovers 8 feet extends 500 yards southwest of the island.

(133)

## Woewodski Harbor to South Passage

(134) Woewodski and Eliza Harbors have a common entrance between **Point Napean** and **Deepwater Point** 9 miles west-northwest of Turnabout Island. The entrances are much obstructed by dangerous ledges, and with the close proximity of better anchorages the use of these harbors is seldom necessary. **Liesnoi Island**, of irregular shape, is in the entrance.

(135) **Deepwater Point Light** (57°10'19"N., 134°14'09"W.), 17 feet above the water, is shown from a skeleton tower with a red and white diamond-shaped daymark on a ledge about 0.2 mile west of the point.

(136) **Woewodski Harbor** is the open bight between Liesnoi Island and Deepwater Point. Ledges and rocks, covered or awash at various stages of the tide and generally marked by kelp, extend northeast from Liesnoi Island halfway across Woewodski Harbor. **Polivnoi Rocks**, three bare rocks surrounded by ledges, are at the north edge of this foul ground. The only anchorage for large vessels in Woewodski Harbor is northeast of this foul ground in 20 to 26 fathoms, hard bottom, and exposed to southeast winds. Small vessels find temporary shelter off **Bluff Point** in 6 fathoms and south of Polivnoi Rocks in 3 to 6 fathoms, soft bottom.

(137) **Eliza Harbor** is a deep inlet with generally bold shores. The only available anchorage is at the south end of the harbor, off the west side of Liesnoi Island in depths of 18 to 20 fathoms. On each side of Liesnoi Island are narrow passages called North and South Passage, leading to Eliza Harbor.

(138) **North Passage** to Eliza Harbor enters from the northwst part of Woewodski Harbor. This passage is straight, but narrow; its north shore is bold-to, its south shore foul, and submerged rocks and kelp patches extend to midchannel, leaving a navigable passage 75 to 100 yards wide with least depth of 1¾ fathoms. The rocks on the south side of the passage cause tide swirls; the ebb has a velocity of 4 knots and the flood about 3 knots. When through the passage, haul south and anchor in midchannel in 18 to 20 fathoms, soft bottom in places, at two-thirds the distance toward **Thumb Point**, the southwest extremity of Liesnoi Island.

(139) **South Passage**, south of Liesnoi Island, is reduced by submerged rocks at its narrowest part to a width of 70 yards, has a sharp turn and strong tidal currents and should not be attempted except at slack water and with local knowledge. The rocks are marked by kelp, which, however, does not show when the current is running. In north winds, an indifferent anchorage may be had in the entrance to South Passage in 6¾ fathoms, with the southeast side of Liesnoi Island bearing **082°**, and Point Napean and **Sharp Point** in line, bearing **189°**.

(140)

## Chapin Bay to Carroll Island

(141) **Chapin Bay** is a small inlet on the north side of Frederick Sound and on the southwest side of Point Napean (57°08.5'N., 134°17.5'W.), affording secure anchorage in 9 to 11 fathoms, sandy bottom. A reef, marked by kelp, with a least depth of 1.8 fathoms in 57°07'47"N., 134°19'09"W., is 0.6 mile northeast from the west point at the entrance. A ledge, bare at half tide, is 330 yards southwest from the north point at the entrance, and kelp shows about 400 yards south of the ledge. There is also kelp in the middle of the channel, about 0.8 mile inside the entrance, and a shoal extends 150 yards east from the point on the west side of the south entrance to the narrows.

(142) It is safest to enter Chapin Bay at low water. Enter about 400 yards southwest of the half-tide ledge off the north point at the entrance and keep the north shore aboard at a distance of 200 yards until in the narrows. A midchannel course leads safely to the anchorage in the basin above the narrows.

(143) **Herring Bay**, 10 miles northeast of Point Gardner Light, has its entrance between **Point Brightman** and the point to the north that separates Herring Bay from Chapin Bay. A tongue of land, prolonged by rocks, reefs and kelp patches, extends in a southeast direction, dividing the bay centrally into two parts.

(144) There is a fair anchorage, open to the southeast, in the southwest corner of the bay, about 0.8 mile from the head. To make this anchorage, follow the south shore at a distance of about 0.4 mile, the chart being the guide.

(145) **Carroll Island** (57°01.7'N., 134°28.5'W.), on the north side of Frederick Sound, is a small island about 5.5 miles southwest of Point Brightman and 4.5 miles east of Point Gardner Light. The island is conspicuous but appears as a point of the main shore.

(146)

## Walker Point to Surprise Harbor

(147) **Walker Point**, about 2.4 miles east-northeast of Point Gardner Light, is the end of a low wooded peninsula separating Murder Cove from a foul bight east of it. Ledges and kelp surround the point to a distance of 0.2 mile.

(148) **Bartlett Point** is the end of a long, low, wooded strip separating Murder Cove from Surprise Harbor; the end of the point is two wooded islands joined by dry ledges. A bare ledge extends 300 yards south, and foul ground marked by kelp and shoaling to ½ fathom extends 0.5 mile southeast and southwest of the point and more than halfway across Surprise Harbor.

(149) **Murder Cove** has its entrance between Bartlett Point and Walker Point, 2 miles east of Point Gardner. The channel narrows to 300 yards 0.4 mile inside the entrance, between a bare ledge on the east and two rocks, each with a clump of scrub, on the west. Above this point the channel has a width of about 200 yards between kelp-marked ledges, and it is best to enter at low water when the dangers show. The tide rips are sometimes heavy across the entrance when the wind is strong against the current.

(150) **Tyee** is an abandoned cannery on the east side of Murder Cove, about 1.2 miles north of Walker Point. Only submerged piles that extend 130 yards from shore remain of the cannery and fuel piers. Ruins of the cannery building and cabins are on shore. A 60-foot float with 5 feet reported alongside is 150 yards off the east shore. An unoccupied dwelling and a fishing cabin are on the northeast side of the cove. The cabin monitors VHF-FM channel 16 daily except during the winter months. Fair anchorage, unprotected from southeast winds, is in midchannel, in 8 to 11 fathoms, off the cannery site.

(151) **Point Gardner**, the south extremity of Admiralty Island, is low and wooded and has two rocks 20 to 30 feet high, 600 yards south of the point. The west of the two rocks is marked by **Point Gardner Light** (57°00'36"N. 134°36'58"W.), 65 feet above the water and shown from a skeleton tower with a red and white diamond-shaped daymark. A prominent mound is 0.2 mile north-northeast from the point, and a conspicuous round hill is 1.3 miles north-northeast from the point. The water is clear 0.2 mile from the rocks off the point, but the rocks should be given a berth of 0.5 mile to avoid frequent tide rips.

(152) **Surprise Harbor**, on the east side of Point Gardner, is open south, has much kelp and is not a good anchorage. It is, however, a good lee when the wind is blowing strong down Chatham Strait.

(153) To enter, keep from 0.2 to 0.5 mile off the west shore, using caution and avoiding kelp. Anchor about midharbor in 7 fathoms, rocky bottom.

(154)

## Yasha Island

(155) **Yasha Island**, about 3.5 miles southeast of Point Gardner, is small, low, wooded and surrounded by kelp to a distance of 200 yards. A rock with a depth of 1¾ fathoms over it is about 1 mile 318° from the north point of the island. A lighted buoy marks the north-northwest side of the rock.

(156) Heavy tide rips will be found between Yasha Island and the buoy. These tide rips sometimes extend across to Point Gardner and along that shore east as far as Carroll Island and are dangerous for small boats.

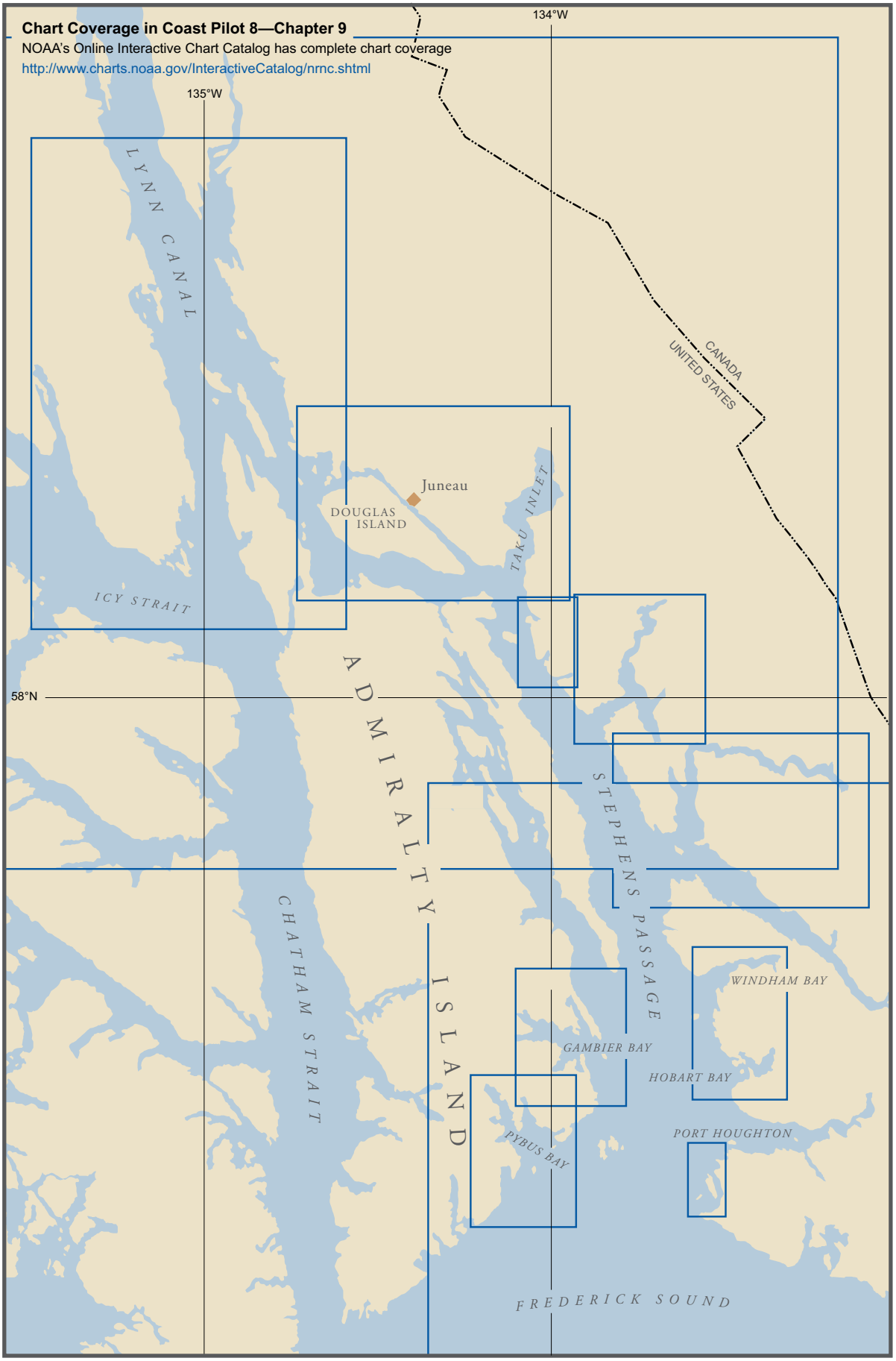


Chart Coverage in Coast Pilot 8—Chapter 9
NOAA's Online Interactive Chart Catalog has complete chart coverage
http://www.charts.noaa.gov/InteractiveCatalog/nrnc.shtml
134°W
135°W
LYNN CANAL
CANADA
UNITED STATES
Juneau
DOUGLAS ISLAND
TAKU INLET
ICY STRAIT
58°N
ADMIRALTY ISLAND
STEPHENS PASSAGE
CHATHAM STRAIT
WINDHAM BAY
GAMBIER BAY
HOBART BAY
PORT HOUGHTON
PYBUS BAY
FREDERICK SOUND

# Stephens Passage

(1) This chapter describes Stephens Passage, Holkham Bay, Endicott Arm, Tracy Arm, Taku Harbor, Gastineau Channel, Auke Bay, Tee Harbor and the city of Juneau, including the communities of Douglas and Auke Bay.

(2)

## Stephens Passage

(3) **Stephens Passage** extends from its junction with Frederick Sound at Cape Fanshaw (57°11.1'N., 133°34.3'W.) in a general north-northwest direction for about 88 miles to Shelter Island, which divides it into two channels, Saginaw Channel and Favorite Channel, and connects it with Lynn Canal. Numerous islands are in both entrances to the passage, but otherwise it is open, deep and generally free from dangers.

(4)

### Anchorages

(5) The waters of Stephens Passage and its branches are generally deep, and there are few good anchorages. Anchorage can be had in Cleveland Passage, Gambier Bay, Seymour Canal, Taku Harbor, Gastineau Channel, Young Bay, Fritz Cove, Auke Bay, Barlow Cove, Tee Harbor and Eagle Harbor. Temporary anchorage can also be found in Port Houghton, Hobart Bay, Sanford Cove (Endicott Arm), Limestone Inlet, Taku Inlet and Adams Anchorage.

(6)

### Currents

(7) The flood current enters Stephens Passage from both ends and meets in varying places west of Point Arden; the ebb current flows in the opposite direction. The velocity of the current is 0.5 to 2 knots. In Saginaw Channel, the current frequently ebbs throughout the day when the Moon is in quadrature. The ebb current in this channel is considerably stronger than the flood. The currents have considerable velocity in the entrance to all the larger bays and inlets that make off from Stephens Passage, causing tide rips and swirls. (See the Tidal Current Tables for daily predictions of places in Stephens Passage.)

(8)

### Weather

(9) The prevailing winds are southeast throughout the year. During the winter the winds are more variable and winds from the northeast quarter may prevail, particularly in January. Southeast gales may occur at any season, but they are more frequent and more severe in winter than in summer. Fog may occur at any time but is more frequent during the winter, reaching its maximum in January. The least fog occurs during April to July, inclusive, the minimum being in May.

(10)

### Ice

(11) Ice is discharged from glaciers in Tracy and Endicott Arms, is always found in Holkham Bay and is prevalent in Stephens Passage off the entrance to that bay. Occasional pieces of ice may be expected in all parts of the passage. In daytime with clear weather it is not a serious menace to navigation, but it is dangerous at night or in thick weather.

(12)

## Cape Fenshaw to Steamboat Bay

(13) **Cape Fanshaw**, on the east side at the junction of Stephens Passage and Frederick Sound, is a long, low, wooded point terminating in a sandspit, with a reef and rocks at the extreme end and deep water within 0.2 mile.

(14) **Cape Fanshaw Light** (57°11'07"N., 133°34'26"W.), 33 feet above the water, is shown from a skeleton tower with a red and white diamond-shaped daymark on the point of the cape.

(15) **Fanshaw Bay**, on the northeast side of Cape Fanshaw, is connected with Cleveland Passage by South Passage. Anchorage can be made in the southeast side at the head, about 600 yards offshore and 0.5 mile southwest of Whitney Island in 12 to 15 fathoms, sand and shell bottom, sheltered from northeast and southeast winds.

(16) **Storm Islands**, about 1.5 miles north of Cape Fanshaw, consist of a wooded island and several rocks; the southernmost, **Bird Rock**, is grass covered and marked by a light on the south side. A ledge extends about 300 yards west-northwest of Bird Rock. A grass-covered rock is between the larger Storm Island and Bird Rock. A 3¾-fathom shoal was reported about 300 yards northeast of the light marking Bird Rock in about 57°12'37.0"N., 133°35'05.1"W. There is no safe passage through Storm Islands and adjoining rocks, and the passage between Storm Islands and Whitney Island is narrowed to about 0.6 mile by a ledge awash at half tide 0.2 mile northeast of the north end of Storm Islands.

(17) **Whitney Island**, wooded, forms the northeast shore of Fanshaw Bay and the west shore of Cleveland Passage. **Duck Point**, the south point of the island, and **Bill Point**, the north point, are marked by lights.

(18) **Cleveland Passage**, separating Whitney Island from the mainland, is 0.5 mile wide and affords good anchorage near its southeast end. The depths vary from 8 fathoms at its southeast end to over 70 fathoms at the northwest end. A rocky shoal, covered 1¼ fathoms, is reported about

250 yards off the west shore of the passage about 0.9 mile north of Duck Point. The anchorage is about 0.8 mile north of the narrowest part of South Passage, favoring the east shore, in 12 to 20 fathoms, soft bottom; take care to keep clear of East Spit. Small craft find anchorage in 4 to 8 fathoms east and north of East Spit. Winds from west to north bring in a slight swell but do not seem to blow home with any force. Winds from southeast, however, blow down from the mountains with great force during the southeast blows in Frederick Sound.

(19) The entrance from northwest is much safer because a midchannel course leads safely to the anchorage. **South Passage** has a midchannel depth of 11 fathoms. At the north end of South Passage are **East Spit** and **West Spit**, projecting north and northeast, respectively. East Spit is about 0.25 mile into the southeast end of Cleveland Passage. A rock is at the east end of West Spit.

(20) Small boats can find anchorage east of Duck Point close to the mainland in 10 to 12 fathoms with protection from northeast and southeast blows.

(21) The **tidal currents** have a velocity of 1 to 2 knots in South Passage. See the Tidal Current prediction service at *tidesandcurrents.noaa.gov* for specific information about times, directions, and velocities of the current at numerous locations throughout the area. Links to a user guide for this service can be found in chapter 1 of this book.

(22) **Steamboat Bay** is 1 mile north-northeast of Whitney Island and has Foot Island on its north side. **McNairy Point** is the south point and **Fort Point** the north point at the entrance. The bay has generally deep water except for a reef that uncovers, about 400 yards north of McNairy Point, and has an advantage as an anchorage near Cleveland Passage. **Foot Island** is connected with a rocky reef at the head of the bay by a sandspit. The narrow passage on the northeast side of Foot Island might afford shelter to small craft in 7 to 10 fathoms, abreast the middle of the island.

(23)

## The Five Fingers to McDonald Rock

(24) **The Five Fingers**, about 6 miles north-northwest of Cape Fanshaw, are a group of islets, the larger ones wooded, and ledges that extend about 3 miles in a northwest direction and about 1.5 miles wide. The southeast islet is marked by **Five Finger Light** (57°16'13"N., 133°37'53"W.), 81 feet above the water and shown from a white concrete tower rising from the center of a building. A reef, covered at high water, extends 300 yards southwest from the light.

(25) **Akusha Island**, the north island of the group, is wooded and the largest. Rocks are about 1 mile to the west. Deepwater channels are on all sides of the group.

(26) **Sail Island**, about 5.3 miles northwest of Five Finger Light, is wooded. It has two hummocks with low land between and is conspicuous when approaching from the north. At the south end are two small islets and a rock awash. A 3-knot current has been observed over a 6¼-fathom shoal 1.0 mile to the north-northeast of the northern tip of Sail Island.

(27) **False Point Pybus** is on the west side of Stephens Passage, about 9.5 miles northwest of Five Finger Light. A daybeacon marks the point 1 mile to the south-southwest of False Point Pybus.

(28) **Point Walpole** on the east side of Stephens Passage, about 7.3 miles north of Cape Fanshaw, is the west extremity of the west wooded islet on the south side of the entrance to Port Houghton. The shores of the bight southeast of the point are foul.

(29) **Port Houghton** is an extensive bay, about 9 miles above Cape Fanshaw. **Robert Islands** are a group of islands forming the south point of the entrance. The waters of Port Houghton are very deep and afford no shelter for large craft. A good small-craft anchorage may be found in **Sandborn Canal**, which is a long narrow arm southeast of **Walter Island**, in 8 fathoms, soft bottom. This is a good winter anchorage if ice does not bother. A midchannel course into it is clear. The proximity of Cleveland Passage makes it unnecessary to use Port Houghton for anchorage except in winter. A reef is reported to extend about 0.5 mile north from the north side of Walter Island. In 1971, rocks awash were reported off the unnamed point, on the south side of the bay about 3.5 miles east-northeast of Walter Island; caution is advised in this area because depths and character of bottom are not totally known. The chart is the best guide.

(30) **McDonald Rock** is in the broad part of Stephens Passage, about 8.8 miles north of Five Finger Light; it is small, has 3¼ fathoms over it with deep water close-to, and is marked by a lighted buoy on its north side. The range of the southeast tangent of East Brother over the middle of Sail Island crosses this dangerous rock, which is almost directly in the track of vessels from Cape Fanshaw through Stephens Passage.

(31)

## The Twins to Chuck River

(32) **The Twins** are two wooded islets on the east side of Stephens Passage about 9.8 miles north-northeast of Five Finger Light, and off the entrance to Hobart Bay.

(33) **Hobart Bay**, on the north side of **Point Hobart**, has its entrance about 14 miles north of Cape Fanshaw and 3 miles east of The Twins. A pinnacle rock, covered 3½ fathoms, is on the north side of Hobart Bay entrance about 1.1 miles west of Entrance Island in about 57°24'55"N., 133°28'41"W. A light about 0.3 mile offshore marks the south side of the entrance to the bay.

(34) **Entrance Island**, 458 feet high, is in the entrance to Hobart Bay. A small islet is 0.1 mile north of the island. A small bay, suitable for small craft, indents the southeast side of the island for about 300 yards. A house on the neck of land that forms the south side of the entrance to the small bay is prominent when coming around the south side of the island from west. A state-maintained

100-foot-long small-craft and seaplane float is near the head of the small bay off the southwest shore. The float is connected to shore by a long log catwalk that is reported to be in poor condition. The float is used primarily as a weather layover facility. In 1976, depths of 15 feet were reported alongside the float. A privately owned radiotelephone is available on shore in an emergency.

(35) About 0.5 mile northeast of Entrance Island, projecting points narrow the entrance into the inner bay. Bars, on which there are rocks, extend from the points of this entrance, leaving a navigable channel about 100 yards wide and 5½ fathoms deep into the inner bay. A rock with 1 fathom over it has been reported about 0.5 mile north-northeast of the south point at the entrance to the inner bay.

(36) Just within the entrance to the inner bay, a narrow arm leads northwest to a basin, where a constricted anchorage in 10 fathoms may be found. In entering this basin, pass close east of the rocky islets just inside the entrance.

(37) The channel leading to the basin at the head of the bay is very narrow. Heavy overfalls at the end of the narrow passage are dangerous for small craft, except during a short period at slack water.

(38) Temporary anchorage may be found in 27 fathoms, soft bottom, northeast of Entrance Island, with the north point of the entrance to Hobart Bay in range with the south shore of the small islet north of Entrance Island. Temporary anchorage may also be found in the bight southeast of Entrance Island in 17 fathoms, soft bottom, about 0.2 mile from a fine sand beach. The north tangent of the easternmost of The Twins just shuts with the south tangent of the westernmost of The Twins.

(39)

### Caution

(40) The foregoing information relative to anchorages has been obtained from a source considered reliable. In entering the south anchorage favor the shore of Entrance Island, keeping on the range mentioned above. A ledge makes out about 160 yards from the point on the south shore.

(41) **Sunset Island** is a large rounded island, about 4.5 miles north of The Twins and south-southwest of the entrance to Windham Bay. A reef awash is about 0.1 mile off the south shore, and a rock awash at low water is about 0.1 mile off the east point of the island.

(42) **Windham Bay**, on the southeast side of Point Windham, has its entrance about 7.5 miles north of The Twins and about 17 miles north of Five Finger Light. In the middle of the entrance is a small group of wooded islets, with a deep passage on either side. Reefs extend about 0.2 mile east of the islands. Close east of Point Windham is another small group of islets. The northernmost islet is wooded, and the islet southwest of it has some shrubbery on it.

(43) **Windham Bay Entrance Light** (57°33'42"N., 133°32'36"W.), 35 feet above the water, is shown from a small house with a red and white diamond-shaped daymark on the southeasternmost islet, about 0.6 mile east of Point Windham.

(44) Indifferent anchorage, in about 20 fathoms, may be had off the ruins of Windham north of the flat near the head of the bay. There is constricted anchorage in the cove just east of the south point of the entrance to the bay in 25 fathoms. Small craft anchor closer in.

(45) A fog bank of varying density frequently hangs over the upper part of Windham Bay, especially at night.

(46) From its 1.5-mile-wide entrance, Windham Bay narrows rapidly and connects with a deep inner basin about 4 miles long and 0.5 mile wide. This narrow connecting channel is constricted to about 100 yards by a ledge on its north side that bares. In passing through the narrows, great care should be exercised and the south shore kept aboard at a distance of about 50 yards. From the point on the south shore southeast of the ledge, a spur that bares extends about 20 yards. A small wooded islet is close to the north shore about 0.6 mile west of the narrows. The extensive flat that extends from the southeast side of Windham Bay leaves a passage about 0.2 mile wide close to the north shore up to within 0.4 mile from the head of the bay. **Chuck River**, entering the head of the bay, is reported to be navigable in a rowboat for about 1 mile. During the winter the head of Windham Bay to the narrows freezes over.

(47)

## Point League to Thistle Ledge

(48) **Point League** (57°37.6'N., 133°40.0'W.), on the east side of Stephens Passage about 5.3 miles northwest of Point Windham, is a gently rounding precipitous point. The cliff, about 30 feet high, is whitish. The point rises rapidly to a lofty mountain with partially bare slopes. **Point Lookout** is about 1.4 miles north of Point League and is hummock and timbered.

(49) Anchorage has been obtained in the cove between Point League and Point Lookout by a vessel 150 feet long in 15 fathoms close to the entrance near the north shore, but it is not recommended. It is exposed to southwest winds and is constricted by a shoal making out from the south shore and shoal water inside the cove.

(50) **Thistle Ledge**, covered at high water and marked by kelp, is about 0.6 mile from the east shore of Stephens Passage about 1 mile north from Point Lookout. The shore is foul between Thistle Ledge and Point Astley, about 3 miles north. A small islet is 0.8 mile south of Point Astley.

(51)

## Gambier Bay to Snug Cove

(52) **Gambier Bay** has its entrance on the west side of Stephens Passage, about 8 miles north of The Brothers. There are numerous islands and ledges in the entrance, but with the aid of the chart it can readily be entered in the daytime.

(53) **Point Gambier**, the northeast point at the entrance to Gambier Bay and the southeast end of Gambier Island is marked by **Point Gambier Light** (57°26'08"N., 133°50'27"W.), 38 feet above the water and shown from a skeleton tower with a red and white diamond-shaped daymark.

(54) The bay is irregular in shape and is divided into two parts by a chain of narrow islands and reefs. The outer bay, which extends from Point Gambier about 7 miles in a north-northwest direction, is about 1.7 miles wide at the entrance; its north end is an inlet that affords anchorage in 15 to 20 fathoms, soft bottom. Anchorage in 6 to 17 fathoms, mud bottom, can be had north of **Good Island**. It can be approached without difficulty, but care should be taken to avoid the foul ground that extends off the northwest point of Good Island.

(55) **Romp Island** is about 0.4 mile northwest of Gambier Island with ledges between.

(56) The chain of islands and reefs, including Chapel Island and Price Island, paralleling Gain Island and the mainland at Church Point divides the outer part of the bay into two passages. In navigating the passage west of this chain care should be taken to avoid the bare rocks that extend 165 yards out from the point, 0.5 mile south-southeast of **Church Point**.

(57) **Currents** have a velocity of about 3 knots in the passage between Church Point and Gain Island, and some swirls occur around the ledges east and north of Gain Island.

(58) **Price Island** is 680 yards from the west shore of the outer bay. A rocky shoal with a least depth of 5 fathoms is about 1 mile southeast from the south end of Price Island, with deep water between it and the ledges that have a number of bare heads that extend 0.6 mile southeast of the island. A large, conspicuous, gray boulder on the south ledge is a good landmark.

(59) **Chapel Island**, small in extent, is about 0.8 mile north of Price Island. A rock that bares 1 foot is about 0.4 mile east of Chapel Island. Ledges extend about 0.9 mile northwest from the northwest point of Chapel Island to a channel about 450 yards wide. The reef on the northwest side of this channel is marked by **Gambier Bay Entrance Light 2** (57°27'54"N., 133°55'13"W.), 16 feet above the water and skeleton tower with a red triangular daymark.

(60) **Tree Island** appears as a clump of trees just north of **Gain Island**. At low water Tree Island appears at the end of a spit off Gain Island; in reality it is a part of Gain Island. About 0.3 mile northwest of Tree Island is a much larger unnamed island, which is wooded. Two pinnacle rocks, covered 2½ and 2 fathoms, are 0.4 mile and 0.6 mile, respectively, northwest of the unnamed island. Once past these rocks, the inner bay is relatively clear.

(61) Anchorage, with good protection from all but southwest winds, is in the bight about 1.4 miles north-northwest of Gain Island, in about 11 fathoms with sand and mud bottom.

(62) **Snug Cove**, on the south side of the inner bay about 2 miles west-southwest of Church Point, has anchorage in 15 to 20 fathoms, soft bottom. Small craft find good protection here in 4 to 7 fathoms. Large vessels reach the cove by way of the channel close east of Church Point, Gain Island, and the unnamed island to the northwest; two charted rocks are about 500 yards north-northwest of the unnamed island with a shoal of 8.9 fathoms between the south rock and the north-northwest end of the unnamed island. A south course can then be laid to pass about midway between the unnamed island and Muse Island, 0.7 mile to the southwest. Only small boats can navigate the passage between Church Point and Gain Island because of the rocks.

(63) The preceding paragraphs have pointed out the channels into Gambier Bay and the dangers to be avoided. Specific courses would be of little help and could be confusing. The navigator should pay close attention to the chart.

(64)

## Seymour Canal to Point Hugh

(65) **Seymour Canal** has its entrance west of Point Hugh (57°34.5'N., 133°49.0'W.), 15.5 miles north of The Brothers. It extends in a northwest direction into Admiralty Island for about 38 miles, with an average width of about 3 miles. The survey of the canal is old and incomplete, and dangers exist in addition to those shown on the chart, especially near the shores. The upper part of the canal to a distance of about 21 miles from its head, is filled with islands, ledges and rocks. **Tiedeman Island**, 15 miles above Point Hugh, divides the canal for a distance of 8 miles. Above Tiedeman Island is another large island called Swan Island. A rock that bares at low water and is surrounded by an extensive bed of kelp is 1 mile south of the southeast end of Tiedeman Island. **Dorn Island** and **Faust Island**, 1.5 miles east of Tiedeman Island, and **Bug Island**, 1 mile east of Swan Island, are small and wooded. A 4-fathom ridge extends about 300 yards south of the southwest end of Dorn Island. The waters of the canal are, in general, deep. By passing west of Dorn and Faust Islands and east of Tiedeman Island and Swan Island, the canal may be navigated to the head of **Fool Inlet**, though above Tiedeman Island the passage is narrow and somewhat intricate. A 1½-fathom spot is close east of Tiedeman Island in about 57°49'42"N., 134°07'57"W. In 1986, a 6-fathom spot was reported about 3.5 miles northwest of Faust Island in about 57°51'11"N., 134°07'48"W. North and northeast of Swan Island numerous submerged pinnacles rise to within 2 fathoms of the surface. An extensive area of ridges and reefs extends 1 mile southeast from the east side of the entrance to King Salmon Bay. In the upper part of the canal the depths are moderate, and anchorage can be selected in places for which the chart is the guide. The extreme head of the canal is separated by a portage of less than 0.5 mile from Oliver Inlet. Vessels transiting the canal north of Tiedeman Island should use caution and local knowledge.

(66) Currents in excess of 4 knots during both flood and ebb have been observed in the channel that approaches Fool Inlet in Seymour Canal.

(67) **Point Hugh** is the south extremity of **Glass Peninsula**, a long, narrow, and moderately high strip of land that separates Seymour Canal from Stephens Passage. Rocks, awash, are about 400 yards off the point.

(68) There is a 6-fathom spot approximately 2.2 miles south-southeast of Point Hugh in about 57°32'42"N., 133°45'36"W. Deep draft vessels are advised to stand clear of this area.

(69)

## Pleasant Bay to Winning Cove

(70) **Pleasant Bay** is a small cove on the southwest side of Seymour Canal, 7 miles above Point Hugh (57°34.5'N., 133°49.0'W.), which affords anchorage for small craft. Two islets are in its entrance. The channel between the two islets is foul. A reef extends about 150 yards north from the northwest islet. The best channel to enter is between this reef and the very prominent point of broken rock resembling a breakwater on the northwest side of the entrance. This breakwater reef shows prominently at all stages of the tide. The channel is about 75 to 100 yards from the point of the breakwater reef. Depths of about 6 fathoms are in the entrance, and depths of 2 to 5 fathoms are inside the bay. Anchor in 4 fathoms about 300 yards southwest of the northwest islet. The bottom here is apparently a thin layer of mud on rocks that makes poor holding ground in heavy south weather. A spit extends 125 yards southwest of the islet.

(71) The head of the bay bares except for a pool just west of the small point that projects from the northwest shore. Small craft can pass into this pool at high water and have sufficient depth and swinging room for one or two boats at low water. This is an excellent shelter in north winds. Water can be obtained from a spring in the little bight near this pool.

(72) **Mole Harbor** is on the southwest shore of the canal, about 9 miles above Point Hugh. A flat that bares at low water extends 0.6 mile from the head of the harbor. **Beacon Rock**, in the middle of the entrance, is part of a chain of rocky reefs extending from the south side of the entrance to the harbor to 400 yards northwest of Beacon Rock. The reefs bare at low water. **Rasp Ledge**, a small bare rock, is 0.2 mile northeast of **Flaw Point**, the north point at the entrance. A 2¼-fathom shoal and a 3-fathom shoal are 0.5 mile and 0.3 mile southwest of Flaw Point, respectively. Enter midway between Beacon Rock and Rasp Ledge; when abeam of Flaw Point, maintain a distance of 0.2 mile from the north shore and come to a west heading, using care to avoid the 2¼- and 3-fathoms shoals. Anchor in 13 to 17 fathoms, sticky bottom, about 1 mile within the harbor, giving the shores a berth of about 0.2 mile. Small craft can find anchorage southwest of Beacon Rock in 3 to 10 fathoms, mud bottom.

(73) **Sore Finger Cove**, on the northeast shore of the canal about 4.5 miles north of Mole Harbor, offers good anchorage in 1 to 5 fathoms with shelter from all but west winds.

(74) **Short Finger Bay** (57°48.5'N., 134°02.0'W.) is a small bay on the east shore of Seymour Canal about 16 miles north of Point Hugh and directly east of Faust Island. Good shelter from south weather and anchorage in 5 to 10 fathoms, mud bottom, can be had here.

(75) **Winning Cove**, about 3.5 miles north-northeast of Faust Island, is a shallow inlet of no importance in the east shore of the canal.

(76)

## Windfall Harbor to King Salmon Bay

(77) **Windfall Harbor** is on the west shore of Seymour Canal, abreast the northwest end of Tiedeman Island, and about 23.5 miles north of Point Hugh. **Windfall Island**, large and high, is in the middle of the entrance. A flat extends about 0.8 mile from the head of the bay, and a long bight indents its west shore 1.5 to 2.8 miles southwest of Windfall Island; both dry. The entrance to Windfall Harbor is southeast of Windfall Island between **Late Point**, the south end of the island, and **Staunch Point**, directly opposite on Admiralty Island. A 2½-fathom shoal extends 0.3 mile south of Late Point. The passage on the northwest side of Windfall Island is foul. The midchannel depths in the harbor are 12 to 19 fathoms.

(78) On the west shore near the head of the harbor is a shelter cabin maintained by the U.S. Forest Service.

(79) On the shoreline west of the north end of Windfall Island is the access point to the Pack Creek bear viewing area, part of the Stan Price Wildlife Sanctuary. The tide flats at the mouth of **Pack Creek** are part of the Sanctuary and are closed to all boat traffic when submerged at any tide level. The area is managed by the U.S. Forest Service and the Alaska Department of Fish and Game. Permits are required from June 1 to September 10; contact the district office in Juneau at 907-586-8800 for more information.

(80) Windfall Harbor should be approached only by the channel west of Tiedeman Island, which is about 0.8 mile wide. In using this passage keep in midchannel, except at a point 2 miles above the southeast end of the island, where the west shore, which is bold, should be favored to avoid a patch of rocks about 700 yards off the east shore. A 3¼-fathom spot is 0.8 mile east of Staunch Point. Enter the harbor southeast of Windfall Island and anchor anywhere in 15 to 17 fathoms, sticky bottom, preferably near the southeast shore.

(81) **King Salmon Bay**, on the west side of the canal near its head, affords anchorage but the approach is difficult. The U.S. Fish and Wildlife Service patrol vessel BRANT reported grounding on a gravel bar that extends 100 yards west from the end of the long point forming the west side of the bay.

(82)

## Point Hugh Light to Sumdum Glacier

(83) **Point Hugh Light** (57°37'12"N., 133°48'26"W.), 34 feet (10.4 m) above the water, is shown from a skeleton tower with a red and white diamond-shaped daymark on the point on the west shore of Stephens Passage 2.9 miles north of Point Hugh. About 1.2 miles south of the light, rocks extend offshore about 0.2 mile.

(84) **Midway Point**, about 10 miles north of Point Hugh, is distinguishable from seaward and made prominent by a white rock cliff about 30 feet high, backed by a round grassy knoll.

(85) **Point Glass**, about 4.5 miles north of Midway Point, is an indefinite point. The shore is steep and rocky. Rocks covered at half tide are about 0.2 mile offshore, 0.7 mile south from the point. A rock, awash at half tide, is 0.3 mile south of the point about 100 yards offshore.

(86) **Holkham Bay** is an inlet, with two extensive arms, on the east side of Stephens Passage, about 8.5 miles northeast of Point Hugh Light and about 28 miles north of Five Finger Light. The water in both arms is very deep, in some places more than 200 fathoms. In both arms the shores are steep and high.

(87)

### Currents

(88) The **tidal currents** have an estimated velocity of 4 knots at the entrances to Tracy Arm and Endicott Arm, forming swirls in these areas. Currents of much greater velocity are found in Fords Terror. See the Tidal Current prediction service at *tidesandcurrents.noaa.gov* for specific information about times, directions, and velocities of the current at numerous locations throughout the area. Links to a user guide for this service can be found in chapter 1 of this book.

(89)

### Ice

(90) Glaciers discharge ice into both Tracy Arm and Endicott Arm. It is always present in Holkham Bay, sometimes in large quantities, and is prevalent in Stephens Passage off the entrance to the bay in greater or smaller quantities. This ice is dangerous at night or in thick weather, and in entering Tracy Arm or Endicott Arm care should be taken when near the ice, as the swirls are often dangerous.

(91) **Point Astley** and **Point Coke** are the south and north points, respectively, at the entrance to Holkham Bay. A group of three rocky islets are about 0.1 mile off Point Astley. The highest of the three is about 35 feet high; the westernmost about 15 feet high; and the third, close northeast of the highest one, is about 5 feet high. A gravel bar connects the two larger ones at low water.

(92) A cove about 0.2 mile in extent, close under the east side of Point Coke, might afford a lee and anchorage in 4 fathoms for small craft with heavy northwest winds blowing down Stephens Passage.

(93)

### Anchorages

(94) An anchorage with shelter from southeast winds may be had in the west bight between Point Astley and Wood Spit, in 20 to 30 fathoms, hard bottom.

(95) **Harbor Island** is a high wooded island in the middle of the entrance to Holkham Bay. In north weather the bight on the southeast side of the island affords safe anchorage for small craft in 2 to 8 fathoms, hard bottom. A group of four islets, the largest of which is **Round Islet**, are within 0.7 mile southeast of Harbor Island. There is a safe passage through the group for small craft.

(96) A long, low wooded point extends west from the mainland east of Harbor Island. An extensive flat, with boulder patches on it, extends up to 1.2 miles from the point. The edges of the flat are steep-to. **Sand Spit**, a small islet, stands on the southeast edge of the flat. Two bare rocks on the flat are 0.4 and 0.8 mile southwest of Sand Spit.

(97) The passage between Harbor Island, the Round Islet group southeast of it, and the flat, is about 0.8 mile wide and has depths of about 3 fathoms in midchannel.

(98) **Wood Spit** is a long narrow spit that extends about 0.8 mile in a north direction from the south entrance point of Endicott Arm. Two boulder patches are 0.2 mile north of the spit. **Wood Spit Light** (57°44'18"N., 133°34'30"W.), 27 feet above the water and shown from a tower with a red and white diamond-shaped daymark, is on the north end of the boulder patches. An anchorage is available on the west side of the spit in about 25 to 30 fathoms.

(99) Between Wood Spit Light and the southwest end of the flats north of it, the channel leading into Endicott Arm is 0.5 mile wide and has depths of 15 fathoms, 0.4 mile north of Wood Spit Light.

(100) **Endicott Arm** is the south arm of Holkham Bay. **Sumdum Island** is in midchannel, abreast Sanford Cove. **Bushy Islands** are two small islets midway between Sumdum Island and the northeast shore. **Dawes Glacier**, at the head of the arm, extends to the water's edge. This glacier frequently calves enough ice into the arm to seriously hamper navigation. Due to the steep nature of the area's shoreline, few anchorages are available.

(101) **Fords Terror** is a narrow inlet that extends 5 miles in a north direction. The entrance to the upper inlet is dangerous except at high water slack and has a controlling depth of ¼ fathom; local knowledge is advised. Tidal currents rush though this narrow part of the inlet with great velocity. Fords Terror has magnificent scenery and affords a relatively safe anchorage in its upper reaches. Anchorage may be had for small craft towards the head of the outer inlet, mud bottom.

(102) **Brown Glacier**, formerly visible at the head of Fords Terror, has receded and is no longer visible from the water.

(103) **Sanford Cove**, on the south shore of Endicott Arm, 5 miles within the entrance, is one of the two available anchorages in the arm. It has a depth of 36 fathoms and

is protected except from north winds. **Rock Point** forms the northeast side of the cove. A shoal with a depth of 4½ fathoms extends 0.3 mile off the point. A flat extends out 300 yards in the south part of the cove. An occasional piece of ice drifts into the cove but is of no danger to vessels at anchor.

(104)

### Routes, Holkham Bay and Endicott Arm

(105) When approaching from the south give the east shore of Stephens Passage a berth of 1 mile or more. From a position 0.8 to 1 mile northwest of Point Astley steer for **Sumdum Glacier**, and pass in midchannel between Wood Spit Light and the Round Islet group, passing 0.44 mile off the light. Strong currents and whirlpools are common in the vicinity of Wood Spit Light.

(106) When approaching from the west, pass about 0.5 mile south of Point Coke and steer southeast, leaving Harbor Island 0.2 mile or more to northeast. Follow around the south side of Harbor Island and the Round Islet group at a 0.2-mile distance and pass midchannel between the latter and Wood Spit Light. The chart should be the guide.

(107)

## Tracy Arm to Doty Cove

(108) **Tracy Arm**, the north arm of Holkham Bay, takes a general north direction for 9 miles and then turns east 16 miles to its head, where two large glaciers, Sawyer and South Sawyer, discharge into salt water. The arm is often clogged by small icebergs for several miles, and great care is needed in navigating the ice field. Both glaciers, **Sawyer Glacier** and **South Sawyer Glacier**, can be very active, and huge blocks of ice fall off their faces into very deep water. These can generate waves that have been observed as high as 25 feet; however, a small boat can ride the waves safely if it keeps a few miles distance from the glacier face and avoids getting packed in the ice flow. It is recommended that vessels use extreme caution and avoid navigating in proximity to the glacier faces. In the north branch of Tracy Arm, which extends from **Sawyer Island** (57°52'45"N., 133°11'25"W.) to Sawyer Glacier, there is a shoal area on the east side of the arm which reaches a minimum depth of 0.8 fathom at MLLW and extends to 57°53'40"N., 133°10'51"W., about 250 yards from a waterfall on shore. Caution is advised in this area. Tracy Arm, with its deep water, numerous waterfalls, and bold shores, is one of the outstanding fjords of southeast Alaska.

(109) The entrance to the arm is about 1.75 miles wide and has a navigable channel of only 0.3 mile wide. The channel is marked by seasonal buoys and **Tracy Arm Light** (57°49'24"N., 133°34'27"W.) on the east shore of the arm. The sector light is activated by transmitting 5 carrier pulses in 5 seconds on VHF-FM channel 65. The buoys may become submerged during periods of strong current. Tidal swirls, in conjunction with very strong currents, will be met in the entrance except at slack water. Caution should be used when transiting this area due to large pieces of ice moving through the entrance with the current. A daybeacon with a radar reflector is inside the entrance on the west shore in about 54°47'29"N., 133°37'53"W.

(110) **Williams Cove**, a deepwater anchorage with constricted swinging room and hard bottom with patches of mud, is at the head of a large bight on the west side of Tracy Arm about 6 miles above the entrance to the arm. Additionally, an anchorage for small boats in 5 fathoms, rocky bottom, is reported available in the small bight on the west side of the arm, about 2 miles above the entrance and 4 miles below Williams Cove. A rock awash is about 0.2 mile southeast of the entrance to the bight.

(111) **Midway Islands** are two small, sparsely wooded islets, 16 miles north of Point Hugh and 2 miles off the east shore of Stephens Passage. Rocks, awash at highest tides, are between them, with deep water close-to. A ledge extends about 0.2 mile south from the south islet, which is marked by **Midway Islands Light** (57°50'12"N., 133°48'51"W.), 83 feet (25.3 m) above the water and shown from a skeleton tower with a red and white diamond-shaped daymark.

(112) **Twin Point**, a narrow wooded point with steep rocky shores, the more northerly of two similar points, is on the west side of Stephens Passage, about 7.5 miles northwest of Midway Islands Light.

(113) **Station Point**, about 6 miles to the north of Twin Point, is wooded and rises to a knob 1.4 miles inshore. A small wooded islet 105 feet high is 300 yards off the point. The bight, about 0.5 mile south of the islet, is used as a fair-weather anchorage by small craft.

(114) **South Island**, about 2 miles southeast from Station Point, is wooded. Reefs extend 50 to 100 yards from its shores, except at the southeast end, where a reef extends about 0.5 mile southeast. Two small wooded islets are close to the point to the southwest of South Island. Anchorage in 14 fathoms, sticky bottom, has been found to the west of South Island. In the bight to the south of the small islets, small craft can find fair-weather anchorage.

(115) **Port Snettisham** has its entrance on the east side of Stephens Passage, about 7 miles north of Midway Islands and 10 miles southeast of Grand Island. It is about 1.7 miles wide at the entrance and has a northeast direction for 4.3 miles, narrowing somewhat, and dividing into two arms. **Speel Arm**, the north arm, is 7.5 miles long to the flat at the mouth of **Speel River** at its head. A power plant and a 2,000-foot airstrip are at the head of Speel Arm. **Gilbert Bay**, the south arm, is 3.5 miles long to the flat that extends 1 mile from its head, above which is a low valley 3 miles long to Holkham Bay.

(116) **Point Styleman** is the northwest point of the entrance, and **Point Anmer**, marked by yellow and white cliffs, is 1 mile south of the southeast point of the entrance.

(117)

### Local magnetic disturbance

(118) Extreme magnetic disturbance exists in Port Snettisham and Gilbert Bay. The magnetic compass should not be relied upon within the area outlined in magenta as shown on charts of this area.

(119) A private channel and basin are at the head of Speel Arm, but it was reported in 1976 that the channel and basin were no longer maintained. The basin was reported to freeze over in the winter.

(120) The shores of Port Snettisham are steep and wooded. Because of the great depth, it is not suitable as an anchorage, though in case of necessity a vessel may anchor in about 20 fathoms at the head of either Speel Arm or Gilbert Bay, close to the flats. A poor but possible anchorage in 28 fathoms, sticky bottom, can be found in the small cove west of **Mist Island**, about 1.8 miles east-northeast of Point Styleman. It is exposed to south winds and eddies during strong tides. Anchorage can be had directly across from Mist Island, on the southeast side of Port Snettisham in a small cove in 5 to 15 fathoms, hard bottom.

(121) The port is entirely free from dangers, but there are large flats at the head of all the arms. Moderately heavy tide rips are sometimes found at the entrance to Port Snettisham.

(122) A barge dock and a small-craft float are in the basin at the head of Speel Arm. Gasoline is available in an emergency only. A machine shop is available for emergency use. A supply barge visits twice a year. Telephone and radiotelephone service is available only in an emergency. Seaplanes visit Port Snettisham on a weekly schedule.

(123) **Whiting River** empties into the middle arm at the northeast part of Gilbert Bay.

(124) **Limestone Inlet** has its entrance on the east side of Stephens Passage, about 13 miles north-northwest of Midway Islands Light and 2 miles southeast of Taku Harbor. It is a narrow arm that extends in an easterly direction. The depths are 13 to 30 fathoms in the lower half of the inlet, and a vessel may anchor anywhere in midchannel, but the holding ground is not very good. With the close proximity of Taku Harbor, vessels seldom find it necessary to enter. The upper half of the inlet is filled by a flat, most of which covers at high water. An overhead power cable with a clearance of 95 feet crosses the inlet about 0.3 mile above the mouth. The maximum safe clearance under this high voltage line is 80 feet.

(125) **Taku Harbor**, about 19 miles southeast from Juneau, indents the east shore of Stephens Passage about 3 miles southeast of Grand Island. The entrance is between **Stockade Point** and the southeast tangent of **Grave Point**. In the approach from the south, its position is readily known by the projecting high land of Grave Point and **Taku Mountain** rising behind the point. Taku Mountain is prominent in Stephens Passage from Sunset Island north to Point Tantallon. A flat extends about 0.2 mile from the head.

(126)

### Local magnetic disturbance

(127) Differences of as much as 10° from normal variation have been observed in the vicinity of Grave Point.

(128) **Grave Point Light** (58°03'44"N., 134°03'04"W.), 45 feet above the water, shown from a skeleton tower with a red and white diamond-shaped daymark on the southwest extremity of Grave Point, marks the north side of the entrance to the harbor.

(129) The anchorage is in about 13 fathoms, soft bottom, favoring the east shore. A slight eddy current in Taku Harbor from Stephens Passage is sometimes noticed on the flood and, with large tides, swirls are produced that cause a vessel to surge somewhat on her cables at times. The north winter winds from the interior draw through the valley back of the harbor with great force. In the winter these conditions, when at their severest, render the anchorage somewhat dangerous.

(130) **Slocum Inlet** is on the east shore of Stephens Passage, about 4.5 miles north of Grave Point Light and 2.5 miles northeast of Grand Island. It is almost filled with flats. The water is deep close to the flats, but it does afford convenient anchorage.

(131) **Circle Point**, the south point of the entrance to Slocum Inlet, rises to **Butler Peak**, a prominent conical peak.

(132) **Grand Island**, in the middle of Stephens Passage, 17.5 miles northwest of Midway Islands and 3.5 miles south of Point Arden, is marked on its northeast side by **Grand Island Light** (58°05'58"N., 134°06'28"W.), 47 feet (14.3 m) above the water and shown from a skeleton tower with a red and white diamond-shaped daymark. It has three knolls and rises abruptly from deep water. A good channel is on each side of the island; the east one is generally favored.

(133) **Cove Point**, on the west side of Stephens Passage, about 1.6 miles northwest of Grand Island, rises to a timbered knob, with a depression between it and a ridge to the northwest. Two rocks are close to the south shore of the point; the outer rock bares and the inner rock uncovers 12 feet. **Doty Cove**, south of Cove Point, is deep. Flats at the head of the cove drop off rapidly to 20 fathoms.

(134)

## Stephens Passage to Juneau

(135) **Point Arden** is a rocky bluff on the west side of Stephens Passage about 3.5 miles north of Grand Island and 11.2 miles from Juneau. **Point Arden Light** (58°09'33"N., 134°10'41"W.), 50 feet (15.2 m) above the water, is shown from a skeleton tower with a red and white diamond-shaped daymark on the northeast end of the point.

(136) **Taku Inlet**, on the east side of Stephens Passage, has its entrance about 2.7 miles northeast of Point Arden Light. The inlet is about 15 miles long from **Bishop Point**, the west entrance point, to Taku Glacier at its

head. A 1¼-fathom depth is about 100 yards southeast of Bishop Point.

(137)

### Anchorages

(138) The inlet has no secure anchorage and is exposed to strong winds. The best general anchorage, with fair protection from south winds, is to be had in 5 to 7 fathoms, soft bottom, 2 miles north-northeast of Jaw Point and about 0.5 mile offshore. Temporary anchorage, partially protected from north winds, can be had in from 3 to 7 fathoms, soft mud bottom, east of the Annex Creek Power Station.

(139)

### Currents

(140) In Taku Inlet, currents have greater velocity on the ebb than on the flood. At Taku Point, the ebb current has an estimated velocity of 3 to 4 knots at times. At the entrance to Taku Inlet the velocity of the ebb current does not exceed 2 knots. (See the Tidal Current Tables for daily predictions.)

(141)

### Winds

(142) The conformation of Taku Inlet is such that north winter gales sweep down the inlet and across Stephens Passage with great force, often accompanied by a blinding snowstorm. Southeast gales draw through the inlet.

(143)

### Ice

(144) Taku Glacier has now pushed up the moraine ahead of its face, and ice no longer is a serious threat to navigation in the inlet. A few small chunks of ice occasionally drift down the inlet, but these are rarely more than 3 to 4 feet wide.

(145) For a distance of about 9 miles, from Bishop Point to about 2.6 miles above Jaw Point, the water is deep and the shores bold. Thence to about 2.6 miles south of Taku Point, a distance of about 3 miles, the channel is narrowed by a flat that extends out from the east shore. From 2.6 miles south of Taku Point the channel is poorly defined, narrow and subject to change and should not be traversed without local knowledge. Large vessels should not venture north of Flat Point because of the extensive shoaling at the head of Taku Inlet. It is reported that the deepest water between Flat Point and Scow Cove is 4 feet in the channel about 100 yards off the west shore of the inlet.

(146) **Jaw Point** is the prominently projecting point on the east shore about 5.5 miles within the entrance; there are high cliffs on the east shore south of it. **Flat Point** is on the west shore 3 miles north of Jaw Point. **Greely Point**, on the east shore, 4 miles south of Jaw Point, is distinguished by its reddish-brown color.

(147) **Sunny Cove** is on the west side of the inlet about 4 miles above **Cooper Point**, which is reddish-brown. In a small bight between Sunny Cove and Flat Point about 1.3 miles northeast of Sunny Cove is the **Annex Creek Power Station**, which furnishes electric power to Juneau, and a small wharf at the station. The power station constitutes a good landmark. The bottom bares alongside the wharf.

(148) **Taku Point** is on the east shore south of the mouth of Taku River and 4.5 miles north of Flat Point.

(149) **Norris Glacier** is on the west side of Taku Inlet, about 4.5 miles north of Flat Point.

(150) **Taku Glacier**, the discharge of which is blamed for filling in the head of the inlet, is almost the only one of all Alaska's glaciers that is still advancing. It pushes ahead of it vast quantities of sediment that have filled up the formerly deep basins in the inlet.

(151) Because of the extensive shoaling at the head of the inlet that bars the mouth of **Taku River**, no directions can be given for proceeding north of the line between **Flat Point** and **Jaw Point**.

(152)

### Caution

(153) Small craft should exercise caution when maneuvering in shoal water especially off Sunny Cove, Annex Creek Power Station and off **Turner Creek** on the east side of Taku Inlet. These areas have scattered boulders that stand 2 to 5 feet above the surrounding bottom. Because of the discoloration of the water it is impossible to see them even when covered by only a foot of water. There is a flat for 1.5 miles alongshore south of Flat Point that extends off a greatest distance of 0.5 mile offshore. It has depths of ½ to 2 fathoms over it within these limits and deepens to 10 fathoms in about 0.2 mile. Along the edge of the flat for a distance of 0.2 mile southwest of Flat Point, boulders and rock ledges bare at extreme low water. This area should be avoided by small boats except at high water.

(154) **Gastineau Channel**, separating Douglas Island from the mainland, extends northwest for 13 miles from Stephens Passage and then west for 2.5 miles to Fritz Cove. The channel is marked by lights, lighted and unlighted buoys and daybeacons. The section of the channel from **Salmon Creek** northwest for about 2 miles is marked by seasonal buoys. Juneau, 8 miles above the southeast entrance, is the head of deep-draft navigation. The channel from Juneau to Fritz Cove, a distance of 7.5 miles, crosses **Mendenhall Bar** and is navigable only by small craft with local knowledge. This part of the channel is subject to considerable shoaling; mariners are advised to obtain the latest local information concerning channel conditions.

(155)

### Caution

(156) The transit of the channel from Buoy 7 to Light 21 is limited by Mendenhall Bar. In 1983, it was reported that the shallowest part of the bar, between Daybeacons 15 and 17, bared at 10 feet above Mean Lower Low Water. The bar may be crossed **only** when the tide is high enough, i.e., when the tide is **at least** 10 feet above Mean Lower Low Water, plus the draft of the vessel transiting, plus a safety factor suitable for the vessel and operator. In

(166)




selecting a safety factor, mariners should consider that the actual height of high tide can differ appreciably from the predicted high tide and that most often the actual height is less than the predicted height.

(157) Tide gages are on Mendenhall Bar Channel Lights 5 and 21. The zero mark on these gages is at the level of the least depth of the channel across Mendenhall Bar. Thus, the reading on these gages at higher tidal elevations shows the amount of water available over the shallowest part of the channel. Since this reading shows the actual tide level over the bar, it is unaffected by whatever difference there may be between the actual and the predicted tide.

(158) A 5 mph **speed limit** with wake not to exceed 6 inches in height is enforced in Gastineau Channel between Juneau Isle and Buoy 7.

(159) **Marmion Island**, about 300 yards to the northeast of Point Tantallon, the southeast point of Douglas Island and the southeast point of the southeast entrance to Gastineau Channel is small, flat topped, and bushy. **Marmion Island Light** (58°11'55"N., 134°15'24"W.), 50 feet above the water, is shown from a skeleton tower with a red and white diamond-shaped daymark. A shoal with a least depth of 3¼ fathoms extends 0.2 mile east of the light.

(160)

## Local magnetic disturbance

(161) Differences of 5° from normal variation have been observed in Gastineau Channel in the vicinity of latitude 58°15'N.

(162) **Sheep Creek Flat**, 4.5 miles above Marmion Island and close south of Thane, on the east side of Gastineau Channel, extends 0.25 mile across the channel from the mouth of Sheep Creek and bares. The outer limit of the flat is marked by a light.

(163) **Thane** is a residential section of the borough of Juneau on the northeast side of Gastineau Channel, 5 miles from Stephens Passage. A highway connects it with Juneau.

(164) **Juneau Isle**, a small wooded promontory opposite the south edge of Douglas, is connected to Douglas Island by a roadway. A light is on the northeast end of the isle, and a tall white flagpole is near the south end. The U.S. Bureau of Mines occupies the buildings on the isle.

(165) **Douglas** is a residential section of the borough of Juneau on the southwest side of Gastineau Channel, about 6.5 miles from Stephens Passage. A highway connects it with Juneau by way of the Juneau-Douglas Bridge.

(167)

## Wharves

(168) A city dock is at Douglas. Douglas also has a protected harbor with small-craft facilities.

(175)




(169)

### Small-craft facilities

(170) **Douglas Boat Harbor**, on the inshore side of Juneau Isle, has a federal project depth of 12 feet. The basin is entered between two jetties; the south jetty is marked by a light. In 2017, the controlling depths in the basin were 5 to 12 feet. Enter the basin between the jetty and the Douglas City Dock.

(171) The small-craft floats in Douglas Boat Harbor, operated by the city of Juneau, can accommodate about 135 craft including transients. The basin has a boat launching ramp. Water and electricity are available; fuel and other supplies can be obtained in Juneau.

(172) The delta off the mouth of **Lawson Creek**, about 0.8 mile northwest of Douglas, is marked by a light.

(173) The rock dump of mine tailings, about 1 mile south of Juneau, extends from the northeast shore. Shoal water extends from the dump and is marked by a lighted buoy.

(174) **Juneau**, the state capital of Alaska, is a thriving city. The city's primary commerce is in containerized cargo, fish and fish products, petroleum products and tourism. It is on the northeast side of Gastineau Channel, 8 miles north of Stephens Passage. Extensive hard-rock gold mining operations formerly were carried on, but the mines have been closed since 1943.

(176)

### Prominent features

(177) Prominent are the ruins of the mine buildings on the mountain slope above the south end of the Juneau business district, the tank farm at the rock dump about 1 mile south of Juneau, the Federal Building on Gold Creek, Juneau-Douglas fixed highway bridge, the lighted TV tower northwest of the bridge and the Governor's Mansion (58°18'11"N., 134°24'47"W.), a large white colonial mansion with green roof.

(178)

### Channels

(179) The approach to Juneau from the southeast through Gastineau Channel is clear and deep. The approach through Fritz Cove and **Mendenhall Bar** from the northwest is narrow, shallow and seasonally marked to show the best water; this approach should be attempted only during high water. The draft of the deepest vessels calling at Juneau in 2006 was 30 feet.

(180)

### Anchorages

(181) Anchorage is available off the wharves, northeast of the cable area, in 12 to 19 fathoms, soft bottom. Prior to anchoring in this area, permission must be obtained from the Coast Guard Captain of the Port.

(182) The harbor area off the waterfront at Juneau is a **safety zone**. (See **33 CFR 165.1** through **165.9**, **165.20**, **165.23**, and **165.1702**, chapter 2, for limits and regulations.)

(183)

### Dangers

(184) Shoals extend off the mouths of the creeks and are, for the most part, marked. In navigating Gastineau Channel do not approach the shores too closely, especially the southwest shore. Stream flats and deposits from mine tailings extend well offshore.

(185)

### Bridges

(186) The Juneau-Douglas fixed highway bridge over Gastineau Channel has a clearance of 51 feet. An overhead power cable with a reported clearance of 55 feet crosses the channel just northwest of the bridge.

(187)

### Currents

(188) In Gastineau Channel, the current floods northwest and ebbs southeast past Juneau with a velocity of 2.0 knots. (See the Tidal Current Tables for daily predictions.) Currents at the wharves in Juneau Harbor, northeast of the centerline of Gastineau Channel, are much weaker than at midchannel. The current follows the shoreline, going around the harbor in a counterclockwise direction on the flood and clockwise on the ebb.

(189)

### Weather

(190) Juneau is well within the area of maritime influences that prevail over the coastal areas of southeastern Alaska and is in the path of most storms that cross the Gulf of Alaska. Consequently, the area has little sunshine, generally moderate temperatures and abundant precipitation. The surrounding rugged terrain causes considerable variation in the weather within relatively short distances.

(191) Temperature variations, both daily and seasonal, are usually small because of the marine influence. On average, the difference between maximums and minimums ranges from about 9°F in December to around 18°F in June. Extremes range from 90°F in July to -22°F in February, with above 80°F readings occurring from May through August, while -20°F temperatures have been recorded in December, January and February. The city is often warmer than the airport in winter. Periods of severe cold, which usually begin with strong northerlies, are most often the result of cold air from northwest Canada flowing across the Juneau ice field and are usually of short duration. During such periods, gusty, sometimes strong winds, known locally as "**Taku Winds**," occur in the city and other local areas. They draw down the mountain passes from north, but their force is modified somewhat under the lee of the highland east of Juneau. Southeast gales may occur in the vicinity of Juneau at any season, but they are much more frequent in winter than in summer. They are usually accompanied by rain. In summer, southeast winds seldom blow home and when they do, the confined channel admits but little sea.

(192) February to June mark the period of lightest precipitation; monthly averages are about 3 to nearly 4 inches. After June the monthly amount increases gradually, reaching a maximum during October when it averages 8 inches. Monthly averages of precipitation then tend to decline from November until February.

(193) The first snow usually occurs in the latter part of October. On the average there is very little accumulation on the ground at low levels until the last part of November. Snow accumulation usually reaches its greatest depth during the middle of February when it averages around 10 inches at the Juneau Airport. Snow cover is usually gone before the middle of April.

(194)

### Pilotage, Juneau

(195) Pilotage, except for certain exempt vessels, is compulsory for all vessels navigating the inside waters of the State of Alaska. (See Pilotage, Alaska, indexed as such, chapter 3 for details.)

(196) Vessels en route Juneau can meet the pilot boat at about 10.2 miles west-southwest of Point Macartney Light (56°57.9'N., 134°20.9'W.).

(197) The pilot boat, a crewboat, can be contacted by calling "JUNEAU PILOT BOAT" on VHF-FM channels 16, 13 or 12.

(198)

### Towage

(199) Tugs up to 750 hp operating from Juneau and engaged principally in the towing of barges and log rafts are available for assisting in docking and undocking. They are equipped with VHF-FM channels 16, 13 and 6. Arrangements for tugs should be made well in advance through shipping agents.

(200)

### Quarantine, customs, immigration and agricultural quarantine.

(201) (See chapter 3, Vessel Arrival Inspections, and Appendix A for addresses.)

(202) **Quarantine** is enforced in accordance with regulations of the U.S. Public Health Service. (See Public Health Service, chapter 1.)

(203) Juneau is a **customs port of entry**.

(204)

### Coast Guard

(205) The U.S. Coast Guard station is on the northwest side of the harbor at the U.S. Government Wharf (Subport). A **district office** and **sector office** are in Juneau. (See Appendix A for address.)

(206)

### Harbor regulations

(207) The **harbormaster** assigns berths at the city float, Aurora Basin, Harris Harbor and Douglas Boat Harbor and controls the use of the grids in Harris Harbor and Douglas Boat Harbor. The harbormaster is on call 24 hours daily, and his office is on the south shore of Aurora Basin just inside the south entrance. The harbormaster's

office monitors VHF-FM channel 16 from 0800 to 1630 daily during the summer and year round on Sundays. Working frequencies are channels 73 and 74. The call sign is WAB-950. The harbormaster can also be contacted by telephone (907–586–5255).

(208)

### Wharves

(209) Most of the docks along the northeastern shore of Juneau harbor are owned and operated by the city of Juneau. The remaining wharves are privately owned except the U.S. Government wharf on the north side of the harbor. (For information on the latest depths, contact the individual operators of each facility.)

(210) **Alaska Marine Lines, Juneau Terminal Transfer Bridge** (58°17'08"N., 134°23'25"W.): 300 feet of berthing space with dolphins; 12 to 28 feet reported alongside in 2002; two 45- and one 31-ton container forklifts, and 22 acres of open storage; receipt and shipment of containerized, conventional and roll-on/roll-off general cargo; owned and operated by Alaska Marine Lines.

(211) **Jacobsen's Dock** (58°17'22"N., 134°23'51"W.): 380-foot face, 1,100 feet (335 m) with dolphins; reported depth alongside in 2005, 40 feet; mooring panamax cruise vessels; inside of dock, mooring smaller vessels; owned and operated by A J Juneau Dock, LLC.

(212) **Taku Oil Sales, Juneau Terminal Wharf** (58°17'25"N., 134°23'43"W.): 100-foot face; 274 feet of berthing space with dolphins; 40 feet reported alongside in 2002; 90-foot small-craft fueling barge moored west of wharf; pipelines extend to tank farm in rear; receipt of petroleum products; fueling vessels; owned and operated by Taku Oil Sales, Inc.

(213) **Franklin Dock** (58°17'30"N., 134°23'41"W.): 272-foot face; 960 feet of berthing space with dolphins; 30 feet reported alongside in 2002; deck height, 24 feet; mooring cruise vessels; owned by Franklin Dock Enterprises and operated by Princess Cruises.

(214) **Intermediate Vessel Float** (58°17'40"N., 134°23'56"W.): 400-foot float; 800 feet berthing space; 25 feet reported alongside in 2002; mooring commercial vessels and recreational craft; landing for passengers via launches serving cruise ships; owned and operated by the City of Juneau.

(215) **Taku Fisheries Wharf** (58°17'43"N., 134°24'00"W.): 40-foot face; 30 feet reported alongside in 2002; deck height, 26 feet; one 1¼-ton derrick and two 2-ton forklifts; receipt of seafood; handling supplies for fishing vessels; and icing vessels; owned by the City and Borough of Juneau and operated by Taku Fisheries.

(216) **Port Field Office Float** (58°17'44"N., 134°24'03"W.): 200-foot floating berth; 25 feet reported alongside in 2016; owned and operated by the City of Juneau.

(217) **Juneau Cruise Ship Terminal** (58°17'42"N., 134°24'07"W.): 300-foot by 50-foot floating berth capable of supporting ships up to 1,000 feet; 90 feet reported alongside in 2016; 200 feet of moorage available on the shoreward side of the float for smaller vessels with permission of the Harbormaster; owned and operated by the City of Jeneau.

(218) **Alaska Steamship Wharf** (58°17'50"N., 134°24'20"W.): 400-foot by 50-foot floating berth with mooring dolphins capable of supporting vessels up to 1,000 feet; owned and operated by the City of Juneau.

(219) **Goldbelt Merchants Wharf** (58°17'58"N., 134°24'26"W.): 270 feet berthing space; 30 feet reported alongside in 2002; mooring cruise vessels; landing for seaplanes; owned by Merchants Wharf and operated by Goldbelt, Inc.

(220) **U.S. Coast Guard Base, Juneau Wharf (Subport)** (58°17'54"N., 134°24'42"W.): 760-foot face; 36 to 40 feet reported alongside in 2002; deck height, 24 feet; mooring of U.S. Coast Guard and other Government vessels; owned by U.S. Government and operated by U.S. Coast Guard, National Marine Fisheries Service and National Oceanic and Atmospheric Administration.

(221) **Trucano Construction Co., Douglas Wharf** (58°17'59"N., 134°26'06"W.): 200-foot face; 20 feet reported alongside in 2002; unpaved open storage located at rear; ten steel storage tanks with a capacity of 47,000 barrels; owned by Trucano Construction Co., Inc. and operated by Trucano Construction Co., Inc. and Harbor Enterprises, Inc., d.b.a. Petro Marine Services.

(222) **City Fisheries Terminal Dock** (58°18'12"N., 134°25'56"W.): 150-foot face; 12 feet reported alongside in 2002; deck height, 25 feet; two 2-ton and one 1-ton mast-and-boom derrick; mooring vessels; handling supplies for fishing vessels; and icing vessels; owned by the State of Alaska and City and Borough of Juneau and operated by the City and Borough of Juneau.

(223)

### Supplies

(224) Provisions and marine and fishing supplies are available in Juneau. Diesel fuel, diesel oil, gasoline, distillates and lubricating oil and greases can be obtained at the oil company wharves. Only diesel oil is available for large vessels. Water can be had in the summer at all of the wharves and at the U.S. Government Wharf in the winter.

(225)

### Repairs

(226) There are no drydocking or major repair facilities for large vessels in Juneau. The nearest facilities are in Ketchikan. Two private 50-ton cranes that can handle small craft up to 5 feet in draft at high water are available for mariners' use about 1.6 miles northwest of Juneau-Douglas Bridge, on the northwest side of Gastineau Channel. A 450-foot small-craft grid is in the northeast part of Harris Harbor, and a 52-foot grid is in the southwest part of Douglas Boat Harbor. Both grids are for public use. Several machine shops and repair firms along the waterfront can provide hull, engine, electrical and electronic repairs.

(227)

### Small-craft facilities

(228) Harris Harbor and Aurora Basin, both federal projects, and Norway Point Float are north of Juneau-Douglas Bridge. All three facilities are operated by the city of Juneau. The **harbormaster monitors** VHF-FM channels 16 and 73 and can be contacted by telephone (907–586–5255) or FAX (907–586–5367).

(229) **Harris Harbor**, immediately north of the bridge, has a 12-foot project depth and is protected by two rock-mound breakwaters. In 2021, a depth of 12 feet was reported in the harbor. A light at the end of the north breakwater marks the entrance.

(230) The harbor floats can accommodate over 275 vessels. Berths for transients are available. A seaplane hangar and float are in the southeast part of the harbor, and a 450-foot grid is in the northwest part. Water and metered electricity are available at the floats.

(231) **Aurora Basin**, 0.5 mile northwest of Harris Harbor, has a project depth of 14 feet in the southeast half and 12 feet in the northwest half. The basin is protected on the northwest side by a breakwater, marked by a light, and by a detached breakwater on the channel side. In 2021, depths of 6.5 to 12 feet were reported in the north part of the basin and 13 to 14 feet in the south part. The basin can be entered at either end of the detached breakwater. The southeast end of the detached breakwater is marked by a light.

(232) The basin can accommodate approximately 457 vessels. Water and metered electricity are available at the floats.

(233) **Norway Point Float** (58°18'31"N., 134°26'28"W.), north of Aurora Basin, provides 480 feet of transient space with 4 to 10 feet reported alongside in 2002.

(234)

### Communications

(235) Juneau has regular passenger, express and freight service to Puget Sound ports, British Columbia and other Alaska ports and towns by water and air. The Alaska State Ferry System, operating from Juneau and Auke Bay, about 12 miles northwest of the city, has daily ferry service during the summer to Haines, Skagway, Hoonah, Petersburg, Sitka, Wrangell, Ketchikan and Prince Rupert, BC, and weekly service to Kake and Seattle. This schedule is less frequent during the winter. In addition to the scheduled airlines, other air services operate from Juneau on a charter basis.

(236) A highway parallels Gastineau Channel and Favorite Channel from Little Sheep Creek, about 5 miles southeast of Juneau, to Echo Cove, about 33 miles north-northwest of Juneau. The highway on Douglas Island parallels Gastineau Channel and Fritz Cove from Paris Creek, about 1 mile southeast of Douglas to Outer Point, about 11 miles northwest of Douglas.

(237) Juneau maintains radiotelephone and telephone communications with the other states and parts of Alaska.

(238)

## False Arden to Middle Point

(239) Stephens Passage continues northwest from Point Arden (58°09.6'N., 134°10.6'W.) for about 22 miles to a junction with Saginaw Channel and Favorite Channel. **False Arden** is a prominent point 1 mile west-northwest of Point Arden.

(240) **Douglas Island**, between Stephens Passage and Gastineau Channel, is large and wooded. It has several prominent peaks ranging in height from 2,500 to 3,500 feet. The south shore of the island is fairly bold and steep-to and can be followed at a distance of 0.3 mile.

(241) **Point Tantallon**, a timbered point with a rocky beach, is at the southeast extremity of Douglas Island. **Icy Point** is 0.6 mile west of Point Tantallon.

(242) **Point Hilda**, the west point of a large bight, is about 8 miles to the west of Point Tantallon. **Point Hilda Light** (58°13'02"N., 134°30'23"W.), 20 feet above the water, is shown from a square frame structure with a red and white diamond-shaped daymark on the point. There is good anchorage and shelter from north weather 1 mile east of the light in depths of 6 to 15 fathoms.

(243) **Inner Point**, marked by a daybeacon, is 2.8 miles west of Point Hilda. **Middle Point**, 4.3 miles west-northwest of Point Hilda, is marked by a light; a shoal extends 0.2 mile off the point.

(244)

## Oliver Inlet

(245) **Oliver Inlet** has its entrance on the south side of Stephens Passage about 5 miles west of Point Arden (58°09.6'N., 134°10.6'W.), through a narrow channel 1 mile long and 200 yards wide. The inlet is accessible only at high water to boats and small craft. The narrow entrance of the inlet is bared at low water by a natural dam of rocks, over which the water pours like a waterfall except at slack water. At high-water slack, small vessels drawing not over 6 feet can enter. The currents in the entrance have a velocity of 6 to 8 knots, forming heavy swirls. A portage about 0.5 mile long connects this inlet with the head of Seymour Canal.

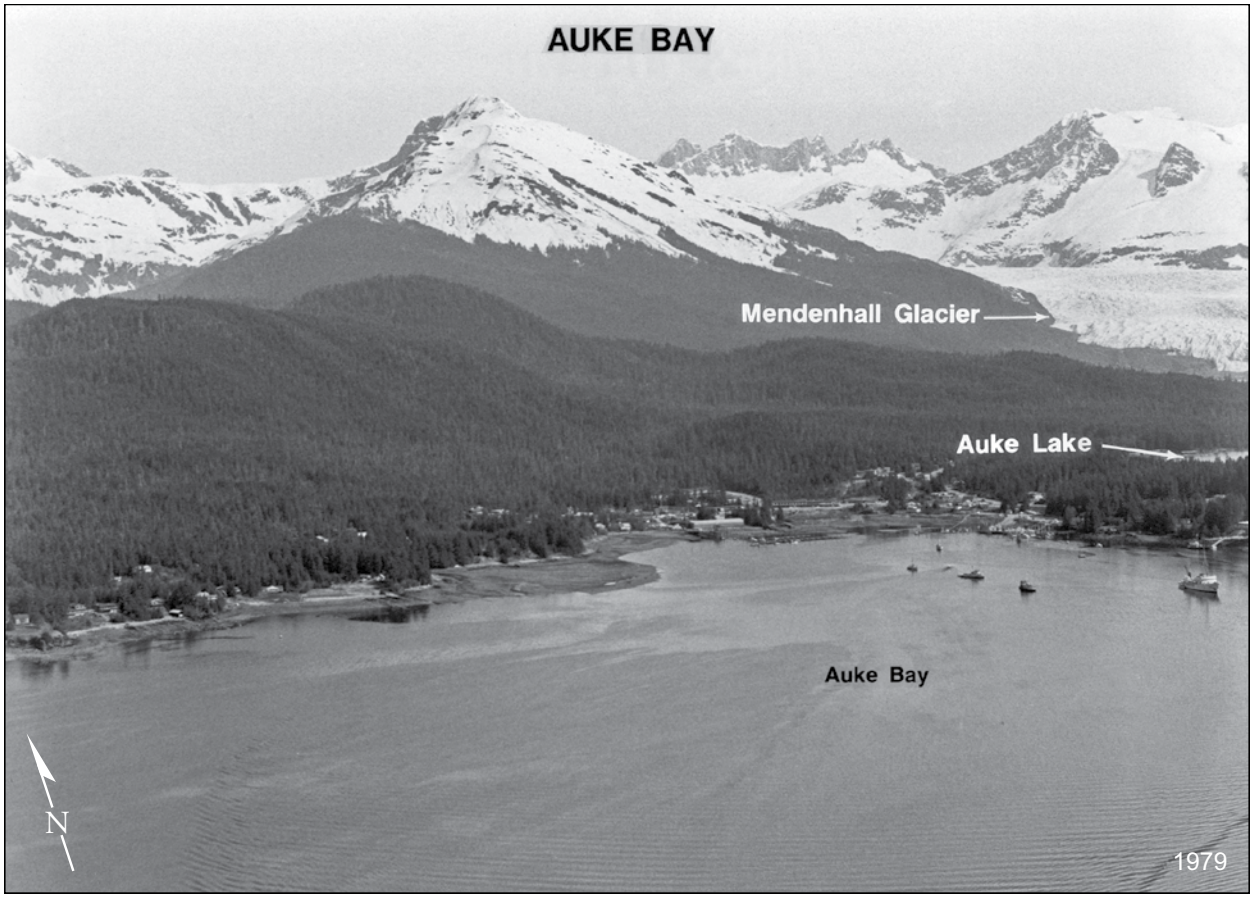
(246)

## Point Young to Auke Bay

(247) **Point Young** (58°11.6'N., 134°33.7'W.) is on the south side of Stephens Passage about 12.2 miles west of Point Arden. The extremity of the point is grass covered and has a pebble beach. From the point the land rises in a timbered ridge with a long gentle slope in a southeast direction. A low, rocky cliff, fringed by a kelp patch of 100 yards offshore, extends about 0.2 mile west along the point.

(248) **Admiralty Cove** is on the south side of Stephens Passage west of Point Young. It does not afford anchorage except for small craft because of shallow water. A small

(262)




vessel can anchor in the cove south of the island on the southwest side of Admiralty Cove, in 3 to 6 fathoms, mud bottom. This is a favorite anchorage for small craft but is open to west winds. A conspicuous trail marker on the southeast shore marks the end of a good trail maintained by the U.S. Forest Service. The trail extends 4.5 miles to **Admiralty Lake** and is much used by trout fishermen and hunters in season. A shelter cabin is on the beach near the end of the trail, and another is on the shore of the lake.

(249) A long narrow sand beach fronting a large tidal marsh is at the head of the cove, into which empties **Admiralty Creek**, a swift shallow stream.

(250) **Young Bay** is the broad bight in the south shore of Stephens Passage west of Point Young. **Scull Island**, a grass-covered rock 53 feet high with deep water around it, is in the middle of the entrance. A rocky shoal with a least depth of 1½ fathoms extends about 300 yards south of Skull Island. Young Bay is connected to Hawk Inlet Mine by road and to Auke Bay by ferry. Hawk Inlet is the site of a large mining operation and ship loading facility. A good foot trail maintained by the U.S. Forest Service extends from the southwest side of Young Bay to the shore of Hawk Inlet. The cliff on the southeast shore about midway between the head of the bay and Point Young is marked by a light-colored scar 60 feet high and 30 feet wide.

(251) Anchorage with shelter from southeast winds can be had about 0.5 mile from the southeast side of the bay, between Point Young and the head, in 18 to 22 fathoms, soft bottom. Small vessels may anchor closer in shore in desired depths.

(252) Horse Island and Colt Island, connected at low water and wooded, are on the west side of Stephens Passage north of the west entrance point to Young Bay. **Colt Island**, the north island, has ledges on its northeast and northwest sides. The north point of Colt Island appears as a separate islet about 20 feet high, but is a part of the island at all stages of the tide.

(253) **Horse Island**, the larger and southernmost of the two islands, has shoal ground that extends about 0.2 mile off the south shore of the island and practically continuous rock ledges extend from the south tip of the island in a south-southeast direction across the entrance of a cove south-southwest of the island. A fair anchorage for small boats is had in this cove, but its use is not recommended because of the obstructions across the entrance. The best water for entering the cove from the southeast is just north and close to a part of these ledges that uncover 7 feet about 0.6 mile south-southeast from the south end of Horse Island.

(254) A fair anchorage for small boats with protection from south winds can be had in midchannel west of Colt Island in 12 to 15 fathoms, mud bottom. Approach the anchorage from the north and avoid the ledge and rock that uncover 10 feet about 0.6 mile north-northwest of

Colt Island, and the various small ledges and rocks near the shores.

(255) **Horse Shoal**, about 0.6 mile east of Horse Island, consists of two patches 0.5 mile apart, both of which bare at half tide. A light marks the south patch.

(256) **Shaman Island**, about 2.3 miles northeast of Colt Island and 0.2 mile to the north of Outer Point, is wooded and is connected with Douglas Island by a gravel bar. There is a rock awash at extreme low tides 0.1 mile off the north end of the island.

(257) **Dornin Rock**, with 7 feet over it, is 0.4 mile west of Shaman Island. **George Rock**, about 1 mile north-northwest of Outer Point, is awash at highest tides. It is marked by a light.

(258) **Fritz Cove**, northeast of **Outer Point**, the northwest extremity of Douglas Island, affords anchorage and shelter from south and east winds. A boat-launching ramp is along the south shore at Fritz Cove about 1.6 miles inside the entrance.

(259) **Entrance Point**, at the east end of Fritz Cove, is a wooded knoll connected with Douglas Island by a low spit.

(260) **Spuhn Island**, with a high wooded knob at its southwest end, is on the north side of Fritz Cove, about 1.6 miles west of Entrance Point. **Gibby Rock**, covered 1 fathom and about 0.7 mile west-southwest from **Spuhn Point**, the south end of Spuhn Island, is marked by a light. To enter Fritz Cove, pass on either side of George Rock and follow the shore of Douglas Island, giving it a berth of 0.2 mile. Anchor about 500 yards from shore and 0.4 mile southwest of Entrance Point in 20 to 25 fathoms, soft bottom.

(261) **Auke Bay** is a popular fishing and boating recreational area north of Fritz Cove. **Coghlan Island**is on the southwest side of Auke Bay, about 1 mile northwest of Spuhn Island. A buoy is off the north end of Coghlan Island. **Point Louisa**and **Indian Point** are on the north shore of the bay, about 1.2 miles northwest and 0.6 mile north, respectively, of the north extremity of Coghlan Island. **Fairhaven** is on the shore of the bay between these two points. After passing 0.2 mile south and east of Coghlan Island, enter the bay on a northeast course with the summit of the island astern. Anchorage for small craft, with protection from southeast winds may be found at the head of Auke Bay.

(263) **Auke Bay** is a community with general stores, a ferry terminal, and seasonal small-craft facilities on the northeast shore at the head of Auke Bay. The National Marine Fisheries Service has a biological laboratory at Auke Bay. Auke Lake and **Mendenhall Glacier**are about 0.3 mile and 3.6 miles inland, respectively, from the community.

(264)

### Wharves

(265) **The Alaska State Ferry Terminal** (58°22'54"N., 134°41'11"W.): on the north shore of Auke Bay; 850 feet of continual berthing space; 26 feet reported alongside in 2002; owned and operated by the State of Alaska.

(266) **Southeast Alaska Lighterage Dock** (58°22'53"N., 134°40'41"W.): approximately 200 yards east of the ferry terminal; 250-foot barge, 50 feet reported alongside in 2002; handling materials, supplies and equipment to and from barges; mooring vessels; owned and operated by Southeast Alaska Lighterage.

(267) **Allen Marine Tours Dock** (58°22'54"N., 134°40'32"W.): close east of the lighterage dock; 360-foot face; 60 feet reported alongside in 2002; mooring excursion vessels; mooring vessels; owned and operated by Allen Marine Tours, Inc.

(268)

### Small-craft facilities

(269) The Auke Bay Marine Station Float, about 1.27 miles east of the ferry terminal along the east shore of Auke Bay has a 220-foot face, and reported alongside depths of 10 to 15 feet in 2002; owned and operated by the City of Juneau.

(270) Auke Bay/Statter Harbor Public Float Facility is along the east shore of Auke Bay about 330 yards north of the Auke Bay Marine Station. There are about 200 transient berths from 17 to 100 feet long and 70 assigned slips. The main pier is connected to the floating breakwater on the south side, which protects the head of Auke Bay. The west end of the breakwater is marked by a light. Mariners are prohibited from anchoring within 400 feet of the Statter Harbor breakwater due to tending anchor lines from the floating facility. Water and electric are available on all the floats. In 2021, the reported depths were 80 to 120 feet alongside the floats. The floats have a 10 day tie-up limit May through September. A large parking area and a float with a surfaced boat- launching ramp on each side are adjacent to the public floats. The Juneau **harbormaster** has control of the public float facility and the 48-foot grid about 60 yards northeast of the floats. A U.S. Coast Guard patrol boat is stationed at the facility. There is a fuel facility located in Statter Harbor.

(271) One private marina is at the head of Auke Bay, north of the public float facility. The facility can accommodate about 180 small craft, dry storage and minor repairs. A crane capable of handling craft up to 4 tons and forklifts up to 10 tons are available at the marinas. The south side of the facilities is protected by a floating breakwater with a light at its west end.

(272) The National Park Service Pier is at the head of the cove immediately west of Indian Point. This 321-foot pier has a 90-foot face and, in 2002, the reported depth alongside the face was 10 feet. The pier is used to berth Park Service vessels.

(273) Auke Bay has highway connections with Juneau, 12 miles southeast, and with Echo Cove, 21.5 miles north. Juneau Airport is about 2 miles east of Auke Bay on filled ground just east of the mouth of Mendenhall River.

(274) Auke Bay Commercial Loading Facility, just north of the AMHS Ferry Terminal has a large staging lot with loading ramp, a 180-foot by 60-foot float and drive down dock with two cranes; owned by the City of Juneau. A private 45-ton boatlift, haul out, and repair services are also available.

(275)

## Portland Island to Eagle Harbor

(276) **Portland Island** is a wooded island at the junction of Stephens Passage with Saginaw Channel and Favorite Channel. A reef, covered for the most part at high water, extends 0.7 mile northwest from the north end of the island **Portland Island Light** (58°21'07"N., 134°45'31"W.), 20 feet above the water and shown on a pile with a red and white diamond-shaped daymark, marks the end of the reef.

(277) **Saginaw Channel** connects Stephens Passage with Lynn Canal and separates Mansfield Peninsula, the northwest end of Admiralty Island, from Shelter Island. This channel is used by vessels going from Stephens Passage to Chatham Strait or Icy Strait.

(278) **Symonds Point**, the south point at the entrance to Saginaw Channel, about 2.8 miles west of the north extremity of Portland Island, is low and wooded; it rises with a gradual slope to Lone Mountain.

(279) **Lone Mountain**, Mount Robert Barron and the low divide between them are conspicuous landmarks on **Mansfield Peninsula**.

(280) **Shelter Island**, at the northwest end of Stephens Passage and east of the north end of Mansfield Peninsula, separates Saginaw Channel from Favorite Channel. The island is timbered. A dome-shaped peak on the northwest part of the island forms an excellent landmark when coming down Lynn Canal. The southeast part of the island is a long ridge. Reefs extend off the northwest end of the island for about 0.5 mile. **Shelter Island Light** (58°22'29"N., 134°48'29"W.), 19 feet above the water, is shown from a frame structure with a red and white diamond-shaped daymark on the southeast side of the island. About 0.2 mile northwest of the light, a reef makes offshore for about 300 yards.

(281) **Strauss Rock**, 0.5 mile south of the southeast end of Shelter Island and marked by a buoy, has 1¼ fathoms over it. It is of small extent and dangerous. Submerged rocks and broken ground are between Strauss Rock and the southeast end of Shelter Island.

(282) **Adams Anchorage**, off the south end of Shelter Island and northwest of Strauss Rock, offers good anchorage in 11 fathoms and very good anchorage for small craft in less depth, close to the shore during north weather.

(283) **Favorite Reef**, in the southeast part of Saginaw Channel, bares at half tide and is marked on its south part by **Favorite Reef Light 2** (58°22'48"N., 134°51'41"W.), 33 feet above the water and shown from a pile with a red triangular daymark. The reef is about 0.7 mile long and 0.4 mile from the Shelter Island shore, with a deep channel between, which is seldom used, as it is partially obstructed at its southeast end by a reef that uncovers 6 feet and extends out about 0.2 mile from Shelter Island.

(284) **Barlow Point** is about 2.8 miles northwest from Symonds Point and about 1.1 miles west of Favorite Reef Light 2. **Barlow Islands** extend about 1.4 miles in a north-northwest direction from Barlow Point.

(285) **Barlow Cove** is on the northeast side of the north end of Mansfield Peninsula. A light on Point Retreat, described in chapter 11, marks the west point of the entrance and the Barlow Islands form the east point of the entrance. The waters throughout the cove are deep. Anchorage may be obtained 0.2 mile from the southeast side at the head, in 15 fathoms, soft bottom.

(286) In entering, favor the Barlow Islands to avoid the foul ground that extends about 0.2 mile offshore southeast of Point Retreat. There is a narrow passage between Barlow Point and the Barlow Islands through which 0.4 fathom can be carried, but it is unfit for vessels and is filled with tidal eddies and swirls except at slack water.

(287) **Faust Rock**, in Saginaw Channel 1.1 miles from Barlow Islands and in line with them, is of small extent, has 2½ fathoms over it, and is marked on the north side by a lighted bell buoy, which is reported to heel over considerably from icing in the winter. It can be passed on either side.

(288) **Favorite Channel** connects Stephens Passage with Lynn Canal north of Shelter Island. It is the channel used by vessels going from Stephens Passage to upper Lynn Canal points and Skagway. **Eagle Glacier** and **Herbert Glacier** are prominent from Favorite Channel between Aaron Island and Vanderbilt Reef.

(289) **Lena Cove** is on the east shore of Favorite Channel, about 2 miles northeast of Shelter Island Light and north of Point Lena. It affords a southeast lee, but the bottom is rocky and is not a good anchorage for large vessels. Rocks awash are close to the northeast shore, north of the north point of the entrance.

(290) **Point Lena**, the southwest point at the entrance to Lena Cove, is low and wooded. Rocks awash are about 100 yards from the north shore of the point. The wreck of the SS PRINCESS KATHLEEN is in 8 fathoms about 100 yards west of the point. In 1997, the minimum depth over the wreck was 25 feet at low water.

(291) Four lighted towers are about 0.3 mile to 0.7 mile southeast from Point Lena.

(292) **Tee Harbor**, on the east side of Favorite Channel, 1.5 miles north of Point Lena, affords anchorage in the middle just within the points at the entrance, in 12 to 14 fathoms. During southeast weather, williwaws are severe at times. Small craft avoid these by anchoring in 6 to 9 fathoms at the south end of the south arm close to the beach. Winter north winds can be avoided by small craft by anchoring in the north arm, close to the beach, in 4 to 9 fathoms. Tee Harbor has telephone and highway connections with Juneau. **Point Stephens Rock**, with ¼ fathom over it and marked by a buoy on its southwest

side, is 0.2 mile northwest from **Point Stephens**, the south point of the entrance. **Tee Harbor Light** (58°25'40"N., 134°46'02"W.), 33 feet above the water, is shown from a skeleton tower with a red and white diamond-shaped daymark on the north point of the entrance.

(293) A private marina at the head of the south arm of Tee Harbor operates on a seasonal basis. A private buoy marks a **slow no-wake** speed zone in the approach to the marina. The marina can accommodate about 120 small craft at the floats. Gasoline, diesel fuel, lubricating oils, greases, limited supplies, ice and a boat-launching ramp are available.

(294) **Cohen Island** is about 0.9 mile north-northwest from Point Stephens. It is timbered on the north end, bare and rocky on the south end and has two rocks awash, close to the northwest shore.

(295) **Aaron Island**, 1 mile east of the middle of Shelter Island and 2 miles northwest of Tee Harbor, is wooded. **Aaron Island Light 2** (58°26'18"N., 134°49'32"W.), 20 feet above the water, is shown from a skeleton tower with a triangular red daymark on the northwest side of the island. A grass-covered rock, 35 feet high, is 200 yards north from Aaron Island, to which it is connected by a reef at low water. A shelving ledge, largely covered at half tide, extends 0.2 mile south from the south end of Aaron Island.

(296) **Cohen Reef**, awash at high water, is about 0.6 mile east-southeast of the south end of Aaron Island. A daybeacon is on the west side of the reef.

(297) **Eagle Reef**, about 1.2 miles north of Aaron Island, is awash at highest tides. A rock, 7 feet high, is on the north end of the reef.

(298) **Bird Island**, 2.2 miles east of the north extremity of Shelter Island, is wooded.

(299) **Gull Island**, about 0.8 mile north-northwest of Bird Island, is wooded. Reefs extend off the south point and the southwest shore for about 250 yards and for about 100 yards off the east shore. A small islet is close to the north end of Gull Island.

(300) **Amalga Harbor**, a small landlocked cove about 1.9 miles east of Bird Island, affords good small-craft anchorage in 3 to 4 fathoms, rocky bottom. The harbor has a state-maintained surfaced boat-launching ramp.

(301) **Eagle Harbor**, immediately north of Amalga Harbor, affords anchorage in moderate weather. Good holding ground is found in depths of 14 fathoms near midharbor.

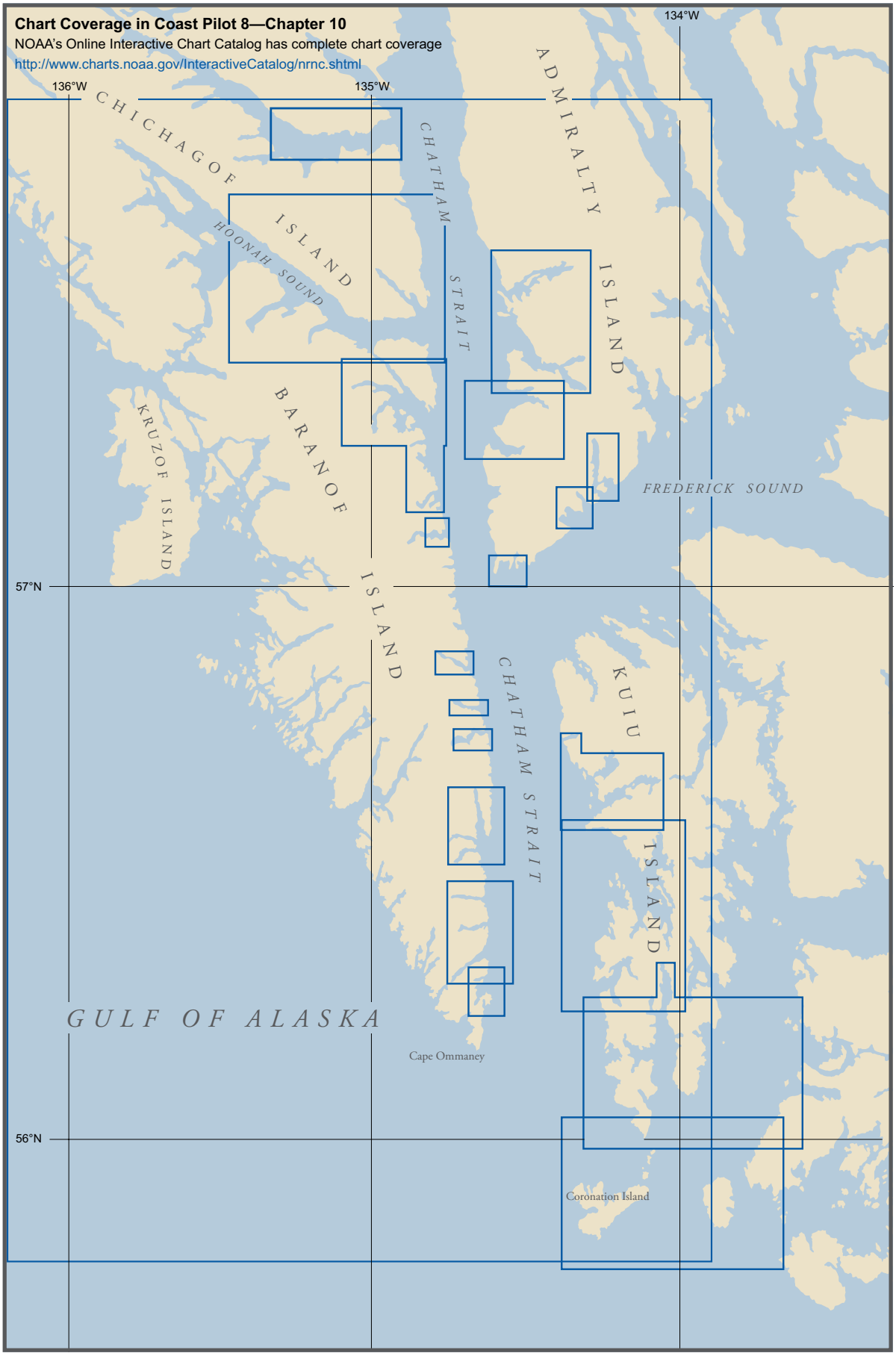


Chart Coverage in Coast Pilot 8—Chapter 10
NOAA's Online Interactive Chart Catalog has complete chart coverage
http://www.charts.noaa.gov/InteractiveCatalog/nrnc.shtml
136°W
135°W
134°W
57°N
56°N
CHICHAGOF ISLAND
HOONAH SOUND
CHATHAM STRAIT
ADMIRALTY ISLAND
KRUZOF ISLAND
BARANOF ISLAND
FREDERICK SOUND
KUIU ISLAND
GULF OF ALASKA
Cape Ommaney
Coronation Island

# Chatham Strait

(1) This chapter describes Chatham Strait and its tributaries. Also described are the settlements of Baranof, Angoon, Tenakee Springs and Port Alexander, including the various logging camps in the bays, inlets and coves along the strait.

(2) **Chatham Strait** is the most extensive of the inland passages of southeastern Alaska. It is about 18 miles wide at its entrance between Cape Ommaney and Coronation Island and about 13.5 miles between the cape and the west shore of Kuiu Island, with a length of 138 miles from Coronation Island north to Rocky Island. The main strait is clear, open and deep throughout, but some of the bays and bights are foul. In the winter, ice forms in many of the bays and inlets, particularly those into which large freshwater streams empty and which have narrow entrances. The west shore as far as Point Augusta is high, bluff and rugged and free from hidden dangers in the way of navigation from point to point, except in the vicinity of the east entrance to Peril Strait. The water is shoaler on the east side, and the reefs extend out farther, but in most cases they are in the bights and bays, and in no case do they extend beyond a line drawn 0.5 mile off from point to point, except a ledge about 1 mile offshore at Point Crowley.

(3) Soundings are not a sufficient guide in these waters in thick weather; 20 and 30 fathoms are frequently found within a few yards of the shore, while 0.2 mile from the shore, 100 to 200 fathoms are not at all unusual. An almost universal feature is the occurrence of flats, with one or more small streams, at the head of all bights and inlets. The slope, from 8 to 10 fathoms to a few feet, is abrupt, and in approaching the head of an inlet at high water, exercise care in anchoring to give the flats a sufficient berth to avoid grounding at low water.

(4)

### Currents

(5) The flood current enters Chatham Strait at the south entrance between Cape Ommaney and Cape Decision and sets north entering Frederick Sound, Peril Strait, and other bodies of water. The flood from the north enters the strait from Icy Strait. The two meet in the vicinity of Point Hayes and South Passage Point. On the ebb, the directions are reversed. The average velocity of the current is between 1.0 and 2.0 knots with an estimated maximum velocity of 3.5 knots. Strong tide rips are found around the various points, sometimes extending 1 mile or more into the strait when the current is strong. These are dangerous for small, open boats, especially at points surrounded by broken ground. Sometimes they will be encountered well offshore without apparent cause.

(6) Along the east shore from Cape Decision to Point Crowley, a strong northwest set has been noted during the flood. During the ebb the current in the opposite direction is weak, and very often there is a northwest eddy. The current seems to travel along the shore in definite streams. The outer limit of the current stream is marked by drifting material, and the difference in current on either side can be noted. It appears that the flood current travels from the sea toward and up the east shore of the strait and that the ebb is strongest on the west side.

(7) (See the Tidal Current Tables for daily predictions of places in Chatham Strait.)

(8)

### Weather

(9) The wind generally draws through Chatham Strait parallel to its axis, but, if from northeast, will come down Frederick Sound and be felt in heavy squalls through the divides in the mountains on the east side. It sometimes draws through Tenakee Inlet and Peril Strait if blowing strong northwest outside. Most of the west shore is so high and bluff that the strong southwest winds cannot blow down into the strait but draw around Cape Ommaney and north through the strait, usually bringing fog and rain as far as Point Gardner.

(10)

## Hazy Islands to Cape Ommaney

(11) In the approach to Chatham Strait from seaward, Hazy Islands are distinctive from their position and form a good landmark when they can be seen. They are also sometimes useful for fixing the position when it is thick inshore. The passage between them and Coronation Island is clear. Cape Ommaney is high and an important landmark. The summit back of the cape appears as a rounded knob with gentle sloping shoulders that drop steeply to the water's edge. In the approach from the west in thick stormy weather, there is a possibility of mistaking the high land northwest of Larch Bay for that edge of the cape.

(12) From Sumner Strait, vessels enter Chatham Strait between Cape Decision and the Spanish Islands. At times the south part of Sumner Strait has had very dense fog that extended about 1 mile to the west of Cape Decision, beyond which it was clear. Approaching from the south, make Coronation Island and pass between it and Hazy Islands. In thick weather, should Coronation Island not be sighted, a sharp lookout should be kept for Hazy Islands.

Whistle echoes along the Coronation Island coast on either side of Windy Bay have usually been sharp and distinct. The current sets northwest along the coast, with an estimated velocity of 1 knot, depending on the wind, and, should Coronation Island not be sighted, a vessel may be set toward Cape Ommaney. There are several dangers off the north side of Coronation Island. Once in Chatham Strait the navigation is easy, for it is wide and comparatively clear, with fair anchorages at short distances.

(13) The high rugged coastlines of Cape Ommaney and Coronation Island and the peaks of the Hazy Islands reportedly make good radar targets when approaching Chatham Strait from the west and south.

(14) **Hazy Islands** form two distinctive groups about 8 miles west of Coronation Island and are separated by a channel 1.2 miles wide with depths of 25 to 40 fathoms. The northwest group consists of three prominent islets; the largest is **Big Hazy Islet**, 258 feet high and conical. The second largest of this group, about 0.3 mile northwest, has three sharp, well-defined summits. The smallest of the group consists of two jagged rocks that are connected at low water but appear as one islet with two summits.

(15) The southeast group is low. The north islet of this group has two grassy knobs and a very sharp pillar-shaped knob. Off the southeast side of this islet are two rocks, close-to. The south islet of this group is a very low rocky reef with a breaker about 300 yards off the south end of the islet.

(16) Hazy Islands are a National Wildlife Refuge under the jurisdiction of the U.S. Fish and Wildlife Service.

(17) In thick weather, the north group of islets can usually be seen in time to avoid trouble, but the south group is dangerous. Although the fathometer gives evidence of shoaling, it is very slight until within less than 0.5 mile of the islets.

(18)

### Currents

(19) Currents are irregular. The coastal currents near the islands appear to set northwest with a velocity of about 1 knot, but in the vicinity of the islets the currents seem to be modified by the branch from Chatham Strait. Currents with a north set and a velocity of about 1 knot were found 5 miles north of the Hazy Islands.

(20) **Cape Ommaney**, the west point at the entrance to Chatham Strait, is a remarkable promontory terminating in Ommaney Peak, a bluff, rugged, rocky 2,005-foot-high mountain, detached from the higher land north by a low depression running through from Port Conclusion. **Wooden Island**, sparsely wooded, is close southeast of Cape Ommaney.

(21) **Cape Ommaney Light** (56°09'37"N., 134°39'40"W.), 195 feet above the water, is shown from a post with a red and white diamond-shaped dayboard on Wooden Island. This light, together with Helm Point Light, Point Crowley Light and Cape Decision Light, marks the approach to Chatham Strait.

(22)

## Windy Bay to Shrub Islet

(23) From Helm Point to Windy Bay the shoreline of Coronation Island is rugged and rocky, with steep brown and yellow cliffs. In the bight west of Helm Point is a rock awash. Between Helm Point and Windy Bay are off-lying rocky islets; the outermost is 40 feet high and 1.3 miles west from Helm Point and about 0.5 mile offshore. It is of grayish color, without vegetation, with deep water close-to, and is generally visible in moderately thick weather. A reef with rocks awash at half tide is 1 mile southwest of Helm Point.

(24) **Windy Bay**, on the west side of the island, is well protected from the sea by rocks and reefs that extend from the north shore of the entrance to within 0.3 mile of the south shore. A line of breakers usually shows on the reefs.

(25) The shoreline of the bay is generally rocky. The head of the bay has a sand beach about 350 yards long, and a deposit of sand is near the mouth of the stream on the south side of the bay.

(26) The depression in which the bay lies is readily distinguished from offshore, although the surrounding peaks are high. From offshore, Windy Peak is a good landmark. The entrance is south of the reefs. Follow the general trend of the south shore about 0.2 mile off. When approaching the south inner point where the bay narrows, change course so as to pass about 220 yards off the point; beyond, the bay is clear. Depths of 12 to 20 fathoms are carried through the channel.

(27)

### Anchorages

(28) Anchorage may be had in 22 fathoms, mud and sand bottom, off the stream on the south side of the bay or near the head, but swinging room is restricted. The stream may be identified by the grassy area near its mouth. Fishing boats and other small craft may anchor in shoaler water closer in. During southeast gales the wind is felt with considerable force, and the depths throughout the bay, averaging about 30 fathoms, mud bottom, are too great for secure anchorage.

(29) From Windy Bay to Nation Point, the northwest point of the island, the shoreline is rocky and rugged. Off the rounding point, about 1.8 miles to the southwest of Nation Point, are two rocks about 300 yards offshore; the south rock shows breakers in moderate weather, the north rock bares. A rock that uncovers about 4 feet is 0.3 mile north of the two rocks.

(30) **Nation Point**, at the northwest end of Coronation Island, is rocky, with breakers close-to on the west side. Depths of 14 to 39 fathoms were obtained 0.3 mile from the point. The land rises rather steeply at first, then with a gradual slope to Pin Peak.

(31) From Nation Point to Cora Point, the shoreline is cut up by numerous bays and inlets; the principal ones are Egg Harbor and Aats Bay, both affording anchorage. **Aats Point**, about 2.3 miles to the east of Nation Point,

is a prominent rocky point. The land rises in a timbered ridge of moderate slope.

(32)

### Local magnetic disturbance

(33) Differences of as much as 3° from normal variations have been observed at Aats Point.

(34) **Egg Harbor** is on the east side of Nation Point, directly under Pin Peak. It is a secure anchorage, except from north winds. The shoreline halfway to the head of the bay is rocky, then beyond it is sandy. About 0.5 mile within the entrance, on the west shore, are caves about 30 feet high, two shacks, and a white boulder beach that can usually be seen at night. A trail leads from this place to near the summit of Pin Peak, where mining has ceased.

(35) A rock, which bares, is 0.1 mile off the west shore at the entrance. Kelp extends from the shore to about 20 yards beyond the rock. In entering the bay at night this rock is the main danger, as it can seldom be picked up and usually does not show as a breaker.

(36) Off the east point of the entrance is a rock about 10 feet high. About 160 yards to the northwest of this rock is a rock awash at high water.

(37) The channel between the rocks off the point is about 500 yards wide, and a midchannel course leads to safe anchorage in 5 to 7 fathoms, sand bottom. During southeast gales, williwaws sweep down with considerable force and heavy ground tackle is necessary to prevent dragging. On the east side of the bay, halfway to the head, is a small bight used by fishing craft, as it affords better protection. Near this place is a low portage to the bay to the east.

(38) **Alikula Bay**, east of Egg Harbor, is free of dangers, and anchorage can be selected according to size of vessel in either the outer or inner part of the bay.

(39) **Aats Bay**, east of Aats Point, has two arms. The west arm is too deep for secure anchorage; the east arm affords anchorage in 6 to 8 fathoms, sand and mud bottom. The entrance of the east arm has a 1½-fathom rock marked by kelp. At times there is a kelp patch about 200 yards to the south of the rock. Favor the east shore in entering. During severe southeast gales, williwaws are felt with considerable force, and heavy ground tackle is necessary to prevent dragging. The bay is exposed to north weather.

(40) **Gish Bay** is about 1 mile east of Aats Bay, and rocks that uncover about 3 feet are midway between the entrance points. The bay is full of kelp and has depths of 3 to 7 fathoms; shoal water extends 0.3 mile from its head. It is not suitable as an anchorage. **Channel Island**, a small island with a few trees, is 0.5 mile offshore and marks the entrance to the bay. The island shows up well from east and west. During moderately thick weather it is a good landmark.

(41) From Aats Bay to Cora Point the shoreline is irregular. Near Cora Point, on the north shore, is **Shrub Islet**, a small rocky islet with a few trees on it. South of the islet is a small cove where small launches anchor in 5 to 10 fathoms.

(42)

### Dangers

(43) The rocks off the south end of Coronation Island are described under Helm Point. The most important dangers off the north coast are as follows: A 2-fathom spot, which during heavy weather shows as a breaker, is 2.3 miles north-northeast from Nation Point; it is not marked by kelp. A rock that uncovers 8 feet is 1.1 miles north-northwest from Aats Point. A very heavy breaker 0.2 mile southeast of the rock was occasionally observed during a severe gale, but the shoalest depths found were 7½ fathoms. A 2¼-fathom shoal, marked by kelp in the summer, is 0.4 mile west-southwest of the rock in 55°56'47"N., 134°17'28"W. The shoal area extends 0.4 mile north-northeast. A rock awash at extreme low water is 0.5 mile northeast of Aats Point.

(44) The channel between Coronation Island and the Hazy Islands is clear. Spanish Island and Cape Decision are described in chapter 7.

(45)

## Point Howard to Table Bay

(46) **Point Howard** (56°04.2'N., 134°14.0'W.), on the east side of Chatham Strait about 5 miles northwest of Cape Decision, consists of a detached rocky ledge back of which is a group of several bare mountain peaks, including **Mount McArthur**.

(47) **Howard Cove**, between Cape Decision and Point Howard, is open to the west and is not considered a secure anchorage. The temporary use of the cove is recommended only for small craft of not over 6-foot draft with local knowledge.

(48) **Crowley Bight**, a fair-weather anchorage, is an indentation in the shoreline between Point Howard and Point Crowley. It is exposed and affords poor holding ground.

(49) **Point Crowley** is a prominent headland on the east shore 8 miles northwest of Cape Decision. Most of the higher peaks in this vicinity are bare. A group of rocks, which uncover at about 10 feet and on which the sea breaks at practically all stages of the tide, is about 1 mile southwest from the point. The passage between the rocks and the point may be used to take advantage of the prevailing north current when northbound on the east side of Chatham Strait. Attention should be paid to the current setting west, toward the rocks, just south of the point.

(50) **Point Crowley Light** (56°07'11"N., 134°15'32"W.), 45 feet above the water, is shown from a skeleton tower with a red and white diamond-shaped daymark on the point.

(51) The north entrance point of **Table Bay**, about 2 miles north of Point Crowley, consists of an island close to a tongue of lowland, which affords some shelter from the swell in the north arm of the bay. Temporary anchorage may be had in 13 to 16 fathoms, mud bottom. Favor the southeast shore and take care not to anchor too close to the rocks, awash at high water, off the north shore of the

arm. In the northernmost part of the north arm is a good place to beach a vessel in case of emergency. Fishing vessels generally anchor in the southeast arm of the bay. At high water small craft can enter the landlocked cove on the west side of the north arm by passing between the wooded island on the north side of the cove and the rocky islet south of this island. At low water this entrance has bare rocks.

(52) The entrance to Table Bay is marked on each side by bold, rocky bluffs that are very distinctive in color; those on the north side are dark, and those on the south side are light and show prominently when in the sun. The low gap at the east end of the bay is prominent in contrast with the high land on either side.

(53)

## Port Malmesbury to Elena Bay

(54) **Port Malmesbury** is on the east side of Chatham Strait, 17 miles north of Cape Decision. On the southeast side of the port are two arms; one about 1.7 miles inside the entrance and the other near the head. The northwest side has a short arm about halfway between the entrance and the head of the port.

(55) **Point Harris**, the north entrance point to Port Malmesbury, is a bare rocky platform, 40 to 50 feet high, that extends 0.2 mile out from the tree line. **Point Harris Light** (56°17'26"N., 134°17'52"W.), 32 feet above the water, is shown from a skeleton tower with a red and white diamond-shaped daymark on the point. Back of the point the land rises gradually at first and then more abruptly, to form a prominent detached peak. This mountain has a dark green growth of timber on the west slope and a large yellow landslide on the south slope.

(56) One-half mile east of Point Harris is another prominent point. Its face is a steep bluff of light gray rock. The land rises abruptly here to form a small knob; the low land back of the knob rises uniformly to the first-mentioned peak. The knob is prominent from the northwest direction and is visible over Point Harris.

(57) A reef extends about 350 yards off the point on the north side of the port about 1.5 miles east of Point Harris. The bight west of this reef affords fair-weather anchorage, protected from north winds, in 15 fathoms, soft bottom.

(58) The small arm on the northwest side has a narrow entrance channel with dangers on both sides. Vessels entering should favor the south shore in the narrow entrance. Good anchorage with a mud bottom is inside the arm.

(59) The shore near the south entrance point of the port is irregular and foul. The head of the first arm on the south side affords anchorage with mud bottom. Favor the southwest side near the head to avoid the charted 2¼ fathom rock.

(60) In the second arm on the south side, anchorage with mud bottom may be had in the basin at the head of the arm. The channel to the basin is narrow and rocky along the northeast at its entrance.

(61) **Harris Cove**, between Port Malmesbury and Gedney Harbor and about 1.3 miles north of Point Harris, extends to the basin at the northwest end of Port Malmesbury, with low land between. This bight is used by small craft for anchorage in all but west weather.

(62) **Point Cosmos** is about 3.5 miles north of Point Harris. It rises by several broad terraces to a bare-topped mountain. At Point Cosmos the shore trends northeast for about 2 miles to the entrance of Gedney Harbor.

(63) **Gedney Harbor**, about 23 miles north of Cape Decision, has its entrance on the east side of Chatham Strait 2 miles northeast of Point Cosmos. The harbor is a horseshoe-shaped cove, averaging about 0.2 mile in width, that surrounds a wooded island that is about 1 mile long. The passage east of the island is blocked at its north end by rocks and reefs.

(64) The entrance to the harbor is on either side of a ledge about 400 yards long, about 0.2 mile west of the island. The northwest and southeast ends of the ledge are bare heads that show only a few feet above the highest tides. The channels on each side of the ledge are clear in midchannel. About 0.3 mile southeast of the ledge the passage southwest of the island is narrowed to a width of about 200 yards by a sharp point projecting from Kuiu Island. Kelp and shoal water extend about 50 yards off the point.

(65) The harbor is used extensively by fishermen during the season. Anchorage is available in most parts of the harbor, mud bottom.

(66) A fish-buying scow is usually anchored in the harbor during the summer. Water, ice, gasoline, diesel fuel, limited provisions and fishing supplies are available on the scow.

(67) **Tebenkof Bay** is on the east side of Chatham Strait north of Gedney Harbor. Its entrance is between Point Ellis on the north and **Swaine Point** on the south. The bay extends inland for about 7 miles and branches into three arms of irregular shape. The high regions north and south of the entrance merge into the low-lying hills that cover the entrance islands and the long projecting points of the bay. The islands inside the bay and the east shore of Chatham Strait are low and a distinctive feature of the locality.

(68) **Windfall Islands** are three islands from 1 to 2 miles north of Swaine Point. **Troller Islands** are six islands just northeast of Windfall Islands. They are separated from Kuiu Island by **Helianthus Passage**. This passage is narrow and has strong currents during spring tides. **Troller Point** is the most north point of the Troller Island group.

(69) From some distance offshore in Chatham Strait, Windfall Islands and Troller Islands appear as a continuous stretch of shoreline.

(70) **Davis Rock** is a bare rock in the entrance to Tebenkof Bay, about 0.9 mile northwest from Troller Point. It forms an excellent landmark for entering the bay. Southwest

from the rock are a number of shoals and submerged pinnacle rocks as shown on the chart. A rock, 15 feet high, similar to Davis Rock in appearance, is off Troller Point.

(71) **Explorer Basin** is between Kuiu Island and the offlying Windfall Islands and Troller Islands. It affords fair anchorage during south weather. The entrance is obstructed by shoals off Swaine Point and the southernmost Windfall Island.

(72) **Thetis Bay**, the south arm of Tebenkof Bay, affords excellent anchorage near its head, mud bottom.

(73)

### Local magnetic disturbance

(74) Differences of as much as 4° from normal variations have been observed on the west shore of Thetis Bay at 56°25.7'N., 134°10.3'W.

(75) The entrance to **Petrof Bay**, the southeast arm, is endangered by numerous reefs and shoals. The north side of the entrance channel is marked by **Tebenkof Bay Light 1** (56°27'05"N., 134°08'24"W.), 14 feet above the water, shown from a small house with a square green daymark on a small island on the east side of the entrance. A daybeacon is on a rock awash, 1.7 miles southeast from the light.

(76) Good anchorage can be selected in various parts of Petrof Bay; the chart is the best guide.

(77) **Piledriver Cove** is a small cove on the north side of Tebenkof Bay, about 4 miles east-southeast of Point Ellis.

(78) **Happy Cove** on the north side of the bay 3 miles southeast from Piledriver Cove is well sheltered. Its entrance is marked by one bare and one wooded island. The inner cove, separated from the lower part by a narrow channel, has sand bottom and beach.

(79) **Gap Point** is the southernmost extremity on the north shore of Tebenkof Bay about 1.2 miles southeast from Happy Cove. From the entrance to Tebenkof Bay, it is distinguished by the gap between the islet south of it and the point.

(80) **Elena Bay**, the north arm, affords good anchorage at various places.

(81)

### Routes

(82) The entrance to Tebenkof Bay north of Davis Rock is clear and may be navigated easily with the aid of the chart. In approaching this entrance from south, take care to avoid the dangers southwest of Davis Rock. Small craft can enter the bay via Explorer Basin and Helianthus Passage.

(83)

## Point Ellis to Kingsmill Point

(84) The Bay of Pillars and Rowan Bay, on the east side of Chatham Strait, share a common entrance about 38 miles north of Cape Decision. The bight that forms the entrance between Point Ellis and Point Sullivan is about 7.2 miles wide and indents the coast 2.5 miles in its main part. The two bays have secure anchorages. The bight has many islands, rocks and reefs, especially between the two arms, but a deep channel leads into each arm.

(85) **Point Ellis** (56°33.8'N., 134°19.2'W.), the south point of Bay of Pillars, is 16.5 miles north of Point Harris. The point is low and rocky. Rising steep and bluff back of it is a high wooded ridge with two prominent landslides on its south face; the east one is an inverted "V" in shape. These slides are bare and can be seen for a long distance from south or southwest. A rock, covered 2½ fathoms, is about 0.3 mile west-southwest of the point in about 56°33'38"N., 134°19'45"W. A bare reef is 0.4 mile west-northwest of Point Ellis. The reef is marked by **Point Ellis Light** (56°34'00"N., 134°19'59"W.), 30 feet above the water, shown from a skeleton tower with a red and white diamond-shaped daymark. Kelp is between the reef and the point and also extends about 0.5 mile north from the reef. A rock awash is about 0.3 mile north of the reef in 56°34'20"N., 134°19'46"W.

(86) Islands, islets, reefs and bare and covered rocks are on the north side of the entrance to Bay of Pillars; kelp is in the area.

(87) **Bay of Pillars** extends about 10 miles northeast from Point Ellis and is comparatively clear for 4.5 miles. Above this the bay is foul and must be navigated with caution.

(88) The best approach to the bay is on a southeast course passing about 0.9 mile north of Point Ellis Light, then following a midchannel course on about 068° into the bay.

(89) Temporary anchorage for small boats can be had in a cove about 2.1 miles northeast of Point Ellis in 10 to 20 fathoms, mud and shell bottom.

(90) The ruins of a cannery wharf and a saltery wharf are on the southeast side of Bay of Pillars, about 3.5 miles above Point Ellis. The area around the wharves is foul with submerged pilings and debris and should be avoided or navigated with extreme caution. In 1981, the NOAA Ship DAVIDSON found secure anchorage in 70 knot southwest winds, 1 mile north-northeast of the cannery in 15 to 20 fathoms, mud bottom.

(91) A rock that bares 1 foot is on the south side of the bay about 0.5 mile northeast of the cannery wharf in about 56°36'16"N., 134°14'06"W.

(92) Four small islands are on the southeast side of the bay, about 4.5 miles above Point Ellis. Secure anchorage for small vessels can be found about 400 yards east of the islands and the same distance from the shore, in 10 to 11 fathoms. It is safer for a stranger to enter at low water. The channel is about 150 yards wide between the north end of the islands and the reef to the north. The channel north of the reef is about 150 yards wide and is the most direct route to the upper parts of the bay.

(93) About 6 miles above the entrance a narrow foul channel leads into the inner bay, which is clear and deep. The narrow entrance to the inner bay has strong tidal currents and should only be entered at slack water or with local knowledge. A rock awash is at midchannel at the

west end of the narrow entrance in about 56°37'58"N., 134°11'07"W.

(94) Anchorage can be found in the cove to the southwest corner of the inner bay in 4 to 10 fathoms, mud bottom. A 1½-fathom spot is near the center of the cove. Good anchorage in 2 to 7 fathoms, mud bottom, is found in any part of the arm leading south at the head of the bay.

(95) **Rowan Bay** has a very irregular bottom and much kelp and is suitable only for small vessels. Strangers should preferably enter at low water and exercise care, because there are many charted and uncharted shoals in the bay and at its entrance.

(96) A rock awash, with deep water around it, is about 0.8 mile southwest of the narrow entrance to Rowan Bay. It is marked by kelp. A rock, covered 3½ fathoms in 56°37'40"N., 134°20'13"W., is about 1.1 miles southwest of the rock awash. Another danger spot, covered 1.8 fathoms, is about 220 yards southwest of the 3½-fathom covered rock in about 56°37'35"N., 134°20'24"W. Mariners are advised to exercise caution in this area.

(97) The entrance to Rowan Bay, 5 miles north of Point Ellis, has depths of 10 to 20 fathoms, however, uncharted shoals from 3 to 1½ fathoms are reported; local knowledge is advised. The shores at the entrance are foul. At 1.2 miles within the entrance there is an island in the middle. The deep channel follows the southwest and southeast sides of the island at a distance of about 200 yards. The passage north of the island is narrow and bordered on both sides by foul ground, but it is preferred because a nearly straight approach is possible.

(98) East of the island, the bay has a northeast direction with depths of 3 to 15 fathoms and is a secure anchorage. A rock, covered 1.8 fathoms, is 0.45 mile east-northeast from the island in the middle of the bay in about 56°39'38"N., 134°15'02"W. Other rocks extend about 250 yards east of the 1.8 fathom rock and caution is advised in this area. Two large streams enter the head, and an extensive flat borders the entire north shore between them to a distance of over 0.5 mile, but the shoaling is gradual up to 3 fathoms.

(99) In 1981, a logging camp was operating in Rowan Bay on the northwest shore on both sides of the point about 0.6 mile north-northeast of the island. A small-craft and seaplane float is about 0.2 mile west of the point. A log storage area and log booms are in the north part of the bay. Gasoline and a machine shop are available in an emergency only. Radiotelephone communications are maintained with other parts of Alaska and with other states.

(100) **Point Sullivan**, about 7.2 miles north of Point Ellis, is low and wooded. The land rises gradually back to a ridge. A chain of islands, bare and submerged rocks and kelp extend about 1.2 miles south-southeast from the point. East of these islands is a bight, open to the south, where temporary anchorage can be found in 13 to 20 fathoms.

(101) **Washington Bay** is on the east side of Chatham Strait, about 45 miles north of Cape Decision and about 2.5 miles north of Point Sullivan. The bay is deep and has high, steep sides; its entrance is not visible far from shore. **Washington Bay Light** (56°43'07"N., 134°23'30"W.), 33 feet above the water, is shown from a spindle with a red and white diamond-shaped daymark on the point on the south side of the entrance. A 5½-fathom spot is about 0.5 mile south of Washington Bay entrance in about 56°42'30"N., 134°23'25"W. Rocks and kelp extend off the north point of the entrance. Submerged pilings extend about 50 yards off the north shore, about 0.5 mile from the head of the bay; caution is advised in the area. Temporary anchorage can be had in the middle of the bay about 0.7 mile from the head.

(102) The head of the bay is not recommended as an anchorage because of insufficient swinging room. In the winter, violent southeast winds draw down the north side of the head of the bay. Mariners should follow a midchannel course when entering the bay.

(103) **Kingsmill Point** is on the east side of Chatham Strait at its junction with Frederick Sound. It is marked by **Kingsmill Point Light** (56°50'36"N., 134°25'15"W.), 25 feet above the water and shown from a pile with a red and white diamond-shaped daymark. Frederick Sound is described in chapter 8.

(104)

## Breakfast Rock to Miner Cove

(105) **Breakfast Rock** is about 0.3 mile off the west shore of Chatham Strait, about 4 miles north-northeast of Cape Ommaney and about 0.9 mile south-southeast of Port Alexander Light. It is 5 feet high, small in extent and bare and has deep water close-to. Small boats with local knowledge use a passage between this rock and the reef that extends out from the shore.

(106) **Port Alexander**, indenting the west shore of the strait about 5 miles north of Cape Ommaney, is a small-boat harbor with an entrance 150 yards wide.

(107) **PortAlexanderLight**(56°14'23"N.,134°38'59"W.), 68 feet above the water, is shown from a skeleton tower with a red and white diamond-shaped daymark on the high bare rocky point at the south side of the entrance.

(108) A federal project provides for a 150-foot-wide channel, 15 feet deep, that leads through ledge rock at the main entrance. In 2011, the controlling depth was 10 feet in the main entrance channel except for shoaling and heavy kelp buildup in the west quarter of the channel. The channel to the inner harbor is no longer maintained, and local knowledge is necessary for safe entry.

(109) A lighted **334°** range leads through the center of the entrance channel and close southwest of a buoy that marks the southeast end of a shoal with rocks awash.

(110) A submerged pipeline crosses the channel about 50 yards north of the 334° rear range marker. The pipeline is marked by two orange floats at each end. Vessels are cautioned not to anchor in this area.

(111) A **speed limit** of 3 miles per hour is prescribed for certain vessels in Port Alexander. (See **33 CFR 162.250**, chapter 2, for regulations.)

(112) **Port Alexander**, a fishing settlement with a general store, is on the east side of the harbor. It has a public wharf and two state-maintained small-craft floats. The public wharf is in the outer harbor at the south end of the settlement. In 1976, depths of 12 feet were reported along the face. Just north of the public wharf is one of the two state floats. The 412-foot-long float, with a seaplane float at its north end, can accommodate craft on both sides; depths of 10 to 20 feet were reported alongside in 1976. The second small-craft float is on the east side of the inner harbor, about 500 yards north of the public wharf. The 250-foot-long float can accommodate craft on both sides. In 1976, depths of 10 to 20 feet were reported alongside.

(113) Limited amounts of gasoline, diesel fuel, water and provisions can be obtained in the summer at the general store. Ice is available in the summer from a fish-buying station.

(114) A 48-foot grid is immediately west of the approach pier to the small-craft float on the east side of the inner harbor.

(115) The settlement maintains radiotelephone communications with other parts of Alaska and with other states.

(116) **Point Conclusion**, 6.5 miles north of Cape Ommaney, is low, flat, and wooded. The point is the north extremity of a comparatively low peninsula between Port Alexander and Port Conclusion. A small island is close off the point. **Graveyard Cove** is an open bight on the southeast side of the point. **Flotsam Islet** is in the southeast part of the cove.

(117) **Port Conclusion** has its entrance west of Point Conclusion. The soundings are deep and somewhat irregular, but the port and approaches have been found clear of dangers. On the southeast shore of the port, 0.3 mile south-southeast of Point Conclusion, is a cove about 0.2 mile long with a sandy beach at its head. About 0.9 mile farther southwest, on the same shore, is **Ship Cove** where Vancouver (English navigator and discoverer) moored his vessels. The cove affords protected anchorage for small craft in 1¼ to 2¼ fathoms with caution of the charted rocks. **John Bay**, on the west side opposite Point Conclusion, is a deep bight of no importance.

(118) Ruins of two saltery wharves are on the west side of Port Conclusion at its head. In 1976, the north wharf was pile ruins, and the south wharf had loose outer piles and an unstable deck. Caution is advised.

(119) **Port Armstrong** is 1.5 miles north of Point Conclusion. From **Point Eliza**, the south point at the entrance, a narrow ledge, which uncovers shortly after high water, extends east for about 200 yards in a continuation of the point. Vessels should keep about 0.5 mile offshore until abreast of the entrance.

(120) About 0.3 mile west of Point Eliza is the narrowest part of the channel with bold shores, leading to the inner landlocked basin of Port Armstrong. This basin affords the best anchorage in the vicinity. The anchorage is in the west end of the basin in 11 to 20 fathoms, soft bottom. The ruins of a wharf and a floating dock are on the north side. A midchannel course carries in safely. All dangers are shown on the chart.

(121) **Miner Cove**, about 0.8 mile north of Port Armstrong entrance, is an open bight that might afford temporary anchorage for small craft.

(122)

## Port Lucy to Port Herbert

(123) **Port Lucy** has its entrance on the west shore about 10.5 miles north of Cape Ommaney. The anchorage for large vessels is near the head, abreast a deep gulch on the northwest side, in about 20 fathoms. Small vessels can go farther in and anchor in about 10 fathoms. From the head of the port low land extends through to the west side of Baranof Island at Puffin Bay, and winds from those quarters may draw through in consequence, but without any sea. The port is easy of access and apparently has no dangers.

(124) **Toledo Harbor** is a small, horseshoe-shaped bay with depths of 3 to 7½ fathoms, mud bottom, which is 12.7 miles north of Cape Ommaney and about 0.9 mile south of Port Walter Light. It is used considerably by small local fishing craft. It has an entrance about 75 yards wide with a midchannel depth of 2½ fathoms. A submerged rock extends from the north side of the entrance.

(125) **Port Walter** has its entrance about 14 miles north of Cape Ommaney and 9 miles south of Patterson Point. **Port Walter Light** (56°23'15"N., 134°38'11"W.), 20 feet above the water and shown from a skeleton tower with a red and white diamond-shaped daymark, is on the south point at the entrance. Near the head of Port Walter, a little south of midchannel, is a wooded islet. A high-water rocky islet, from which a reef extends in a north direction into the channel, is 50 yards north of the wooded islet. Anchorage in 11 to 14 fathoms, sandy bottom, can be had between the islet and the north shore.

(126) **Little Port Walter** consists of an inner and outer bay with a narrow connecting channel. A flat, grass-covered rock and two wooded islets are on the west side of the entrance. The National Marine Fisheries Service Laboratory on the northwest side of the inner bay, 0.5 mile southwest of Port Walter Light, is prominent. This building and another nearby dwelling appear as one large white building. A small bridge that crosses the stream at the head of the inner bay is also prominent.

(127) The narrow channel, connecting the inner and outer bays, has a width of about 30 yards with a depth of 1¼ fathoms and is subject to shoaling. The current is estimated to be 1 knot. Vessels should enter between half and high tide only and preferably on a rising tide. They should pass along the southeast side of the channel and make a slow turn to enter the inner bay. Too sharp a turn may throw the stern into shoal water.

(128) Good protected anchorage for small craft can be had in the east side of the inner bay in 5 to 8 fathoms, mud bottom. Southwest winds draw down the creek at the head of the inner bay, but no other winds are felt. A 250 x 100-foot float used for fisheries research occupies the small cove on the north side of the inner bay. A 50 x 60-foot warehouse dock lies at the west end of the float. Due to a submerged pipeline, anchorage is prohibited west of the warehouse dock. VHF-FM channel 82A is monitored locally for clarification on anchorage points and float plane traffic.

(129) **New Port Walter** is at the head of a small cove on the north side and about 0.8 mile from the entrance to Port Walter. A stream, with a flat at its entrance, is at the head of the cove. A rock, bare at extreme tide, is close to the east entrance point to the cove. A rock, bare at high water, is off the west point of the cove, with a reef that extends part way from the shore.

(130) **Big Port Walter**, a basin with depths 22 to 54 fathoms, is entered through a narrow passage 0.4 mile long leading from the anchorage west of the wooded islet. The passage is almost straight, with a depth of 26 fathoms in midchannel at its narrowest part. The maximum current in the entrance is estimated to be 2 knots. A large stream enters in the north part, and two streams empty in the southwest part of the bay. One of the latter is a cascade from a lake about 800 feet high. The shores are steep-to, and there are apparently no dangers. The basin is too deep for good anchorage and freezes in winter. With an accumulation of snow, the ice becomes 8 to 10 feet thick during severe winters and lasts almost until spring.

(131) The ruins of a wharf are at the head of Big Port Walter; caution is advised.

(132) **Port Herbert** has its entrance about 16.5 miles north of Cape Ommaney and 6.5 miles south of Patterson Point. The water is too deep for anchorage, and there are apparently no dangers. There are no islets or rocks at its entrance, which distinguishes it from Port Walter.

(133)

## Patterson Point to Patterson Bay

(134) About 4 miles north of Port Herbert and 2.3 miles south of Patterson Point is a small bight used for anchorage by local fishing craft during the summer.

(135) **Patterson Point** (56°32.4'N., 134°38.2'W), on the west side of Chatham Strait 23 miles north of Cape Ommaney, is the east point at the entrance to Patterson Bay. It is high, bluff, bold, extends north to a series of high rugged peaks and is the south end of a high mountain ridge between Patterson Bay and Chatham Strait. The point is conspicuous from the south. Patterson Bay shows as a deep gulch in the high rugged mountains.

(136) **Patterson Point Light** (56°32'23"N., 134°38'16"W.), 50 feet above the water, is shown from a skeleton tower with a red and white diamond-shaped daymark on the south end of Patterson Point.

(137) **Mist Cove**, about 1.4 miles southwest from Patterson Point, is an open bight too deep for anchorage. A waterfall on the southwest side of the cove is visible from well north in Chatham Strait.

(138) **Deep Cove** has its entrance 1.1 miles west of Patterson Point. A narrow peninsula makes out from the north shore about 2.4 miles within the entrance. A stream with a flat at its mouth empties at the base of the peninsula on its north side. Another stream with a waterfall empties at the head of Deep Cove. Anchorage can be made near the small flat below this waterfall in 20 to 25 fathoms, soft bottom. The water in the cove is otherwise too deep for anchorage.

(139) **Patterson Bay** has its entrance west of Patterson Point. Constricted anchorage in 22 to 24 fathoms can be made below the wooded islet at the head and abreast a small green point on the west side formed by the debris from the cliffs above it. Several streams enter the bay. No directions are necessary, and there are apparently no dangers in the bay.

(140)

## Gut Bay to Cascade Bay

(141) **Gut Bay** is on the west side of Chatham Strait, about 34.5 miles north of Cape Ommaney. At 0.3 mile east of the narrow entrance and 300 yards from the south side is a rocky patch with 4½ fathoms; vessels should pass north of it. The entrance is about 100 yards wide with bold shores. The sides are bluff, bold and rocky, in some places almost perpendicular. On the south side, 2.5 miles from the entrance, is the narrow opening of a little bay, between high ridges, with a depth of ¾ fathom. Small craft can enter this bay at high water and anchor in about 3 fathoms.

(142) The water in the main bay is deep, but a temporary anchorage can be had on the south side 0.5 mile within the entrance, off a rocky ledge and small stream, in about 20 fathoms. This anchorage is not good, because the bottom is rocky, and the wind draws through. A fair anchorage can be had near the head in 10 to 20 fathoms.

(143) **Hoggatt Bay** is about 2 miles north of Gut Bay and extends back into the mountains of Baranof Island. The sides are steep and bold and the water deep, over 100 fathoms through the middle. **Hoggatt Bay Light** (56º45'51"N., 134º39'22"W.), 40 feet above the water, is shown from a skeleton tower with a red and white diamond-shaped daymark on the south side of the entrance to the bay.

(144) **Red Bluff Bay** is 4.5 miles north of Hoggatt Bay and 10 miles west of Kingsmill Point and is named from the prominent rocky red hill north that come down to a low point on the north side of the entrance. The small islands in the entrance to the bay almost close it. The bay extends back into the mountains. About the middle it chokes to about 100 yards between high cliffs, but the channel is good. On the south side at the head of the bay is a large

stream; a flat extends about 0.4 mile from the head and 0.3 mile east from the mouth of the stream.

(145)

### Local magnetic disturbance

(146) Differences of 5° from normal variation may be expected in the channel entering Red Bluff Bay.

(147) There are channels on both sides of the westernmost island in the entrance, but the south channel, being straight, is considered safer for long vessels than the wider rounding channel east of the island. Great care should be taken to stay at midchannel.

(148) A small vessel may anchor just inside the entrance in the channel between the islands and the south shore. An anchorage can be had 1.8 miles from the entrance, where the bay begins to narrow, in 8 to 14 fathoms about in midchannel. The bottom is rocky. The wind draws through strongly when it is blowing in the strait. At the head, favoring the north shore and north-northeast of the flat at the mouth of the stream, is a good anchorage in 12 to 16 fathoms with soft bottom and perfect protection.

(149) A reef extends from the northeast shore of the bay for about 75 yards, at about 1 mile northwest of the northwesternmost island in the entrance. The outer end of the reef is bare at almost all stages of the tide and should be given a berth of at least 50 yards. The bay is reported to ice up from the head to the entrance islands during the winter.

(150) Between Red Bluff Bay and Cascade Bay, 11 miles north, are four small bays where small craft may find a depth suitable for anchorage in smooth weather, but only one, Nelson Bay, has protection. None of the bays are important.

(151) **Nelson Bay**, about 6.8 miles north of Red Bluff Bay, is an open bight at the head of which is a circular cove having two islets across the entrance. The entrance to the cove is between the north islet and the point north of it and is 75 yards wide with a depth of 5 fathoms. The cove is 250 yards in diameter between the 10-fathom curves, and the general depth is 15 fathoms, soft bottom. This cove is suitable only for small craft.

(152) **Cascade Bay** is on the west side of Chatham Strait, about 4.5 miles west of Point Gardner (57°01'N., 137°37'W.). It has deep water, rocky bottom and no good anchorage. Temporary anchorage can be had in the middle of the bay in 26 fathoms. At its head is a prominent cascade seen from a distance in Frederick Sound.

(153) A waterfall, about 300 feet high, which shows well in Frederick Sound is 1.8 miles south of Cascade Bay.

(154)

## Warm Spring Bay to Point Lull Light

(155) **Warm Spring Bay** is on the west side of Chatham Strait, about 56 miles north of Cape Ommaney and 7 miles northwest of Point Gardner. The bay has good anchorage for small craft, but the anchorage for large vessels is indifferent.

(156) **Warm Spring Bay Light** (57°04'48"N., 134°46'32"W.), 27 feet above the water, is shown from a skeleton tower with a red and white diamond-shaped daymark on the south point of the entrance. A microwave tower, about 1 mile west-northwest of the light on a knob along the north shore, is prominent at the entrance to the bay. Two billboard reflectors, one along the south shore and the other at the head, are prominent in the bay. At the head of the bay is a waterfall, visible from Chatham Strait, and near the waterfall are several warm mineral springs.

(157) Warm Spring Bay is of easy access, and with the chart as a guide no trouble should be experienced in entering. Midchannel courses are recommended.

(158) Two small bights in the south shore afford anchorage for small craft. The west one is preferable, because of shoaler water, from 12 to 15 fathoms.

(159) The only anchorage in the bay for large vessels is off the west bight in 25 fathoms, but the bottom is rocky and the current from the cascade usually sets out, making a vessel lie broadside to southeast winds that draw into the bay.

(160) A shoal with a depth of 6¼ fathoms is about 200 yards offshore and about 230 yards east of Warm Spring Bay Light. There may be less water, so it should be avoided when entering the bay. Care should be taken to avoid the reef that makes out 60 yards from the north shore at a point about 200 yards east of Baranof.

(161) **Baranof** is a village on the north side of Warm Spring Bay at the head. Warm spring baths may be had here. The village has a small approach pier with a seaplane float at its end and a small-craft float that extends east-southeast from near its outer end. The 250-foot-long small-craft float can accommodate craft on both sides; in 1976, depths of 12 to 20 feet were reported alongside. Water is available on the 250-foot float. A 40-foot grid is close east of the small approach pier. Charter seaplane service from Sitka and Juneau is available.

(162) **Takatz Bay** has its entrance on the west side of Chatham Strait about 10.5 miles northwest of Point Gardner and 16 miles south of Point Thatcher. It terminates in a flat about 0.4 mile in extent, formed by a mountain stream emptying as a waterfall.

(163) **Point Turbot**, the north point at the entrance to Takatz Bay, is marked by **White Rock**, a large white rock about 50 yards off. A high waterfall about 2 miles north of Point Turbot is visible from north a considerable distance.

(164) The south point at the entrance to Takatz Bay is the north point of a high wooded promontory forming the southeast side of the bay.

(165) The entrance of Takatz Bay is not visible until close south of Point Turbot. Give Point Turbot a berth of not less than 0.2 mile when east of it and pass in midchannel between Point Turbot and the outer bare rocks off the south point at the entrance. Leave the two inner bare rocks off the south point at the entrance about 150 yards to the south and favor the south shore for about 0.5 mile to avoid a submerged rock in midchannel. Then follow a midchannel course.

(166) The bay affords secure anchorage about 1.8 miles within its entrance in 15 to 18 fathoms, soft bottom, in the basin that opens out just before reaching the narrows.

(167) Small craft may pass through the narrows in midchannel and anchor 0.2 to 0.4 mile beyond them but should not pass the largest islet 0.5 mile beyond the narrows, as the flat at the head begins there. All known dangers in the bay are charted.

(168) The promontory on the southeast shore of the bay also forms the north shore of a bight, with the **Takatz Islands**, a group of islands on the south side. The bight has no anchorage; the water is very deep and the bottom irregular.

(169) **Kasnyku Bay**, on the west side of Chatham Strait about 14 miles northwest of Point Gardner, has deep water and no secure anchorage. A small white house structure of a discontinued light is on the southeast end of the island at the head of the bay.

(170) The entrance to the bay is between **North Point** and **Round Island**, and its surrounding group of small wooded islets, off the south point of the entrance.

(171) **Cosmos Cove** is on the west side of Chatham Strait about 5.5 miles north of Takatz Bay and 2 miles south of Kelp Bay. The cove affords anchorage with good shelter in 10 to 15 fathoms, soft bottom, for small vessels. The head of the cove is shoal for a distance of about 0.8 mile.

(172) **Kelp Bay** (57°17'N., 134°51'W.), a large indentation in the northeast coasts of Baranof Island, is 10.5 miles south of the east entrance of Peril Strait and 17.5 miles north-northwest of Point Gardner. Its entrance is between **North Point** the south extremity of Catherine Island and **South Point** on Baranof Island. The bay has no known commercial activity.

(173) The main bay extends about 3.5 miles northwest where it divides into three arms. **Middle Arm** extends in a west direction. **South Arm** extends in a general southwest direction. **The Basin**, in the south part of the bay, is bordered on the east by two groups of islands that include **Pond Island**, **Crow Island** and other adjacent islands. **Portage Arm**, which extends in a northwest direction, is reported to connect with Hanus Bay, in Peril Strait, by an overgrown portage.

(174)

### Anchorages

(175) Anchorages in the bay are few, the best being in the southeast corner of The Basin. Another is in Middle Arm about 0.8 mile from its head in 22 to 25 fathoms, soft bottom. A small vessel can find temporary anchorage in Portage Arm about 2.7 miles above the entrance in midchannel, in 10 fathoms, but this anchorage has scant swinging room and is exposed to southeast winds that draw through the arm.

(176)

### Dangers

(177) The survey of the bay is old and incomplete, and dangers may exist in addition to those shown on the chart. The known dangers include shoal water that extends 0.4 mile south of North Point; ledges that extend off South Point; extensive shoals and dangerous rocks in the cove on the southeast side of Pond Island; **Yellow Rock** and the shoals southeast, south and west-northwest of it; **Plover Rock**, with surrounding shoals and rocks that uncover; several detached shoals and a rock awash from about 0.3 to 0.9 mile south of Plover Rock; **Zubof Rock** in the middle of the entrance to The Basin, and extensive shoal areas with depths as little as 1 fathom in the east and southeast parts of The Basin.

(178) **Catherine Island** is a large high island off the northeast end of Baranof Island. Mountains take up the greater part of the island. **Point Lull**, the southeast extremity of Catherine Island, forms the east side of **Echo Cove**, a narrow bight, which extends in a north-northwest direction. The cove is open to the south and affords temporary anchorage for small craft only. A submerged reef, marked by kelp, extends 0.6 mile south of Point Lull. Vessels transiting Echo Cove and The Basin in Kelp Bay should use caution or seek local knowledge.

(179) **Point Lull Light** (57°18'34"N., 134°48'24"W.), 50 feet above the water, is shown from a skeleton tower with a red and white diamond-shaped daymark on the east side of Point Lull.

(180)

## Point Thatcher to Table Mountain

(181) **Point Thatcher** (57°25'N., 134°50'W.) is the northeast extremity of Catherine Island and the south point at the east entrance to Peril Strait. Peril Strait and Sitkoh Bay are described in chapter 13.

(182) **Wilson Cove**, on the east side of Chatham Strait, is an open bight in the west coast of **Admiralty Island**, about 8 miles north of Point Gardner. Two small wooded islands and foul ground with kelp extend 0.4 mile off the south shore. The entrance has an extensive reef covered at highest tides. Wilson Cove should be avoided, as it affords no protection as an anchorage, except from east winds. The bottom of the cove is foul with depths of 4 to 8 fathoms in places. But should it be necessary to enter the cove, stand in parallel to the south shore, pass south of the reef in the mouth of the cove, keep clear of the kelp on both sides, and anchor in 8 fathoms.

(183) **Table Mountain**, on the south shore of Whitewater Bay, is peculiarly eroded near the summit. It is the first prominent peak north of Point Gardner.

(184)

### Local magnetic disturbance

(185) Differences of as much as 6° from the normal variation have been reported in Chatham Strait in midchannel between 57°15'N., and 57°23'N.

(186)

## Whitewater Bay to Village Point

(187) **Whitewater Bay** has its entrance on the east side of Chatham Strait between Point Caution and Woody

Point, 15 miles north of Point Gardner and 13 miles south of Killisnoo Island. The bay at the head connects by a narrow passage with a lagoon, bare at low water. Secure anchorage can be had near the head of the bay.

(188)

### Caution

(189) No recent surveys have been made of the bay. The bottom is very irregular, and there is no certainty that all dangers are charted. In 1975, a 1½-fathom spot was reported in the entrance to the bay, about 0.6 mile east of Lone Tree Islet, in about 57°15'11"N., 134°37'06"W.

(190) **Point Caution** is marked by **Lone Tree Islet**, which is 350 yards off the point. Foul ground and kelp extend over 0.9 mile west and 0.9 mile north from the point.

(191) **Healy Rock**, about 0.2 mile north of **Flag Point**, on the south shore of the bay and 1.3 miles southeast of Point Caution, is low, bare and surrounded by ledges marked by kelp. **Sand Point**, named from its formation, is on the north shore about 0.8 mile northeast of Healy Rock and marks the entrance to the anchorage. A shoal with a submerged rock, dangerous to navigation, at its end extends 300 yards southeast from Sand Point. **North Island**, low and wooded, is close to the north shore, 0.5 mile east of Sand Point.

(192) Anchorage may be had in 10 fathoms, soft bottom, 0.2 mile southwest of North Island with Black Point and Sand Point in line.

(193) **Woody Point**, the north point at the entrance, has a small, rocky, wooded islet about 100 yards northwest from it.

(194) Foul ground marked by kelp extends about 0.3 mile from the north shore of the bay for a distance of 1.3 miles south of Woody Point. The most projecting is a bare ledge that extends 0.3 mile west from the first point south-southeast of Woody Point. Kelp surrounds the ledge to a distance of 250 yards.

(195) **Russian Reef** is the north end of shoal water and broken ground that extends 1.2 miles north of Woody Point. The reef is about 0.4 mile in extent in a northwest direction and rises abruptly from very deep water on three sides, bares in places, and is marked by kelp. Tide rips form off the reef.

(196) **Chaik Bay** is on the east side of Chatham Strait about 19 miles north of Point Gardner. About 2 miles from the entrance it divides into two arms. The north arm extends northeast, and the south arm extends east, where it terminates in a long flat at the mouth of a stream.

(197) The north arm has good anchorage in 12 fathoms, sticky bottom, but is open southwest. The south arm has considerable foul ground and should be avoided by strangers.

(198)

### Caution

(199) Numerous uncharted rocks have been reported in Chaik Bay. A submerged rock has been reported on the bar across the entrance to the south arm midway between the two small islets. The chart is the guide in entering the bay.

(200) A bare islet is 0.8 mile northwest of **Rocky Point**, the south point at the entrance, and a ledge covered at half tide extends 0.3 mile northwest from the islet. A bare ledge is about 0.3 mile from the north shore of the bay inside **Village Point**. A kelp-marked patch with 4¼ fathoms is 0.3 mile northwest of the wooded island in the middle of the bay 1.5 miles within the entrance. A 2-fathom shoal is about 0.6 mile northwest of the wooded island in about 57°19'50"N., 134°32'47"W.

(201) A rock, covered 4½ fathoms in 57°21'35"N., 134°35'54"W., is 0.9 mile from shore and about 1.4 miles northwest of Village Point.

(202)

## Distant Point to Kanalku Bay

(203) **Distant Point**, about 23 miles north of Point Gardner, is the south point at the entrance to Hood Bay. Directly behind it are two mountains which are between Chaik Bay and Hood Bay. The larger mountain is rounded on top, 2.8 miles south of Distant Point, and a spur of this mountain runs toward the water and terminates in a whitish cliff.

(204) **Hood Bay** has its entrance on the east side of Chatham Strait and is marked by a lighted and an unlighted buoy, between Distant Point and Killisnoo Island. It has a general southeast direction from its entrance, curving to about east and then divides. The bay is about 7 miles long from the entrance to the junction with both arms. **North Arm** has a flat 0.5 mile wide at its head and significant shoaling in the eastern end. **South Arm** is free from midchannel dangers inside its entrance. Anchorage is available in each arm for large vessels in suitable depths. Small craft find anchorage at the head of each arm in 5 to 10 fathoms, mud bottom.

(205) A shoal with a least depth of 4¾ fathoms is in the channel in Hood Bay where it narrows between Cabin Point and the south shore in 57°22'35"N., 134°28'08"W.

(206) **Cabin Point**, about 3.5 miles southeast of the entrance buoys, extends 0.4 mile from the northeast shore of the bay. The cove west of the point is foul; the cove northeast of the point is shoal but offers anchorage for small craft and shelter from north weather in 4 to 10 fathoms, hard sand bottom. Shoal water extends about 0.5 mile south from the point.

(207) A shoal extends about 0.4 mile west from the point on the north shore about 1.7 miles east of Cabin Point. Winds of considerable force are reported in the North Arm.

(208)

### Ice

(209) Ice in South Arm makes navigation unsafe and quite often impossible during the winter. Ice also forms in North Arm from its head to within 0.3 mile of the entrance to the arm.

(210) Pile ruins of two wharves are on the north side of the entrance to North Arm. Caution is advised.

(211) **Killisnoo Harbor** is on the east side of Chatham Strait, 27.5 miles north of Point Gardner, and on the north side of the entrance to Hood Bay.

(212) **Killisnoo Harbor Light 7** (57°28'16"N., 134°34'11"W.), 16 feet above the water, is shown from a small house on a skeleton structure with a green square daymark on a concrete pier on a rock off the northeast point of Killisnoo Island.

(213)

### Channels

(214) The south channel leads between Table Island and Killisnoo Island and between the southeast end of Killisnoo Island and about 150 yards northwest of the daybeacon marking Lone Rock.

(215) The north channel leads between Killisnoo Island and Kenasnow Rocks and between Killisnoo Island and Admiralty Island. In summer kelp extends entirely across the channel. The kelp is useful in defining the channel. The least depth in both channels is about 4 fathoms.

(216) A 1¾-fathom spot is in the northwest part of the harbor in about 57°28'19"N., 134°33'42"W. The chart is the guide for both channels.

(217) The anchorage is in midharbor off the east end of Killisnoo Island, in 14 to 15 fathoms. The harbor is somewhat exposed to southeast gales, but no considerable sea makes into the anchorage.

(218) The tidal currents at Killisnoo Harbor are irregular, but the averages show that the current on the last half of the falling tide and the first part of the rising tide sets from Hood Bay west through the harbor and north channel, and that the current on the second half of the rising tide and first half of the falling tide sets east through the north channel and the harbor into Hood Bay. See the Tidal Current prediction service at *tidesandcurrents.noaa.gov* for specific information about times, directions, and velocities of the current at numerous locations throughout the area. Links to a user guide for this service can be found in chapter 1 of this book.

(219) The current follows the channel, and the velocity is not important except in the narrow part of the north entrance.

(220) A city cargo dock is on the northwest shore of Killisnoo Harbor, about 150 yards north-northeast of Killisnoo Harbor Light 7. In 2002, 40 feet was reported alongside the 110-foot face for the receipt of petroleum products. The Angoon Ferry Terminal Dock, with 24 feet reported alongside, is immediately northeast of the cargo dock. The steel transfer bridge, with dolphins, will accommodate a 200-foot ferry loading and unloading passengers and vehicles. A small-craft grid is immediately north of the steel transfer bridge. A highway connects Killisnoo Harbor with Angoon about 1.9 miles to the north-northwest.

(221) **Killisnoo Island** is wooded; **Point Samuel** is on the west end. A ledge, well bare at low water, extends about 125 yards off the southeast end of Killisnoo Island. A buoy marks the reef off the north side of the west end of Killisnoo Island.

(222) **Table Island**, about 30 feet high, sandy and grass covered, is about 0.5 mile south of Killisnoo Island. It is surrounded by reefs to a distance of about 0.3 mile. On its north side the 3-fathom curve is fairly close to the island, but kelp extends out about 300 yards into 6 and 8 fathoms. A shoal, marked at its outer end by a lighted buoy, extends northeast from the island. A small islet is 0.1 mile southwest of the island.

(223) **Sand Island**, 1.1 miles southeast of Table Island, is about 10 feet high and is the northwest end of a chain of reefs 1.9 miles long parallel to the east shore of Hood Bay. A straight but narrow channel is between these reefs and the east shore. A bar with 4½ to 10 fathoms over it is between Sand Island and Table Island.

(224) **Lone Rock**, which bares, is 0.3 mile southeast of the southeast end of Killisnoo Island. It is surrounded by kelp and is marked by a daybeacon. The bottom is foul, and considerable kelp is between the rock and the southeast shore and no safe channel between.

(225) **Kootznahoo Roads** is on the north side of Killisnoo Island and forms part of the north channel leading to Killisnoo Harbor.

(226) **Kenasnow Rocks** is an extensive ledge about 0.6 mile offshore southwest of Angoon and marked on the north side by a lighted buoy. Portions of the ledge are always above water, and it is surrounded by heavy kelp, especially on its inshore side. There is a channel between it and the shore, the latter being fringed with kelp for some distance. The south end of the ledge is about 0.8 mile north of Killisnoo Island.

(227) **Angoon**, about 1.8 miles north of Killisnoo Island, is a village with a general store and a seasonal hotel and is bordered on its west and east sides by Chatham Strait and Kootznahoo Inlet, respectively. At Angoon, an antenna, a microwave tower and a small green tank farm are prominent from Chatham Strait. Angoon has a health center, with a nurse in attendance every other month.

(228)

### Weather

(229) Located in the more sheltered recesses of Chatham Strait, Angoon has a slightly more continental influence than more exposed locales. Average maximum temperatures range from 32°F in January to 62°F in July, with 111 days of freezing temperatures and 4 days of 70°F or above, on average. While precipitation is frequent, falling on about 110 days annually, amounts are on the light side with 47 inches annually, compared to an average of 169 inches at Port Alexander. Precipitation is most likely from September through February. Snow totals 77 inches in an average year with highest amounts occurring in December, January and February.

(230) The village pier, a 525-foot-long T-headed pier with a 48-foot outer face, extends into Chatham Strait. In 2002, a depth of 30 feet (9.1 m) was reported along

the outer face. The **harbormaster** assigns berths and can be contacted by telephone (907-788-3630) or VHF-FM channel 1 or 16. Gasoline, diesel fuel, lube oil, distillates and greases are available at the pier. Limited amounts of provisions and lodging are available in town.

(231) A small-craft float, fuel float and seaplane float are in Kootznahoo Inlet; these facilities are described later in this chapter. Radiotelephone and telephone communications are maintained. A highway connects Angoon with Killisnoo Harbor about 1.9 miles south-southeast. A freight boat from Seattle calls monthly. Seaplanes call daily from Juneau in the summer.

(232) **Danger Point**, on the east shore of Chatham Strait, 30 miles north of Point Gardner and 2.5 miles north of Point Samuel, the west extremity of Killisnoo Island, forms the south point at the entrance to Kootznahoo Inlet. **Danger Point Light** (57°30'55"N., 134°36'27"W.), 30 feet (9.1 m) above the water, is shown from a skeleton tower with a red and white diamond-shaped daymark on a concrete pier near the end of the reef that extends about 0.2 mile north from the point. A lighted buoy marks the outer end of the reef.

(233) **Kootznahoo Inlet** is an intricate group of narrow passages, lagoons, and bays on the east shore of Chatham Strait 2.8 miles northeast of Killisnoo Island. It is full of rocks and reefs, and through the narrow passages the tidal currents rush with great velocity. The navigation of Kootznahoo Inlet is such that it should not be attempted except by small craft of short length and ready turning qualities, and then only at slack water and with local knowledge. Fishing vessels are the only ones that navigate the inlet.

(234) The entrance is between Danger Point and **Kootznahoo Head**, and it extends southeast to **Turn Point**, where it divides into three arms. The southernmost arm continues in a southeast direction to Favorite Bay; the northernmost extends northeast to Mitchell Bay; the middle arm, also extending east, leads among the islands, is obstructed at its entrance and is navigable only by small craft. The lagoons between the islands are full of rocks and reefs and are not navigable except by small craft.

(235) From its entrance the inlet is free from obstructions until Village Rock is reached. **Village Rock**, marked by a light, is a large low-water ledge that extends toward Turn Point halfway across from the village of Angoon on the southwest side. Large swirls occur here, caused by the great velocity of the tidal currents.

(236) Southeast of Village Rock, the south shore is clear for about 0.5 mile. The north side is obstructed by a ledge marked by kelp at slack water and terminates in Rose Rock, which is reported to be about 6 feet high. A rock awash has been reported along the ledge nearly midway between Turn Point and Rose Rock. A red triangular daymark on a pipe is shown from the shore southwest of Rose Rock and about 600 yards southeast of the light on Village Rock.

(237)

### Currents

(238) The tidal currents have great velocity in Kootznahoo Inlet, and the inlet should be navigated at slack water, the safest condition being low water slack. In 1975, however, a small boat from the Coast Guard Cutter CLOVER was able to transit the inlet as far as Daybeacon 6, about 1.4 miles above the mouth, at high water slack without difficulty. They did encounter erratic, sometimes strong, currents. See the Tidal Current prediction service at *tidesandcurrents.noaa.gov* for specific information about times, directions, and velocities of the current at numerous locations throughout the area. Links to a user guide for this service can be found in chapter 1 of this book. The flood current at the entrance sets in almost parallel to the northeast shore and so continues until it reaches Village Rock, where it divides, one part going northeast around Turn Point and the other continuing southeast around Rose Rock, where it again divides. One part continues southeast into Favorite Bay, while the other turns short around the rock and divides again, one part going northeast and the other following the north channel.

(239) Vessels rounding Rose Rock at slack water can carry slack water all the way to Mitchell Bay.

(240) At Village Rock, the currents have a velocity of 5 to 8 knots; at Point Bridge, as high as 10 knots; and at Passage Island, as high as 7 knots. Rapids begin at Village Rock and continue until well past Rose Rock.

(241) From Pillsbury Point to Point Bridge the current is very swift, probably reaching 10 knots, with much boiling and swirling, the worst place being at Point Bridge. This can be passed only at slack water, which lasts only a few minutes.

(242) Through all the narrow channels leading into the various bays the currents have great velocity, and they should not be attempted in any kind of a boat except at slack water. (See the Tidal Current Tables for daily predictions.)

(243)

### Caution

(244) The navigation of Kootznahoo Inlet should not be attempted by strangers. A guide can be obtained at Angoon, Petersburg and Sitka.

(245) A seaplane float is in the small cove about 800 yards (732 m) southeast of the daybeacon west of Rose Rock. The city of Angoon maintains small-craft floats about 300 yards (279 m) southeast of the seaplane float. Berthing is on both sides of the floats. A fueling float, 185-feet (56 m) long, is close northwest to the small-craft floats. In 2002, a least depth of 10 feet (3 m) was reported along the floats. The **harbormaster** assigns berths. A tidal drydock is available. A 72-foot-long grid is on the southeast side of the approach pier to the small-craft floats. Water and electricity are at the small-craft floats. Supplies and communications facilities are available at Angoon, about 0.8 mile northwest.

(246) **Favorite Bay** has anchorage in 10 to 17 fathoms near the southwest shore anywhere northwest of a high bluff marking the end of the flat that extends 1 mile from its head. The bay is used as a fishing ground for herring.

(247) The southernmost arm of Kootznahoo Inlet leading to Favorite Bay has an area of several rocks that bare at the northwest end near **Sullivan Point**; there are passages to the northeast and southwest of this rocky area. A rocky ledge, with a daybeacon at the outer end, is on the west side of the arm 0.3 mile west of Sullivan Point. A rock is at midchannel near the northwest end of Favorite Bay.

(248) From east of Rose Rock, the north channel turns sharply northwest along the northwest side of the reef making out from **Channel Point**. Between this ledge and another extensive ledge on the north side of the channel the distance to Stillwater Anchorage is about 0.3 mile.

(249) **Stillwater Anchorage** is about 1.3 miles long from Turn Point northeast to Pillsbury Point, and 300 to 600 yards wide, with general depths of 16 to 24 fathoms. West of Pillsbury Point a short arm makes northeast about 0.5 mile.

(250) From Stillwater Anchorage the channel leads close to an islet on the south side, between it and a ledge that extends about 200 yards southwest of **Pillsbury Point**. The channel then narrows to about 140 yards, with reefs on both sides, and extends northeast for 0.5 mile to **Point Bridge** where it passes between a reef on the north side and a bold bank on the south side. The channel then has a northeast direction for about 0.8 mile, with a width of less than 200 yards and bold shores, and then widens to 0.2 mile and continues in the same direction for 1.6 miles to **Hemlock Point**. Then the channel turns east for 1 mile to **North Point**, east of which is Mitchell Bay. Extensive ledges on the north side extend southwest from North Point.

(251) **Mitchell Bay** is connected at its west end with a lagoon full of rocks, reefs and shallow water. Several islands are in the bay 1 mile from its west end, and the water is foul between them and the west end of the bay. From its entrance at North Point, the channel follows the north shore for 1 mile, where it passes between it and **Diamond Island**, the northernmost island in the west part of the bay. Beyond Diamond Island, Mitchell Bay is clear and has general depths of 12 to 20 fathoms near Diamond Island, decreasing to 10 fathoms at its east end.

(252) **Davis Creek** extends southwest from Mitchell Bay and then widens into Kanalku Bay. **Lighter Creek** makes west-southwest from Davis Creek about 0.7 mile from its north end and has depths of 1½ to 4½ fathoms. Davis Creek is foul. At its north entrance a ledge, which partly bares, extends east from the west shore, enclosing **Passage Island** and almost closing the channel. At the south end of Davis Creek is **Stone Island**; an extensive ledge crosses the channel at this point, with a narrow passage through.

(253) **Kanalku Bay** is a clear open basin with depths of 6 to 10 fathoms. In the bay are two islands, and at its head two large streams and a flat, 0.5 mile wide. On the south side are extensive coal croppings and a deposit of marble.

(254)

## Point Hepburn to Cube Point

(255) The bight on the north side of **Point Hepburn** (57°56.4'N., 134°45.0'W.), about 26 miles north of Kootznahoo Head, affords anchorage for small craft in 5 fathoms with shelter from southeast winds. A stream enters the head of the bight. A logging camp is at the base of the stream. Deadheads and floating logs were reported in the area.

(256) **Square Cove**, on the east side of Chatham Strait, 2 miles north of Point Hepburn and 7 miles southeast of Point Augusta, is on the north side of **Cube Point**. It affords anchorage for small craft with protection from southeast winds. The cove is about 500 yards long and about half that wide. It has a depth of about 3 fathoms within 200 yards of its head and deeper water farther out. There are no dangers. A stream enters at each end of the sand beach at its head; the east one forms a cascade.

(257)

## Point Hayes to Basket Bay

(258) **Point Hayes** (57°28.8'N., 134°50.6'W.) is the north point of the east entrance to Peril Strait. A lighted bell buoy marks the southeast extremity of Morris Reef, which is off Point Hayes. Point Craven is about 1.2 miles southwest of Point Hayes.

(259) **Peninsular Point**, about 1.5 miles north of Point Hayes, is formed by a wooded hill that is off the general trend of the shore and to which it is connected by a low, narrow valley.

(260) **White Rock** is a prominent light-colored rock off the edge of a flat at the mouth of a stream about 4 miles north of Point Hayes. A prominent valley extends inshore west of White Rock.

(261) **Basket Bay**, on the west side of Chatham Strait, 11 miles north of Point Hayes, narrows slightly at its head. At the mouth of a large stream is a flat that extends about 400 yards into the head of the bay. The bay is exposed to the southeast, has a rocky bottom and depths of 12 to 40 fathoms and is not recommended as an anchorage. The midchannel course up the bay is clear.

(262)

## Tenakee Inlet to Long Bay

(263) **Tenakee Inlet** is on the west side of Chatham Strait, 97 miles north of Cape Ommaney. The entrance is between South Passage Point and East Point and is 2.5 miles wide. It has a general west direction for 10 miles and then west-northwest for 25 miles, narrowing near its head to about 0.3 mile. At its head is a flat 0.8 mile in extent, and on the south shore 4 to 7 miles from its head are three bights filled by flats. At 1.8 miles from the head of the inlet is a steep portage connecting with Port

Frederick in Icy Strait. The depths in the inlet are great and the dangers easily avoided. A number of bays on the south side afford anchorage.

(264) Anchorage may be made at the head of Tenakee Inlet near the sand flat in 7 to 10 fathoms; hard gravel and shell bottom.

(265)

### Currents

(266) In Tenakee Inlet, south of Tenakee Springs, the current velocity is about 1 knot.

(267) **Tenakee Inlet Entrance Light 1** (57°46'20"N., 134°56'04"W.), 33 feet above the water, is shown from a spindle with a square green daymark on a rock awash about 0.5 mile north of **South Passage Point**, the south entrance point to the inlet. A 4¼-fathom shoal is about 500 yards east of the light.

(268) A 2¾-fathom shoal is in **Trap Bay** about 3 miles west-southwest from Tenakee Inlet Entrance Light 1.

(269) A 2½-fathom shoal is on the south side of Tenakee Inlet about 5.2 miles west of Tenakee Inlet Entrance Light 1 in about 57°45'41"N., 135°05'30"W. A 3-foot shoal is about 0.4 mile southeast of the 2½-fathom shoal.

(270) **East Point**, the north point at the entrance to Tenakee Inlet, can be identified by a grassy knoll at its outer end. A 1¾-fathom spot extends about 0.4 miles south of East Point.

(271) **Cannery Point** is on the north side of the inlet 4.5 miles west of Tenakee Inlet Entrance Light 1.

(272)

### Local magnetic disturbance

(273) Differences of as much as 3° from the normal variation have been observed in the vicinity of Cannery Point.

(274) A daybeacon marks a rock awash about 2.2 miles west of Cannery Point. A 3¼-fathom shoal is about 250 yards south of the rock.

(275) In 1980, a logging camp was operating on the west side of Corner Bay, about 6.9 miles west of Tenakee Inlet Entrance Light 1. A log storage area is on the east side of the bay. The camp has a 60-foot small-craft and seaplane float and also mooring buoys. Radiotelephone communication is available at the camp.

(276) **Tenakee Springs**, on the north side of Tenakee Inlet about 9 miles inside the entrance, is a community with a general store and warm springs.

(277) A light marks the small islet close to the north shore about 0.6 mile east-southeast of Tenakee Springs.

(278) **Tenakee Reef**, about 0.7 mile south-southwest of Tenakee Springs, is two separate rocks and marked by a light at the south end. The northerly rock is covered at high water. A rock, marked by a daybeacon, is 0.4 mile northwest of Tenakee Reef.

(279) The community maintains a pier that accommodates passenger ferries. A marine fuel facility and an inactive crab cannery are at the outer end. The pier has a 64-foot face; 184 feet with dolphins. In 1980, depths of 20 feet were reported alongside. A 3-fathom shoal is about 170 yards south of the pier.

(280) Gasoline, diesel fuel and water (during the summer) are available at the fuel facility, and limited amounts of provisions and fishing supplies can be obtained from the general store. Meals and lodging are available in the community. A 51-foot grid is on the east side of the approach pier to the small-craft floats.

(281) State-maintained small-craft floats are about 0.5 mile east of the city pier at Tenakee Springs. The floats can accommodate craft on both sides, and are protected by two floating breakwaters. In 1980, depths of 10 to 25 feet were reported alongside the floats. A seaplane float and heliport are about 80 yards east of the city pier.

(282) Tenakee Springs has scheduled seaplane service three times a week to Juneau. Ferry connections with Juneau and Sitka are available. Telephone and radiotelephone communications are available at the general store.

(283) **Kadashan Bay**, on the south side of Tenakee Inlet opposite Tenakee Springs, is filled with a flat that bares.

(284) **Crab Bay**, 4 miles southwest of Tenakee Springs, is on the south side of the inlet. The bay is navigable for vessels up to 100 feet long. The south side and the head of the bay have streams and mudflat areas. The north side of the bay is deep, with steep banks. Anchorage is available in the bay in 5 to 25 fathoms. A wooden, stone-filled logging jetty and a private seasonal mooring buoy are at the south side of the entrance to the bay. A 2½-fathom spot is immediately east of the mooring buoy.

(285) **Saltery Bay**, 3 miles northwest of Crab Bay, is navigable for vessels up to 80 feet long. The entrance is narrow but deep. Near the head, the bay opens into a small basin with depths ranging from 5 to 15 fathoms. A mudflat extends 1.2 miles from the head of the bay. Anchorage is available in the basin area in a soft mud and gravel bottom. A 4-fathom shoal is on the north side of the entrance to Saltery Bay in 57°47.0'N., 135°22.0'W.

(286) Two small rocks, covered at half tide and marked by a daybeacon, are 0.7 mile from the northeast shore of Tenakee Inlet and 7.5 miles northwest of Tenakee Springs. In passing them, favor the south shore somewhat. A reef was reported to extend between these rocks and the northeast shore.

(287) **Seal Bay** is on the south side of the inlet 10 miles west-northwest of Tenakee Springs. A 7-fathom shoal and a 1½-fathom shoal are in the entrance to Seal Bay in about 57°50'52"N., 135°28'51"W., and 57°50'48"N., 135°29'44"W., respectively. A 5¾-fathom shoal is east of the 6¾-fathom shoal in about 57°50'57"N., 135°28'09"W. A flat extends 0.8 mile from its head, and a rock, covered at high water, is near the middle of the bay 1.5 miles inside the entrance. The depths are 19 to 29 fathoms, soft bottom, between the rock and the flat, a distance of about 0.8 mile.

(288) **Long Bay** is on the southwest side 2.5 miles northwest of Seal Bay. From the northwest point at the entrance, a reef, covered at half tide, extends east about 0.5 mile. A 3½-fathom spot is in about the middle of the entrance to

Long Bay in about 57°52'31"N., 135°33'59"W. The bay has depths of 5 to 15 fathoms, mud bottom, affording secure anchorage. A mudflat extends 0.6 mile from the head.

(289) Upper Tenakee Inlet above Long Bay is navigable to within 1 mile of the head. A portage, on the north shore of upper Tenakee Inlet, provides a connection to Port Frederick in Icy Straits for boats small enough to be carried 300 yards over land.

(290)

## Freshwater Bay to Point Marsden

(291) **Freshwater Bay**, about 4 miles north of Tenakee Inlet Entrance Light 1 (57°46.3'N., 134°56.1'W.), has its entrance on the west side of Chatham Strait between East Point and North Passage Point. It extends 11 miles northwest, terminating in a sand flat with a large stream. **Heide Rock**, a bare rock about 8 feet high and about 0.5 mile from the north shore, is 3.5 miles inside North Passage Point. A rock awash is about 0.5 mile northwest of the rock. **Redcliff Islands** are in the middle of the bay about 5.9 miles inside North Passage Point. A rock covered 13 feet is about 0.7 mile north-northeast of the east end of the easternmost island. A rock awash is about 0.5 mile northwest of the westernmost island. The main bay has no anchorages, but small vessels may find temporary anchorage at the head of the bay or off the flats at mouths of streams, of which there are several.

(292) **North Passage Point**, the north point at the entrance to Freshwater Bay, is long, low, level, wooded and distinctive from other points in the vicinity. Kelp usually extends for more than 100 yards off the end of the point.

(293) **Wachusett Cove** is a small bight on the southwest side of Freshwater Bay, 2 miles northwest of East Point. The cove is almost filled with a flat and has a small stream at its head. A fair-weather anchorage may be made between the points at the entrance to the cove in 4 to 10 fathoms.

(294) **Pavlof Harbor** is about 3 miles northwest of Wachusett Cove. A large stream enters the southwest part of the harbor. A reef, covered at half tide, extends about 175 yards from the east point at the entrance, and the entire east side of the bay is bordered by a flat 250 yards wide. **Pinnacle Rock**, covered at half tide, is about 400 yards from the west shore halfway up the bay. Anchorage may be made outside the rock in about 15 fathoms and in the middle between the rock and the southeast shore. The clear anchorage is 350 yards wide in 5 to 12 fathoms, sand and rock bottom. The shelter is good, and the harbor is easily entered, though in strong west or north weather the wind draws down the bay with considerable force.

(295) **Cedar Cove**, on the south side of Freshwater Bay 1.2 miles northwest of Pavlof Harbor, affords good shelter for small craft drawing less than 10 feet, but its entrances are very narrow and foul.

(296) **Iyoukeen Cove** is close north of the entrance to Freshwater Bay, from which it is separated by a long, narrow, wooded peninsula, terminating in North Passage Point. It does not afford shelter except from offshore winds but can be used temporarily by anchoring about 0.5 mile from the south shore in 23 fathoms.

(297) **False Bay**, 5 miles north of Iyoukeen Cove, is an open bight with deep water. Fair emergency anchorage for small craft may be found in its south part in 3 to 5 fathoms, rocky bottom.

(298) **Point Augusta**, on the west side of Chatham Strait at its junction with Icy Strait, is marked by **Point Augusta Light** (58°02'22"N., 134°57'08"W.), 48 feet above the water and shown from a square frame with red and white diamond-shaped daymark on the point.

(299) **Point Marsden** is on the east side of Chatham Strait opposite Point Augusta. About 0.8 mile south-southwest of Point Marsden is **Chatham Strait Light 20** (58°02'41"N., 134°48'33"W.), 35 feet above the water and shown from a square frame with a red triangle daymark.

(300)

## Hawk Inlet

(301) **Hawk Inlet** has its entrance on the east side of Chatham Strait 10 miles southeast of Rocky Island Light 13 (58°10.6'N., 135°03.1'W.). It has a north direction for a distance of 5 miles from its mouth. It then contracts and changes to a northeast direction, terminating in a basin about 1 mile in diameter.

(302) The Captain of the Port, Southeast Alaska, has issued guidelines for the movement of all deep draft vessels in and out of Hawk Inlet. Vessels of no more than 600 feet in length with a beam of no more than 100 feet may arrive/depart Hawk Inlet only 30 minutes before and after slack water during daylight hours, in conditions of good visibility and weather with an under-the-keel clearance of no less than 8 feet.

(303) A foul area, marked by kelp and bare at low water, extends about 0.2 mile south of Hawk Point. The entrance to the inlet is marked by a daybeacon, a buoy and a light.

(304) **Piledriver Cove**, which dries, is on the south side of the inlet at the entrance. Two small islets are on the west side of the entrance to the cove; submerged pilings are in the entrance in about 58°05'11"N., 134°46'21"W. Another small cove, about 0.6 mile southwest of Piledriver Cove, offers good anchorage for small craft in all but northwest winds in 9 to 13 fathoms. A ledge extends 0.2 mile northwest from the southwest entrance point; another ledge, bare at half tide, is in the middle of the entrance. A deep channel is on each side of the ledge in the middle of the entrance, but the channel on the northeast side is better. The anchorage is in the middle of the cove, about 300 yards southeast of the ledge.

(305) Two streams enter Hawk Inlet on its east side about 0.8 mile above the entrance, and form an extensive flat extending two-thirds of the way across the inlet; the west edge is marked by a light. The channel between the light and the west shore is about 100 yards wide with 4 fathoms

in the middle. The centerline of the channel is indicated by the range in Piledriver Cove. Once on the range, steer towards **Hawk Inlet Entrance Light** (58°06'32"N., 134°46'29"W.), giving the two lights marking the shoal on the east side of the channel a berth of 120 yards, then favor the west shore for about 0.7 mile.

(306) Ruins of a cannery are on the east side of Hawk Inlet about 1.4 miles north of the light.

(307) An abandoned fuel pier (58°07'35"N., 134°45'15"W.), with a 45-foot face, has 10 feet alongside. A small-craft and seaplane float with 4 feet alongside is about 300 yards south of the pier. During summer, water and the use of a radiotelephone are available from a caretaker in an emergency.

(308)

### Anchorages

(309) Anchorage for shallow-draft vessels can be had in 4 to 6 fathoms in the basin at the head of the inlet. Extensive mud flats surround the anchorage. The channel leading to the basin has a least depth of 2½ fathoms. To make the channel, keep off the east shore by about 0.1 mile. The channel is winding with strong currents and should not be attempted without local knowledge.

(310)

### Currents

(311) Tide rips and currents of considerable velocity are reported in the entrance, east and southeast of the entrance buoy. The maximum flood and ebb is at the light marking the flat and is estimated to at least 4 knots. Mariners with deep-draft vessels should make transits during slack water. The ebb current at the fuel pier has very little velocity; the flood is reported to set slightly toward the pier.

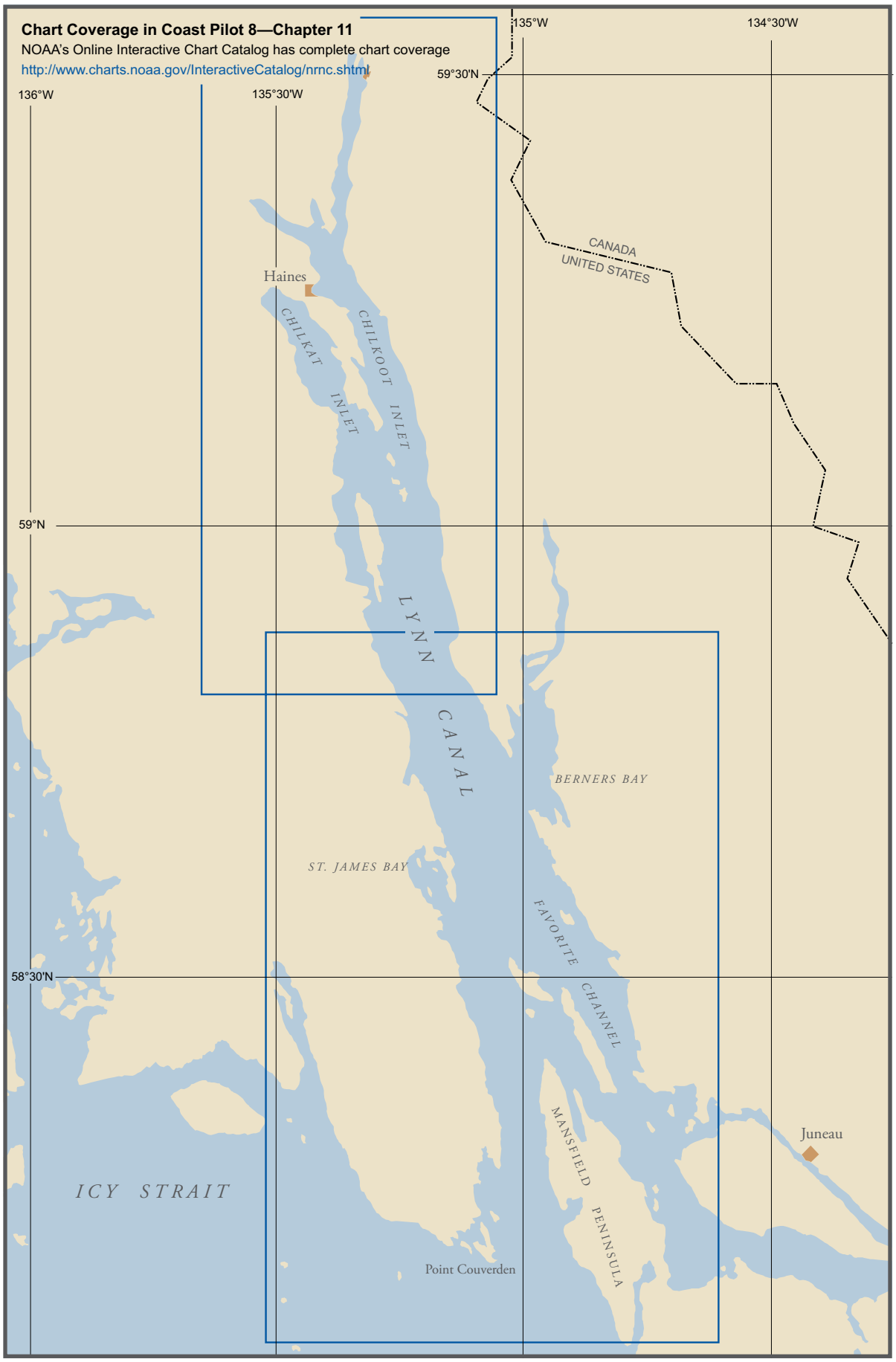


Chart Coverage in Coast Pilot 8—Chapter 11
NOAA's Online Interactive Chart Catalog has complete chart coverage
http://www.charts.noaa.gov/InteractiveCatalog/nrnc.shtml
136°W
135°30'W
135°W
134°30'W
59°30'N
59°N
58°30'N
CANADA
UNITED STATES
Haines
CHILKAT INLET
CHILKOOT INLET
LYNN CANAL
BERNERS BAY
ST. JAMES BAY
FAVORITE CHANNEL
MANSFIELD PENINSULA
Juneau
ICY STRAIT
Point Couverden

# Lynn Canal

(1) This chapter describes the waters of Lynn Canal and Chilkat, Chilkoot, Lutak and Taiya Inlets. Also discussed are the port facilities at Port Chilkoot, Haines and Skagway and in Lutak Inlet.

(2) **Lynn Canal** extends from the junction of Chatham Strait and Icy Strait, at Hanus Reef, in a north-northwest direction for about 58 miles to Seduction Point, where it divides into two arms, called Chilkat Inlet and Chilkoot Inlet; the latter inlet extends 25 miles farther north from Seduction Point. At Rocky Island, the canal is 5 miles wide; from Point Howard to Ralston Island about 3 miles wide; thence it averages 6 miles wide to Seduction Point. The canal is nearly free of dangers, and the water is generally very deep. The shores as a rule are very high and wooded, with many bare mountain peaks and small glaciers in nearly every ravine. It is reported that in the winter north winds in the canal often attain a maximum speed of about 70 knots.

(3) **Voluntary vessel traffic procedures** have been adopted for gillnet vessels and deep-draft vessels transiting Upper Lynn Canal. Traffic lanes, about 0.2 mile wide, have been established for this area as follows:

(4) **358°** from a point 1.25 miles, 270° from Point Sherman Light to a point about 0.6 mile, 090° from Eldred Rock Light, thence;

(5) **346°** to a point about 0.7 mile, 090° from Talsani Island Light, thence;

(6) **338°** to a point about 0.3 mile, 270° from Katzehin Flats Light 4, thence;

(7) **344°** to a point about 0.4 mile, 090° from Indian Rock Light, thence;

(8) **006°** into Taiya Inlet.

(9) Cruise ships, ferry vessels and other deep-draft vessels are requested to observe the following practices:

(10) 1. Announce your presence 30-45 minutes prior to entering the area and at regular intervals while transiting through the area.

(11) 2. Travel along indicated tracklines as much as possible and maintain a safe speed.

(12) Gillnet vessels should:

(13) 1. Adequately mark the net end with lights and radar reflectors.

(14) 2. Monitor VHF-FM channels 13 and 16 and listen for broadcasts by deep-draft vessels in the area.

(15) 3. Provide for two-way traffic of large vessels along the designated tracklines.

(16) 4. Warn other gillnetters if they appear to be in the lane when there is commercial vessel traffic approaching.

(17) 5. Do not place sleep sets within or adjacent to the shipping lane.

(18)

## Anchorages

(19) Anchorage can be had in Funter Bay, William Henry Bay, west of Sullivan Island, Portage Cove (Chilkoot Inlet) and Lutak Inlet. Temporary anchorage can also be had in St. James Bay, Lincoln Island Anchorage, the area south of Benjamin Island and Berners Bay and at Skagway. Small craft can find anchorage in several coves.

(20)

## Currents

(21) Currents in Lynn Canal have a velocity of 0.3 to 1 knot in the south part, diminishing in velocity toward the head. From Point Whidbey to Point Sherman the currents are quite regular and apparently tidal. Off Berners Bay, rips and eddies are noted and sets across the channel occur. Strong currents are also present in the north Pass between Shelter Island and Lincoln Island. From Point Sherman to Chilkoot Inlet currents are quite regular and of moderate strength. Off the mouth of the Endicott River, at times, the river water extends a considerable distance offshore, where its limits are often well defined. In the vicinity of the Chilkat Islands the currents are moderate and no peculiarities were noted. In Chilkoot Inlet, the currents are regular and apparently tidal. South of the Katzehin River much freshwater is noticeable. In the constricted channel, between the bar and the west shore, the currents are strong but not irregular. In the vicinity of Indian Rock, an east set across the channel has been noted. The current in Taiya Inlet is moderate and regular. (See the Tidal Current Tables for daily predictions.)

(22)

## Weather

(23) The high shores of Lynn Canal tend to guide winds along its axis while the narrowing to north intensifies winds blowing from south or southeast. Southerlies often reach 16 knots or more. In winter, winds from north have been reported to 70 knots along the canal. The sheltering effect of these shores allows a relatively wide swing in temperatures. Average maximums range from about 30°F in January to the low 60s in July with minimums running about 8° to 12° colder. On average, temperatures drop to freezing or below on 115 days, while about 10 days see readings climb to 70°F or more. Extremes range from about -14°F to 83°F. Precipitation is most likely from September through January; an average of 9 to 19 inches of snow per month falls from December through March.

(24)

## Hanus Reef to Point Sherman

(25) **Hanus Reef** is a dangerous reef that is at the junction of Chatham Strait, Icy Strait and Lynn Canal. The highest part of the reef, awash at half tide, is marked by **Hanus Reef Light** (58°07'50"N., 135°00'01"W.), 25 feet above the water and shown from a skeleton tower with a red and white diamond-shaped daymark on a concrete pier. The light marks the entrance to Lynn Canal. At times the tidal current attains a velocity of 2 to 3 knots over the reef.

(26) **Rocky Island**, grass covered and marked by a light, is 3.2 miles northwest of Hanus Reef. The water is deep to within 250 yards of the island. As the currents are erratic in the channel between Rocky Island and Point Couverden, the slight saving in distance this channel offers does not warrant its use; however, if used, vessels should favor Rocky Island, as shoal water extends from Point Couverden.

(27) **Swanson Harbor** is formed by a group of islands and reefs off the extreme southeast point of the mainland at the junction of Icy Strait with Chatham Strait and Lynn Canal. It affords good anchorage and shelter. The northeast side of the harbor is formed by Couverden Island and a small island between its northwest end and the mainland, all connected at low water. The southwest side is formed by Ansley Island and **Entrance Island**.

(28) **Swanson Harbor Entrance Light 2** (58°11'35"N., 135°04'43"W.), 21 feet above the water, is shown from a skeleton tower with a red triangular daymark on the southwest side of Couverden Island.

(29) **Sharp Ledge** extends southeast from the southeast end of Entrance Island. This ledge is covered at half tide and marked by kelp. In 1983, it was reported that Sharp Ledge extends farther south and east than shown on the chart. Extreme caution is advised.

(30) **No Use Ledge**, which uncovers 12 feet, is about 0.4 mile northwest of the northwest end of Couverden Island. A small narrow channel, marked by piles between the small island north of Couverden Island and No Use Ledge, leads east from Swanson Harbor to a cove on the north side of Couverden Island; this channel should only be used by small craft at high water.

(31) To enter Swanson Harbor, bring Rocky Island astern on a northwest course and follow the southwest shore of Couverden Island at a distance of about 250 yards until Entrance Island is passed. Then steer a midchannel course until up with the northwest end of Couverden Island. Then follow the shore of Ansley Island at a distance of about 250 yards to the anchorage. Anchor with the northeast side of Entrance Island just open from the east side of Ansley Island, and with the northwest end of Ansley Island bearing south, distant 0.3 mile, in 14 to 16 fathoms, soft bottom. Small vessels anchor close in the head of the bay or to the east side of the head behind No Use Ledge.

(32) **Couverden Island** and the islands close by appear from most points of view as a long, low, wooded point, the southeast extremity being **Point Couverden**. The State of Alaska has a floating pier at the northwest end of Couverden Island.

(33) **Couverden Rock** is 2.4 miles north-northeast of Rocky Island and should not be approached closer than 200 yards. It is the outer one of the group of islands and rocks that extends 4 miles southeast from the west shore of Lynn Canal.

(34) **Funter Bay**, the best and most convenient anchorage in the vicinity, is on the east side of Chatham Strait at its junction with Lynn Canal, about 10.5 miles south of Point Retreat and 5.5 miles northeast of Rocky Island.

(35) Near the south point at the entrance are several small islands with a clear channel between. **Station Island**, the largest and wooded, is joined by two small islets to the south at low water by a boulder beach. A rock, covered less than a ¼-fathom at low water is 0.1 mile southwest of the two small islets. **Rat Island**, bare, is 0.2 mile northeast of Station Island; a ledge that bares extends 0.1 mile northwest from it.

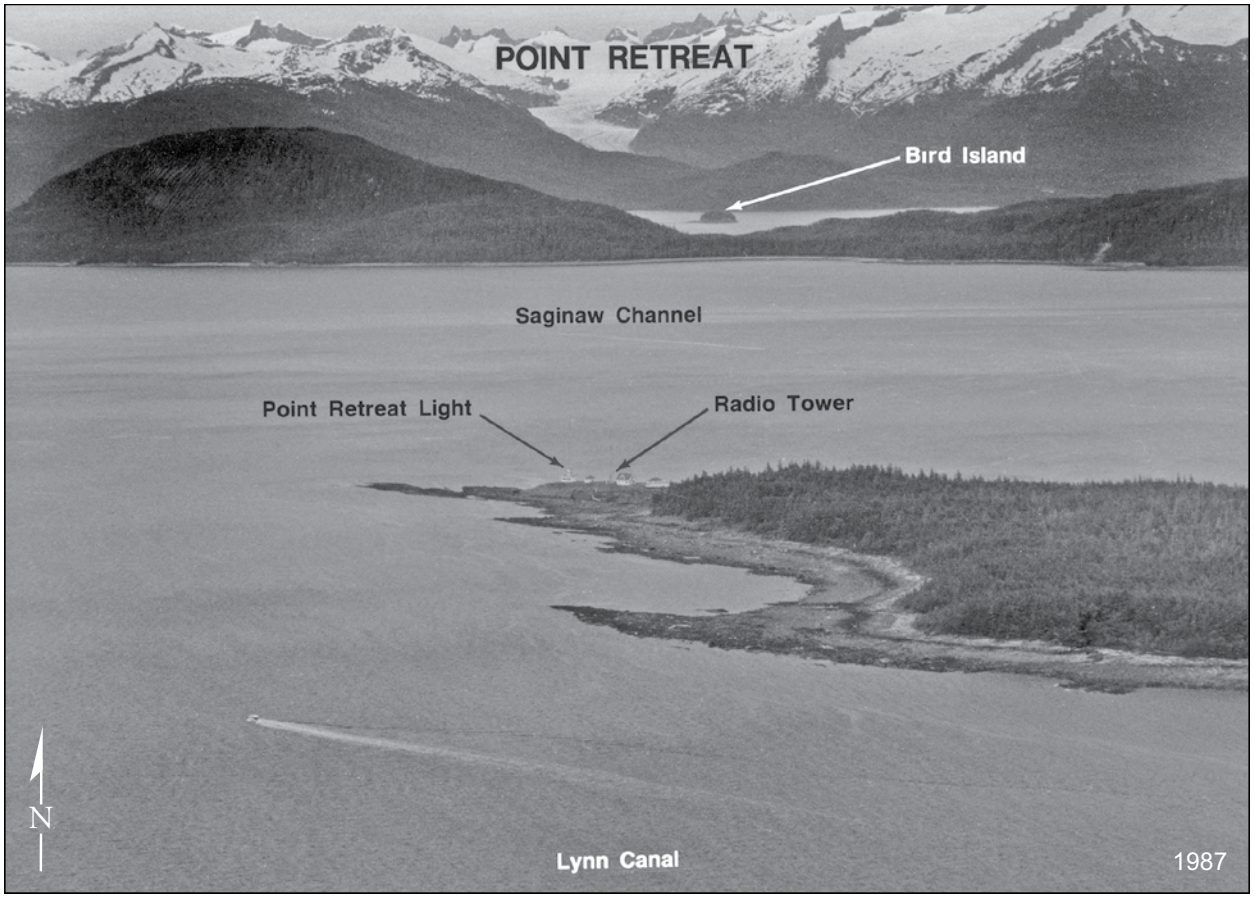
(36) **Funter Bay Entrance Light 1** (58°14'37"N., 134°54'59"W.), shown 16 feet above the water from a pedestal on a house with a green square daymark on **Clear Point**, marks the north side of the entrance to Funter Bay.

(37) Four islets are in Funter Bay between Clear Point and the head. **Bare Island** is the first from Clear Point. A 1-fathom shoal is about 100 yards southeast of Bare Island. **Curlew Ledge**, bare at low water, is 200 yards south of Bare Island. A shoal, with 1¾ fathoms over it, extends 100 yards south from the ledge and is marked at its southeast end by a buoy. **Gauge Island**, the second islet, is wooded and surrounded by ledges. **Star Rock**, a small pinnacle, bare at lowest tides, is 120 yards north of Gauge Island. **Ledge Island**, the third islet, is surrounded by bare ledges. The fourth islet, and the largest, is at the head of the bay and is connected with the main shore at low water.

(38) **Coot Cove**, at the northwest end of the bay, has extensive beaches at its head. Its depth ranges from 2¾ to 15 fathoms. **Crab Cove**, with depths of 3¾ to 12 fathoms, is at the northeast end of the bay. An extensive array of seasonal crab pots lie within the cove.

(39) The ruins of a cannery wharf are on the north side of the bay, between Coot Cove and Crab Cove. In 1999, the southeast face of the wharf had fallen in and dangerous stubs protruded. A state-maintained 100-foot small-craft float with a seaplane float at the southeast end extends east from the head of the wharf in ruins. In 1999, 15 to 20 feet were reported alongside the float. Water is available in the summer. Radiotelephone communications are available at a private residence. A rock ledge is off the southeast side of the wharf. Abandoned machinery was also spotted awash at low water just off this rock ledge in 1999. Caution is advised.

(48)




(40) A state–maintained 150–foot–long small–craft float is on the southeast side of the bay east of Funter Bay Entrance Light 1. In 1999, 20 to 25 feet were reported along the outside and 10 to 15 feet were along the inside of the float. Water is available in the summer. Only a few buildings mark the sites of the stamp mill and smelter that once stood in this area.

(41) Anchorage in Funter Bay can be made about 0.2 mile southwest of the cannery ruins. Small craft can find protected anchorage in Coot Cove or Crab Cove. The channel to the west of Bare Island is frequently used by boats proceeding to the inner harbor float.

(42) **The Kittens**, two small wooded islands 0.3 mile offshore, are 0.6 mile northwest of Clear Point. Shoals surround both islands. A shoal of 4¼ fathoms is northeast of The Kittens, extending 0.1 mile offshore of the mainland. Another shoal of 1¾ fathoms is 0.3 mile southeast of The Kittens in 58°14'43"N., 134°55'45"W.

(43) **Naked Island** is 1.1 miles northwest of Clear Point and 0.5 mile offshore, with deep water between. **Naked Island Light** (58°15'21"N., 134°56'44"W.), 44 feet above the water, is shown from a square frame with a red and white diamond-shaped daymark on the highest part of the island. A rock awash is 160 yards from the Mansfield Peninsula shore and about 900 yards northeast of the light. **North Ledge**, awash at high water, is 0.1 mile northwest of Naked Island. A rock awash at high water, is 0.1 mile east of the ledge. A shoal of 3 fathoms is 0.3 mile northeast of the ledge in about 58°15'45"N., 134°56'30"W.

(44) **Point Howard**, on the west side of Lynn Canal, is about 6.8 miles north of Rocky Island. A ledge that bares is about 0.2 mile south of the point. Good anchorage in 15 to 25 fathoms, soft bottom, may be found in **Howard Bay** northwest of Point Howard. Anchor with the tip of Point Howard east-southeast at a distance of about 0.7 mile.

(45) **Lynn Canal Southwest Light** (58°20'01"N., 135°02'59"W.), 33 feet above the water, is shown from a skeleton tower with a red and white diamond-shaped daymark about 2.5 miles north of Point Howard on the west side of Lynn Canal.

(46) **False Point Retreat**, on the east side of the canal 7 miles north of Naked Island, is marked by a light.

(47) **Point Retreat**, the north extremity of Admiralty Island, is at the turning point from Lynn Canal to Saginaw Channel. Ledges, awash at half tide, extend about 300 yards north from Point Retreat and about the same distance off its west side for 0.5 mile south. **Point Retreat Light** (58°24'41"N., 134°57'18"W.), 63 feet above the water, is shown from a white square concrete tower on a building. Several white buildings and a radio tower are prominent.

(49) **Hump Island**, at the junction of Saginaw Channel with Lynn Canal, is wooded. A reef extends 300 to 400 yards offshore.

(50) **Lincoln Island** is separated from the northwest end of Shelter Island by a narrow navigable channel about 0.2 mile wide. A depth of 1 fathom in 58°29'35"N., 134°56'17"W., is about 0.6 mile northwest of the northwest point of Shelter Island. The island is wooded and has three summits, one at each end and one in the middle separated by low divides. On the south shore at the base of the middle knob are some prominent boulders.

(51) **Ralston Island**, close to the northwest end of Lincoln Island, is wooded. **Little Island**, grass covered and marked by a light, is about 0.3 mile north of Ralston Island. A rocky ledge extends about 0.3 mile north.

(52) **Lynn Sisters** are two wooded islands, close to the west shore of Lynn Canal, about 3.5 miles southwest of Little Island. They are connected with each other and with the shore at low water.

(53) **Poundstone Rock**, covered 2 fathoms, is about 3.7 miles east-southeast of Little Island and 1.1 miles south of Sentinel Island and is marked on its west side by a lighted bell buoy. From Poundstone Rock, a ridge extends 3 miles toward Vanderbilt Reef with depths of 4 fathoms in 58°32'43"N., 134°56'46"W., and 4¼ fathoms in 58°32'47"N., 134°57'15"W., at about 1.3 miles northwest of the rock.

(54) **Sentinel Island**, about 3.5 miles north from the north extremity of Shelter Island, is marked by **Sentinel Island Light** (58°32'47"N., 134°55'24"W.), 86 feet above the water and shown from a white square tower on a building. A white building on a dock at the southeast end of the island is prominent. A shelving ledge extends about 0.2 mile in a northwest direction from the north end of the island.

(55) **Benjamin Island**, about 0.8 mile northeast of Sentinel Island, is timbered and has a white shore in the middle section below the tree line. A small grassy islet is 0.2 mile northeast of the north point of Benjamin Island; rocks that bare extend 0.3 mile north.

(56) Temporary anchorage, with protection against severe winds, may be had in the bight in the south side of Benjamin Island.

(57) **North Island** is wooded and is separated from the end of Benjamin Island by a narrow shallow channel with strong currents. A shoal, covered 2 fathoms, is 0.1 mile southwest of North Island.

(58) **Vanderbilt Reef**, about 4 miles northwest of Sentinel Island Light, is a rock that uncovers 14 feet. It is marked by **Vanderbilt Reef Light** (58°35'27"N., 135°01'08"W.), 36 feet above the water and shown from a skeleton structure on a concrete pier with a red and white diamond-shaped daymark.

(59) **Yankee Cove**, a small bight on the east shore of Lynn Canal, is 1.2 miles northeast of North Island. **Bessie Creek** empties into the head of the cove.

(60) **Bridget Cove**, about 3.2 miles northeast of Vanderbilt Reef, is behind **Mab Island**, affording anchorage for small craft in 4 to 7 fathoms, with scant swinging room. A 1.3 fathom shoal in 58°38'06"N., 134°57'06"W. is in the middle of the passage between Mab Island and the mainland. Small boats may secure better protection by anchoring inside the cove opposite the north end of Mab Island; the beach makes out about 100 yards at low water. A well-defined trail crosses to the river mouth on the south side of Berners Bay.

(61) **St. James Bay** is on the west side of Lynn Canal, inside of **Point Whidbey**, the east point of the entrance, about 11.5 miles north-northwest of Point Retreat. This bay extends about 4.5 miles in a north direction to its head, where a large stream enters, forming extensive mud flats. A temporary anchorage, in 20 fathoms, soft bottom, may be selected on the east side of the bay, 2 miles north of Point Whidbey. The anchorage is open to southeast winds.

(62) The **Lynn Brothers** are a chain of islands parallel to the west shore of St. James Bay. Small boats can enter the basin west of the islands by a 2¼-fathom channel through the reefs at the south end of the islands.

(63) From Point Whidbey the west shore of Lynn Canal extends in a north-northwest direction, with some indentations and rocky shoreline, about 3.6 miles to a narrow inlet leading into **Boat Harbor**, a basin with depths up to 14 fathoms. It can be entered by small craft only because of its contracted entrance, which is reported to be about 60 feet wide at its narrowest part. In 1993, the channel was reportedly well defined at low water, but boulders along the bottom of the entrance reduce the controlling depth. In 2000, the controlling depth was 1¼ fathoms. The currents have considerable velocity through the entrance, and the period of slack water on low tide reportedly lasts less than normal. Boat Harbor is also reported to have a delayed tidal flow and will continue to ebb 30 to 40 minutes after low tide. From just north of Boat Harbor to Danger Point, for about 3.2 miles, brown rocky bluffs are visible along the west shore of Lynn Canal.

(64) **William Henry Bay** is on the west side of Lynn Canal, 9 miles north of Point Whidbey. It is easy of access and is the best anchorage from south weather in this vicinity. According to local reports, north winds are felt with considerable force. Enter in midchannel, and when the second waterfall on the west shore of the bay is abeam, anchor in 12 fathoms, soft bottom, about 0.4 mile from the head. The shores are high and bold. **Beardslee River** enters at the head, where there is a flat 350 yards wide. Pile ruins of an 80-foot wharf on the east side of the bay are no longer visible. The face of the wharf extended into 20 feet of water.

(65) **Endicott River**, about 4 miles north of William Henry Bay, flows from the west through a narrow, deep gorge in the mountains. A broad shoal makes out from the mouth of the river nearly 0.7 mile. A narrow channel follows close around the cliff on the south side. Small craft may enter the lagoon at half tide in the flats just northeast of the river's mouth.

(66) **Berners Bay** is a large indentation on the east side of Lynn Canal between **Point Bridget** and **Point St. Mary**. From Point Bridget it has a north direction for 6

miles to the extensive flats at the head where several large streams make in. The bay is open to south winds, but in fine weather temporary anchorage in 16 to 25 fathoms may be selected near the head; the chart should be the guide.

(67) East of Point Bridget are two bights. The westernmost is filled by flats, and the water is shoal for over 0.3 mile offshore. **Echo Cove**, the east bight, has its entrance 2 miles east of Point Bridget. A highway connects Echo Cove to Juneau about 39 miles south-southeast. The entrance is nearly blocked by a flat making out from the west point, leaving a very narrow channel that follows the east shore at a distance of 150 yards and has a controlling depth of 1 fathom. Inside, the depths are 3 to 12 fathoms, and small vessels using caution can enter and find secure anchorage.

(68) **Point Sherman**, on the east side of Lynn Canal, about 9 miles north-northwest of Berners Bay, is prominent. **Point Sherman Light** (58°51'11"N., 135°09'06"W.), 47 feet above the water, is shown from a skeleton tower with a red and white diamond-shaped daymark. Temporary fair-weather anchorage may be had in 5 fathoms, mud bottom, in the bight north of Point Sherman. In approaching from south give the point a wide berth. A ledge, with 1½ fathoms at its end, extends 0.3 mile northwest from Point Sherman; it bares a considerable distance from the point.

(69) **Sherman Rock**, 0.5 mile southwest of Point Sherman, has about 1 fathom over it.

(70)

## Sullivan Island to Skagway

(71) **Sullivan Island**, on the west side of Lynn Canal about 6 miles northwest of Point Sherman, is timbered. It has several knobs on the south end; the highest is separated by a saddle from the ridge at the north end of the island. **Sullivan Rock**, wooded and marked by a light, is off the south end of the narrow wooded island south of Sullivan Island.

(72) Anchorage may be had in 16 fathoms, sticky bottom, in the bight in the west shore, west of the south end of Sullivan Island. Vessels entering from the south should favor the islands. Entering from the north the only dangers to be avoided are the rocks awash 0.4 mile off the west shore in about the middle of the island. This rocky area is marked at its north end by **Sullivan Island Daybeacon 2** in 58°57'52"N., 135°21'11"W.

(73) Anchorage for small boats, with protection against north winds, may be had in the small bight on the east shore of Sullivan Island near the southeast end. In entering avoid the reef that extends about 0.2 mile off the northeast entrance point.

(74) **Eldred Rock**, about 7.3 miles north-northwest from Point Sherman and 1.4 miles from the east shore of Lynn Canal, is marked by **Eldred Rock Light** (58°58'15"N., 135°13'15"W.), 91 feet above the water, shown from a white octagonal tower on a building. The white buildings on the rock are also prominent. A ledge extends about 300 yards northwest from Eldred Rock, and a rock with ¾ fathom over it is 0.3 mile 325° from Eldred Rock Light. A submerged wreck is about 150 yards southeast of the ¾-fathom sounding.

(75) **Chilkat Islands**, a chain of four wooded islands, extend 5 miles in a south-southeast direction from Seduction Point. **Kataguni Island**, the southernmost, is about 2.5 miles north-northwest of Eldred Rock. **Shikosi Island**, north of Kataguni Island, has a bight in its north side that affords anchorage for small craft with shelter from moderate south winds. A shoal with depths of as little as 1 fathom, and terminating with a rock that bares, extends over 0.2 mile north from the east point of the bight. Favor the west point of the bight in entering. **Talsani Island Light** (59°04'42"N., 135°16'25"W.), 16 feet above the water and shown from a skeleton tower with a red and white diamond-shaped daymark, marks the northeast point of **Talsani Island**, the northernmost of the Chilkat Islands.

(76) **Chilkat Inlet**, the west arm at the head of Lynn Canal, is 9 miles long in a northwest direction, from Seduction Point to McClellan Flats at the mouth of Chilkat River. The arm is narrowed to 0.8 mile by Glacier Point, 2.5 miles from Seduction Point; it then expands to 2.5 miles and maintains this width for some distance, narrowing to 2 miles at its head.

(77)

### Local magnetic disturbances

(78) Differences of as much as 20° from normal variation have been observed in Chilkat Inlet and Chilkoot Inlet.

(79) **Seduction Point** is the southeast extremity of **Chilkat Peninsula**, which separates Chilkoot Inlet and Chilkat Inlet. Near the end is a knob, then a depression and a gradual rise to another knob, 2.5 miles from the point. **Dalasuga Island**, small and wooded, is about 0.4 mile to the northwest of the point. A rock that bares 3 feet is 1 mile northwest of Seduction Point.

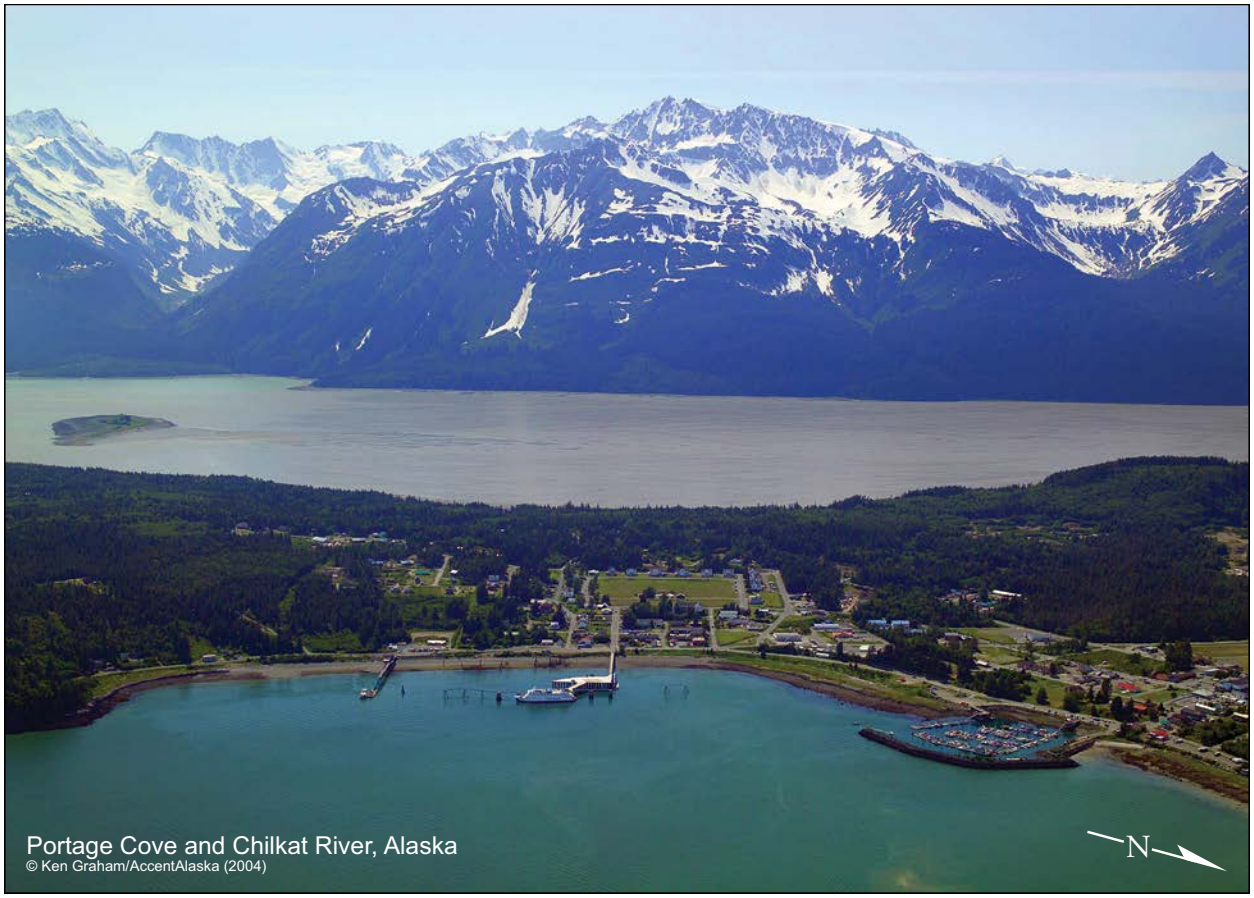
(80) The east shore of Chilkat Inlet is very irregular. The shoreline consists of gravel and boulder beaches with short, rocky sections. There are several bights that furnish fair weather anchorage for small boats.

(81) **Glacier Point**, on the west side of the entrance to Chilkat Inlet, is the wooded and grassy moraine of **Davidson Glacier**, which slopes uniformly back from the moraine. A flat that bares and is about 0.2 mile wide borders the west shore for 2 miles south and the same distance west of Glacier Point, but at the point it is only 200 yards wide. From the point to **McClellan Flats** the west shore is rocky, and partly a boulder beach.

(82) A ledge that bares extends 0.2 mile south from the point on the west shore of **Kalhagu Cove.**

(83) **Kochu Island**, about 2.3 miles north of Glacier Point, is low, small and thickly wooded. The passage between the island and the east shore is obstructed by a ½-fathom spot in midchannel and by a reef that extends about 0.3 mile from the east shore in the direction of the ledge that extends 0.4 mile off the southeast end of

(98)




Kochu Island. **Lehunua Island**, small and wooded, is east of the center of Kochu Island, close to the east shore of the passage. A rock, awash at half tide, is close to the northwest end of Lehunua Island.

(84) **Letnikof Cove**, on the east shore of Chilkat Inlet, about 1.6 miles north of Kochu Island, affords anchorage for small craft, exposed to northwest winds near the head of the cove, in 6 to 10 fathoms.

(85) The west entrance point to the cove is marked by **Letnikof Cove Light 2** (59°10'25"N., 135°24'02"W.), 25 feet above the water, shown from a small house with a red triangular daymark.

(86) The wharf of a storage and fish buying facility is on the south side of the cove near the head. In 1998, 28 feet was available alongside the wharf. Gasoline, diesel fuel, fishing supplies, provisions and a small machine shop are available to fishing boats during the fishing season. The facility operates a marine railway that can handle fishing vessels up to 40 feet for repairs. It has a 2-ton hand-powered hoist and two 1-ton forklifts for handling supplies. Radiotelephone communications are maintained. A highway connects the facility to Haines, 5 miles northwest, and Flat Bay, 2 miles southeast.

(87) The state-maintained seasonal small-craft floats are across the cove from the support facility. The 500 feet of floats have a 4-day limit, and a surfaced boat-launching ramp is 55 yards northwest of the floats.

(88) **Jenkins Rock**, with ½ fathom over it, is about 0.2 mile from the northeast shore, 1 mile northwest from the entrance to Letnikof Cove. A rock awash is about 165 yards to the northwest of Jenkins Rock in 59°11'23"N., 135°25'07"W. A third rock, covered 1/3 fathom, is midway between the other rocks.

(89) **Pyramid Harbor** is the bight in the west shore of Chilkat Inlet, about 5.5 miles northwest from Glacier Point and opposite Letnikof Cove. The bight appears to have shoaled considerably, and anchorage is not recommended. **Pyramid Island**, midway across Chilkat Inlet from Pyramid Harbor, is grass covered and has rocky shelving beaches; a spit, bare at lowest tides, connects the island with the shore about 0.7 mile to the northeast. The edge of McClellan Flats, in the mouth of Chilkat River, appears to have moved out to enclose both the harbor and the island.

(90) **Chilkat River** is a shallow stream about 50 miles long, flowing in a general southeast direction, and is about 2 miles wide at its mouth. The mouth is so choked with sandbars as to be practically closed for anything except canoes, and the bar at low water appears as if dry clear across. The village of **Klukwan** is 26 miles above Seduction Point. A highway follows the river from Haines.

(91) **Chilkoot Inlet**, the east arm at the head of Lynn Canal, extends 12.6 miles in a north direction from Seduction Point and then divides; the east and principal

arm, called **Taiya Inlet**, trends north for about 13 miles. Chilkoot Inlet has on its east side, and Taiya Inlet on both sides, lofty mountain glaciers in their gorges. The midchannel depths are great throughout. Katzehin River Flat and Indian Rock are the only dangers in Chilkoot Inlet. It is reported that in the winter north winds often attain a maximum speed of about 70 knots in Chilkoot Inlet and Taiya Inlet.

(92)

### Local magnetic disturbances

(93) Differences of as much as 20° from normal variation have been observed in Chilkat Inlet and Chilkoot Inlet.

(94) **Mud Bay** is a small cove on the west shore about 4 miles north-northwest of Seduction Point, from which low land extends across the peninsula to Letnikof Cove, and is connected with Haines by a gravel road.

(95) **Katzehin River** enters Chilkoot Inlet through a deep valley on the east side of Chilkoot Inlet, 14 miles above Eldred Rock Light. From the mouth of the river a flat, which bares to its outer edge, extends two-thirds of the distance across the inlet and alongshore for 1.5 miles on either side of the mouth. The west edge of the flat is marked by a light. Caution is advised in transiting the area west of the flat during the fishing season because of the heavy fishing boat traffic.

(96) **Battery Point**, marked by a light, is on the west side of Chilkoot Inlet, 7.8 miles north of Seduction Point. **Johnson Rock**, covered ¾ fathom and unmarked, is about 0.1 mile south of the south extremity of the point. **Kelgaya Bay** is a small cove on the north side of Battery Point.

(97) **Portage Cove**, on the west shore about 2.5 miles northwest of Battery Point, affords the best anchorage and shelter in Chilkoot Inlet. The anchorage is about 0.2 mile off the wharf in 12 to 15 fathoms, soft bottom. North winds blow home and bring in some sea. From the anchorage the water shoals gradually to a gravel and boulder beach, which bares some distance out, and the water is shoal 200 yards offshore. A daybeacon marks a rocky area that uncovers about 325 yards northeast of **Nukdik Point**, the north entrance point.

(99) **Haines** is a city with several hotels, motels, machine shops and general stores on the west side of Portage Cove. It is 950 miles from Seattle and 88 miles from Juneau and is at the south end of a highway running along the Chilkat River and Klehini River through the Porcupine Mining District and connecting with the Alaska Highway.

(100)

### Prominent features

(101) The two tank farms in Haines and a tank farm at Tanani Point, about 2.4 miles north of Haines, are conspicuous.

(102)

### Weather

(103) Haines has a predominantly maritime climate. This area receives abundant precipitation year round with very heavy accumulation of snowfall during the winter. Measurable precipitation falls on just slightly less than half of the days of the year. The area experiences considerable cloudiness, and only about 1 day in 5 can be classified as clear. Differences between daily maximum and minimum temperature readings average about 15° during all months of the year.

(104) The prevailing winds at Haines are from the west and southeast. Lynn Canal provides a funneling effect to produce the southeast winds; the narrowing canal often tends to intensify winds moving from the south or southeast direction. The relatively low passageway from the west provides a channel through which winds reach Haines from that direction.

(105)

### Pilotage, Haines

(106) Pilotage, except for certain exempted vessels, is compulsory for all vessels navigating the inside waters of the State of Alaska. (See Pilotage, Alaska, indexed as such, chapter 3 for details.)

(107)

### Towage

(108) Tugs up to 600 hp operating out of Haines and 800 hp operating out of Skagway are available for docking and undocking. The tugs are equipped with VHF-FM channels 12, 13 and 16. Arrangements must be made well in advance.

(109)

### Quarantine, customs, immigration and agricultural quarantine.

(110) (See chapter 3, Vessel Arrival Inspections, and Appendix A for addresses.)

(111) **Quarantine** is enforced in accordance with regulations of the U.S. Public Health Service. (See Public Health Service, chapter 1.)

(112)

### Customs

(113) Haines is a **customs station**.

(114)

### Wharves

(115) The piers and wharves at Haines are on the west and southwest shores of Portage Cove, on the south shore of Lutak Inlet and the south and northeast shore of Letnikof Cove.

(116) **Haines Packing Co. Wharf** (59°10'20"N., 135°23'12"W.): South shore of Letnikof Cove; 133-foot face; 20 feet reported alongside in 2002; deck height, 33 feet; owned and operated by Haines Packing Co.

(117) **Chilkat Cruises and Tours Dock** (59°13'40"N., 135°25'58"W.): Southwest shore of Portage Cove; 125-foot float; 20 to 30 feet reported alongside in 2002; deck height, 24 feet; landing for excursion vessels and fueling vessels; owned by Chilkat Portage Cove Development and operated by Chilkat Cruises and Tours.

(118) **Port Chilkoot Wharf** (59°13'46"N., 135°26'14"W.): West shore of Portage Cove; 155-foot face; 40 to 46 feet reported alongside in 2002; deck height, 24 feet; receipt

of petroleum products and mooring cruise vessels; owned by the City of Haines and operated by the City of Haines and Delta Western, Inc.

(119) **Haines Ferry Terminal Dock** (59°16'54"N., 135°27'40"W.): South shore of Lutak Inlet; adjustable transfer bridge; passengers and vehicles; owned and operated by the State of Alaska. In 1979, a shoal with a least depth of 7½ feet was just off the west side of the terminal ramp.

(120) **Lutak Dock** (59°16'58"N., 135°27'56"W.): South shore of Lutak adjacent to Ferry Terminal Dock; 750-foot wharf; deck height, 25 feet; 23 feet reported alongside in 2002; receipt and shipment of containerized and roll-on/roll-off cargo, seafood, petroleum products and shipment of gravel and logs; icing vessels; owned and operated by the City of Haines, et al.

(121)

### Supplies

(122) Provisions, fishing supplies and limited marine supplies can be had at Haines. Gasoline and diesel fuel may be had by tank truck at the approach pier in the small-craft basin. There is no provision for bunkering large vessels.

(123)

### Repairs

(124) There are no drydocking or major facilities for larger vessels in Haines or Southeast Alaska. The nearest facilities are in Ketchikan at the Alaska Ship and Drydock. A 92-foot grid is in the northwest part of the small-craft basin. A marine railway, which can handle vessels up to 36 feet, is at Letnikof Cove. Machine shops in Haines are available to small craft for minor hull and engine repairs.

(125)

### Communications

(126) The Alaska Marine Highway System has daily scheduled ferry service to Skagway, Juneau, Petersburg, Wrangell, Ketchikan, Sitka and Prince Rupert, BC, and weekly service to Hoonah, Kake and Seattle. This service is less frequent during winter. The ferry terminal is on the southeast side of Lutak Inlet, about 3.5 miles north of Haines. Scheduled and chartered airlines serve the city. The airport is about 2.6 miles west of Haines. Telephone and radiotelephone communications are maintained.

(127)

### Small-craft facilities

(128) The city of Haines operates a small-craft basin that is protected on its north side by a breakwater and on its east side by a wave barrier breakwater. The south end of the wave barrier breakwater is marked by a light. The basin is entered through a dredged channel southwest of the wave barrier breakwater. In 2011, the controlling depth was 11 feet in the entrance channel with 5 to 12 feet available in the basin. In 1994, dangerous rocks were reported on the north channel edge just south of the end of the pier that extends from the west shore at the entrance in about 59°13'58"N., 135°26'21"W. The **harbormaster** controls the use of the grid and makes berthing assignments. The harbormaster's office, at the small-craft basin, monitors VHF-FM channel 16. The harbormaster can be contacted by telephone (907-776-2448 or 907-766-2760). A surfaced ramp is immediately west of the grid in the northwest part of the basin. Water in the summer and electricity are available at the floats. A seaplane float is at the east end of the wharf at the south of the basin. Small-craft floats are on the northeast shore of Letnikof Cove with a ramp on the north side.

(129) **Low Point**, on the east side of Chilkoot Inlet, is 2.8 miles northeast of Haines and about 1 mile southeast of Indian Rock Light.

(130) **Indian Rock**, about 1 mile northwest of Low Point, is a dangerous reef about 0.2 mile long east and west; at the eastern end is a pinnacle rock, awash at lowest tides. **Indian Rock Light** (59°16'24"N., 135°24'02"W.), 15 feet above the water, is shown from a pile structure with a red and white diamond-shaped daymark on the rock.

(131) **Lutak Inlet**, the west arm of Chilkoot Inlet, is 5 miles long. **Taiya Point** is the northeast entrance point, and **Tanani Point**, the southwest. At its head it receives **Chilkoot River**, a short stream that drains **Chilkoot Lake**; at the mouth of the river is a flat nearly 0.5 mile wide. A fixed highway bridge with a 40-foot span and a clearance of 8 feet crosses the mouth of the river. Anchorage with good holding ground for large vessels can be had in a depth of 40 fathoms about 2.5 miles from the head of the inlet, to 20 fathoms about 0.8 mile from the head. In winter, Lutak Inlet offers the only good protection on Lynn Canal from north winds, although small boats will experience icing.

(132) The waters of Lutak Inlet in the vicinity of the U.S. Army POL Dock and the Army Dry Cargo Wharf have been prescribed as a restricted area. (See **33 CFR 334.1310**, chapter 2, for limits and regulations.)

(133) **Taiyasanka Harbor**, about 5.8 miles north of Battery Point, is a small harbor at the foot of the **Ferebee River** valley. The harbor has a narrow entrance that is protected from south but exposed to winter winds drawing down the **Ferebee Glacier**. There is 12 fathoms in the narrow entrance, which is 100 yards wide and close to the west side. A rock spit extends over halfway across the entrance from the west end of the narrow neck of land, which is the bare part of the moraine that almost closes the entrance. The tidal currents have an estimated velocity of 3 knots in the entrance. In 1998, a 2¼-fathom shoal was reported in the entrance in about 59°17'54"N., 135°25'54"W.; local knowledge is advised. Log storage takes up the southeast end of the basin. Small craft tie up to the booms for moorage. Icing is experienced in the harbor in winter.

(134) A prominent waterfall, locally called Cavanaugh Falls, is on the east side of Taiya Inlet, about 1.5 miles north of Low Point. **Nahku Bay** is the narrow bay between Skagway and the head of **Taiya Inlet**. Good anchorage is available in midchannel in 30 fathoms about 0.5 mile from the head. The bottom is sticky mud; it shoals gradually. During the summer with prevailing south winds, there

(137)




is little protection from the short choppy seas coming in from Taiya Inlet.

(135) **Taiya River**, at the head of Taiya Inlet, is navigable for small boats and canoes as far as high water can be carried, a short distance above the mud flats. Canoes can be poled or towed by line for a greater distance.

(136) **Skagway**, a city on the delta formed by the Skagway River at the north terminus of the Inside Passage to Alaska, is essentially a transfer point between water and rail shipping routes. It is the ocean terminus of the White Pass and Yukon Route Railway, the Alaska Marine Highway System from Seattle to Skagway, and a branch of the Canol pipeline. Skagway is also a popular port of call for the numerous cruise ships that sail the Inside Passage. The principal commodities handled at the port include petroleum products, zinc and lead ore concentrates, building and construction materials, asbestos and general cargo. The deepest draft of any commercial vessel calling at the port was 36 feet in 1998.

(138) The **Skagway River** originates in White Pass at the boundary between British Columbia and Alaska and flows southwest for 14 miles. Because of its shallow depths and swift currents, the river is not navigable.

(139) **Skagway Breakwater Light 2** (59°26'56"N., 135°19'21"W.), 19 feet above the water, is shown from a skeleton tower with a red triangular daymark on the northwest end of the breakwater protecting the Skagway Small-Boat Basin, on the southeast side of the harbor.

(140)

### Prominent features

(141) The warehouse and elevator of the ore terminal southwest of Skagway, the gold cupola of a hotel and the oil tanks at the ferry terminal and at the railway wharf are conspicuous from seaward.

(142)

### Channels

(143) The approach to Skagway is clear and deep; the chart is the best guide.

(144)

### Anchorages

(145) There is no safe anchorage for large vessels at Skagway. The anchorage in the northeast part of the harbor off the railway wharf is small, being limited by the cable area. The wind draws through the valley and anchorage. With north gales a vessel is liable to drag anchor because of the steep pitch of the bottom, and under such conditions a safer berth can be had at the wharf. Protection from the north can be had in Nahku Bay, for vessels under 200 feet long. Large vessels can anchor in Lutak Inlet.

(146)

### Currents

(147) The velocity of the tidal current ranges from 0.3 knot on the flood to 0.7 knot on the ebb. During the ebb, the current sets toward the railway wharf, so that vessels

departing from the north half of the wharf have difficulty clearing another vessel moored at the south end. (See the Tidal Current Tables for daily predictions.)

(148)

### Weather

(149) The prevailing wind direction is south from March through November and reverses to north during December, January and February. Fog occurs only about 2 percent of the time and is most frequent during August, September and October. Snow totals 35 inches on about 19 days a year, but there is precipitation on about 115 days a year.

(150)

### Pilotage, Skagway

(151) Pilotage, except for certain exempted vessels, is compulsory for all vessels navigating the inside waters of the State of Alaska. (See Pilotage, Alaska, indexed as such, chapter 3, for details.)

(152)

### Towage

(153) An 800-hp tug is available at Skagway for assisting in docking and undocking from May to October. Other commercial towboats are available from Haines or Juneau year round. The tug and towboats are equipped with VHF-FM channels 16, 13 and 12. Arrangements for towboats and tug should be made well in advance through ship's agents.

(154)

### Quarantine, customs, immigration and agricultural quarantine

(155) (See chapter 3, Vessel Arrival Inspections, and Appendix A for addresses.)

(156) **Quarantine** is enforced in accordance with regulations of the U.S. Public Health Service. (See Public Health Service, chapter 1.)

(157) Skagway is a **customs port of entry**.

(158)

### Wharves

(159) The wharves at Skagway are on the east side of Taiya Inlet at the south end of the city.

(160) **Skagway Rail Wharf** (59°26'46"N., 135°19'28"W.): 1,850 feet of berthing space with dolphins; 30.9 feet alongside in 2004; mooring cruise vessels; occasional receipt and shipment of conventional general cargo; owned and operated by White Pass and Yukon Route.

(161) Skagway Ferry Terminal Dock (59°26'55"N., 135°19'32"W.): 250 yards north of Rail Wharf; 160-foot face; 385 feet berthing space; 25 feet alongside in 2002; mooring cruise vessels; landing for passenger and vehicular ferry; fueling vessels; owned and operated by the State of Alaska.

(162) **Skagway Terminal Co. Pier** (59°27'01"N., 135°19'29"W.): 200 yards north of the Ferry Terminal; 240-foot face; 800 feet berthing space with dolphins; 35 feet alongside in 2002; mooring cruise vessels; owned and operated by Skagway Terminal Co.

(163) **Skagway Transfer Bridge** (59°27'05"N., 135°19'24"W.): 300 yards north of Ferry Terminal; 411 feet of berthing space; 40 feet alongside in 2002; receipt and shipment of conventional, containerized and roll-on/roll-off general cargo; two 45 and one 30-ton forklifts; operated by Alaska Marine Lines; owned by Alaska Marine Lines and White Pass and Yukon Route.

(164) **Skagway Terminal Co. Wharf** (59°27'01"N., 135°19'38"W.): 200 yards northwest of Ferry Terminal; 431-foot face; 1,000 feet berthing space with dolphins; 45 to 90 feet alongside in 2002; receipt and shipment of petroleum products; mooring cruise vessels; owned and operated by Skagway Terminal Co.

(165)

### Supplies

(166) Arrangements can be made to truck gasoline and diesel fuel to the Railway Wharf. Gasoline is available in the small-craft basin. Water is available at the Railway Wharf and at the floats of the small-craft basin. Limited amounts of provisions and marine supplies can be had at the general stores.

(167)

### Repairs

(168) The White Pass and Yukon Route railway operates a fully equipped machine shop; these facilities are available to marine interests for emergency repairs. An 80-foot small-craft grid is at the south side of the small-craft basin.

(169)

### Small-craft facilities

(170) The Skagway Small-Boat Basin, protected by a breakwater marked by a light, is just northward of the White Pass and Yukon Route railway wharf. A federal project provides for an 8-foot entrance channel. Local interests have expanded and deepened the basin. Silting encroaches the northeast basin limits between dredgings. The **harbormaster** assigns berths and can be contacted by telephone (907-983-2628) and on VHF-FM channel 16. The harbor capacity is about 180 vessels. A launching ramp, grid and seaplane float are in the basin. Water (during summer), electricity and gasoline are available at the floats.

(171)

### Communications

(172) The White Pass and Yukon Route is a railway of 3-foot gage, 111 miles long, that extends from tidewater up the Skagway Valley to White Pass and across the international boundary to Whitehorse, the head of navigation on the Yukon River. The railway maintains daily service with Whitehorse from May to September.

(173) The Alaska Marine Highway System has daily ferry service to other southeastern Alaska ports and Prince Rupert, BC, with weekly service to Seattle. Scheduled and chartered airlines operate from Skagway airport on the northwest side of the city. Telephone and radiotelephone communications are maintained. Skagway has highway connections with the Alaska Highway.

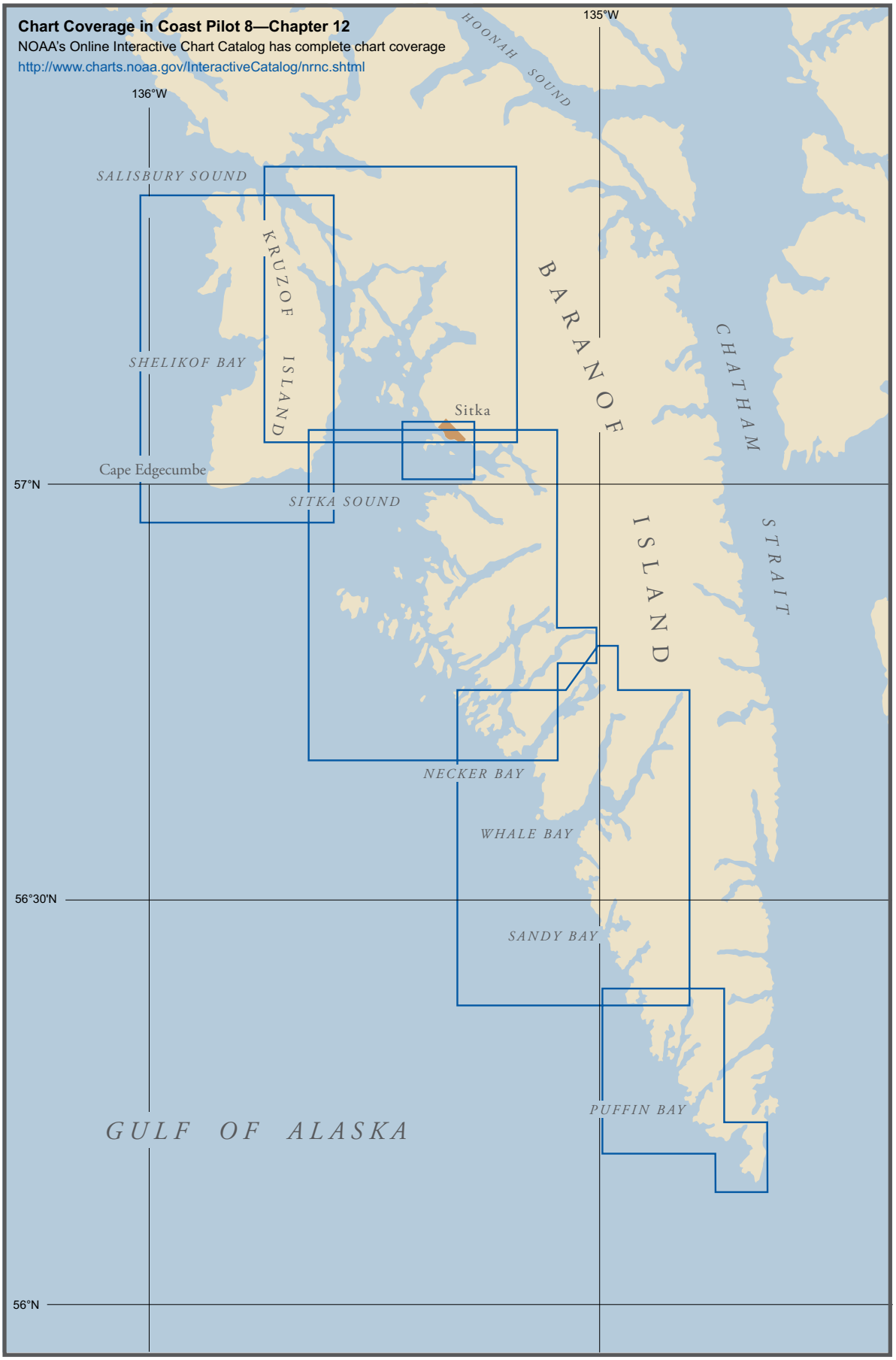


Chart Coverage in Coast Pilot 8—Chapter 12
NOAA's Online Interactive Chart Catalog has complete chart coverage
http://www.charts.noaa.gov/InteractiveCatalog/nrnc.shtml
136°W
135°W
HOONAH SOUND
SALISBURY SOUND
KRUZOF ISLAND
BARANOF ISLAND
CHATHAM STRAIT
SHELIKOF BAY
Sitka
Cape Edgecumbe
57°N
SITKA SOUND
NECKER BAY
WHALE BAY
56°30'N
SANDY BAY
PUFFIN BAY
GULF OF ALASKA
56°N

# West Coast of Baranof Island

(1) This chapter describes the west coast of Baranof Island, the coasts of Kruzof Island and Sitka Sound and the city and port of Sitka. The east coast of Baranof Island has been described with Chatham Strait in chapter 10.

(2) **Baranof Island**, about 90 miles long with a greatest width of about 22 miles, forms about one-third of the outer coastline of southeastern Alaska between Cape Muzon and Cape Spencer. The west coast from Cape Ommaney at Chatham Strait to Point Kakul at Peril Strait is about 80 miles. **Mt. Katlian**, 4,303 feet high, is in the north part of the island. The greater elevations are on the south part of the island.

(3)

### Prominent features

(4) Vessels making the land at Cape Edgecumbe in thick rainy weather may be aided in their determination of position by the color of the rocks. The rocks and cliffs north of Cape Edgecumbe are decidedly black as far as Cape Georgiana, and the rocks south of Cape Edgecumbe are a whitish gray from Biorka Island to Whale Bay. The shore for 3 miles north of Cape Edgecumbe rises in a precipitous cliff of dark brown lava about 200 feet high and forms a prominent landmark. Numerous large caves or blowholes can be seen in this lava cliff.

(5) From Cape Ommaney, the west coast of Baranof Island trends northwest to Biorka Island, a distance of 50 miles. For a distance of about 20 miles from the cape, the shoreline has numerous inlets and indentations, which, as anchorages, furnish poor protection except to very small craft. The shore is of gray, storm-swept rock. From the headlands and points along the coast, the land rises to peaks and ridges in the interior of the island. The lower slopes are timbered; the ridges and summits are snow covered until well into the summer. The shoreline to the north of Biorka Island has the same general features but is less forbidding. During foggy weather along the coast, it is often clear in Chatham Strait.

(6)

### Weather

(7) This coast is exposed to the weather from the Gulf of Alaska with some protection afforded in the north by Kruzof Island. However, from October through March, the area is pounded by gales, which blow about 10 percent of the time in open waters, and by waves which reach 8 feet or more up to 30 percent of the time. Wind waves and swells from distant storms also find their way into many of the bays and inlets. Strongest winds are usually out of the north, east and southeast. Along the coast, strong southeasterlies trigger williwaws in many areas. Precipitation is frequent year round; in winter, up to one-third of it falls as snow. Visibilities are worst during June, July and August as warm air blows over still-cool waters.

(8)

## Cape Ommaney to Kekur Point

(9) **Cape Ommaney**, the south extremity of Baranof Island, is a remarkable promontory terminating in Ommaney Peak, a bluff, rugged, rocky mountain, detached from the higher land north by a low depression running through from Port Conclusion. Wooden Island, close southeast of the cape, is marked by **Cape Ommaney Light** (56°09'37"N., 134°39'40"W.). (See chapter 10 for descriptions of the island and light.)

(10) **Ommaney Bay** is an open bight on the west side of Cape Ommaney and is of no importance to navigation. **Eagle Rocks** are a group of bare rocks close off the first point west of Cape Ommaney.

(11) **Bobrovoi Point**, about 1.8 miles northwest of Cape Ommaney, is the southeast point at the entrance to Larch Bay. It terminates in a wooded hummock that may be mistaken for Wooden Island during an approach from northwest.

(12) **Larch Bay** is a large open bay with an arm that extends in a northeast direction. Anchorage may be found in about 20 fathoms in this arm. Small launches use this arm during the fishing season when fair weather prevails. Rocks extend about 500 yards off the west point of the entrance to the bay. There are low depressions between the bay and Chatham Strait.

(13) **Little Puffin Bay**, about 5.8 miles northwest of Cape Ommaney, has depths of 21 fathoms at the entrance, decreasing to 7 fathoms about 0.3 mile from the head, and then shoals rapidly. At the head of the bay are a stream and a gravel beach with outcropping rocks. Exposed anchorage for small vessels may be had in 6 to 7 fathoms, hard bottom. In entering, favor the north shore to avoid rocks awash and breakers off the south shore near the entrance.

(14) **Sealion Rocks** (56°15.1'N., 134°50.0'W.) are a cluster of four dark rocks about 7.5 miles above Cape Ommaney and directly off the entrance to Puffin Bay. Several smaller outlying rocks are close-to. The central rock is pyramidal in appearance with steep sides; the others are somewhat more massive. The depths are good on all sides of the rocks, but it is better to pass south of them in entering Puffin Bay.

(15) **Puffin Bay** is about 7.2 miles northwest of Cape Ommaney. On the northwest shore near the entrance is

a massive patch of white rock. Depths in the bay range from 90 fathoms near the entrance to 23 fathoms close to the head. A small bight in the northwest shore, 1 mile within the bay, furnishes temporary anchorage with limited swinging room for small craft. The entrance to the anchorage has a depth of 11 fathoms in a channel about 60 yards wide between shoals that extend from both points of the entrance. The cove furnishes little protection from south. The small cove in the southeast shore near the head of the bay furnishes anchorage for small craft in 5 to 8 fathoms in the middle of the cove. The very narrow entrance channel has depths of 12 fathoms. Williwaws blow with considerable force during southeast gales.

(16) **Driftwood Cove** is a little bay 1.2 miles north of Sealion Rocks; its entrance is obstructed by reefs marked by kelp patches. The cove is exposed.

(17) **Big Branch Rock** is a massive, dark, round-topped rock, about 1.8 miles north-northwest of Sealion Rocks and about 1.6 miles southeast of Redfish Point.

(18) **Redfish Cape** is a narrow peninsula appearing as a comparatively low, wooded ridge, parallel to the coast; it is the only apparent low ridge in the vicinity. From north a short distance above Redfish Cape, a white conspicuous cliff is seen in the midst of the timber. A chain of barely separated wooded islets extends 0.5 mile south from the end of the cape; the southernmost one terminates in **Redfish Point** (58°18.1'N., 134°52.5'W.). Between Redfish Point and Big Branch Rock are the entrances to Little Branch Bay, Big Branch Bay and Redfish Bay.

(19) **Redfish Breaker**, awash at low water, is 0.1 mile south of the outer rocks south of Redfish Point. It breaks except in calm weather. A rocky patch with a least-found depth of 3½ fathoms is about 0.5 mile southeast from the same point. A shoal covered 7 fathoms is about 0.6 mile south of the point.

(20) **Little Branch Bay** is about 1.9 miles long to the narrows, which are barely 75 yards wide, and widens into a basin. About 0.4 mile south-southwest of the narrows is an island, separated from the east shore by a channel 50 to 100 yards wide. Midchannel depths in the bay range from 81 fathoms near the entrance to 21 fathoms off the island, 12 fathoms in the narrows and 17 fathoms in the middle of the basin at the head. About 0.8 mile within the entrance, a narrow channel in the southeast shore, entered only at high water, leads to a lagoon that has depths of 1 to 7½ fathoms.

(21) **Little Branch Bay Light** (56°18'14"N., 134°50'42"W.), 109 feet above the water, shown from a skeleton tower with a red and white diamond-shaped daymark, marks the entrance to Little Branch Bay and Big Branch Bay.

(22) **Big Branch Bay**, separated from Little Branch Bay by a high narrow neck of land, extends in a north-northeast direction and narrows in width 2.5 miles from the entrance, then widens again. An arm indenting the west shore about 0.9 mile from the west entrance point has depths from 9 to 20 fathoms, where small boats can find good shelter. About 2 miles from the entrance to Big Branch Bay is an islet close to the west shore. The bight on the east shore east of this islet affords indifferent anchorage in 23 fathoms. Depths up to 66 fathoms are found above the narrows.

(23) **Redfish Bay** has its entrance between Redfish Cape and **Beavertail Island**. From its entrance the bay extends in a general north direction, narrowing in places to about 100 yards and in one place to about 80 feet. The channels are probably safe but too narrow for safe steering; there is no certainty that dangers do not exist. The use of the bay by vessels other than small craft is not recommended.

(24) **Tenfathom Anchorage**, within the entrance of Redfish Bay, about 0.6 mile east of Redfish Cape, furnishes secure anchorage for small craft. The entrance is about 75 yards wide.

(25) The small bay 2.6 miles north-northwest of Redfish Cape furnishes good shelter for small boats, but the entrance is so narrow and the turns so sharp that a vessel of any size cannot enter, especially if there is any swell.

(26) **Byron Bay** is 4.3 miles north of Redfish Cape and is apparently clear but too deep for secure anchorage. Indifferent, temporary anchorage may be obtained in about 22 fathoms close to the west shore about 0.8 mile within the entrance. Close to the west shore, near the head, is a small island above which small craft can find anchorage. A thin, high waterfall, visible from offshore, empties into a lake north-northwest of the bay. A flat over 100 yards wide is at the head of the bay. In entering, favor the east shore, which is bold and steep-to.

(27) **Kekur Point** (56°23.1'N., 134°57.0'W.), a rounded point backed by a flat-topped ridge, is about 4.5 miles north-northwest of Redfish Cape. **First Kekur**, a group of black rocks, is off the south extremity of this point. A breaker over a least-found depth of 2¾ fathoms, surrounded by deep water, is about 0.4 mile northwest from the First Kekur.

(28)

## Snipe Bay to Slate Islets

(29) **Snipe Bay**, indenting the west coast of Baranof Island, has its entrance about 18 miles northwest of Cape Ommaney and 1.8 miles north of Kekur Point. The bay is deep and clear except for the rocks close to the shore at the entrance. The islets off the southeast entrance point are wooded. A group of islets is close to the northwest entrance point. About 1.4 miles within the entrance in the southeast shore is a sheltered bight with 35 fathoms in the middle. At the head of Snipe Bay are two short branches. A conspicuous waterfall empties into the head of the north branch. Depths of 31 fathoms were obtained in the small bight south of the northeast branch.

(30) **Snipe Head**, the northwest entrance point of Snipe Bay, is a conspicuous straight-topped headland.

(31) **Sandy Bay**, 3 miles north of Snipe Bay, extends in a north-northeast direction and divides into two arms 0.8 mile from the entrance; a long narrow arm extends north and a second arm extends east.

(32) Good anchorage may be had in 22 to 24 fathoms at the northeast head of the east arm off the waterfall. About 0.8 mile within the arm a group of islets extends off the north shore. Pass well south of these to avoid a 1½-fathom spot, not marked by kelp or showing any surface indication, which is about 0.1 mile south of the islands. Anchorage may be had either in the bight west of the islands or in the arm that extends northwest from the east arm.

(33) A 7½-fathom spot in the middle of the entrance causes the seas to pile up dangerously in southeast weather.

(34) The **Third Kekur**, a conspicuous conical rock islet, is 1.6 miles north-northwest of the northwest entrance point of Sandy Bay.

(35) **Close Bay** consists of an open bight and a lagoon that can only be entered on the flood. Several breakers are off the northwest point of the entrance.

(36) **Whale Bay** has its entrance between Point Lauder and North Cape. It extends in a northeast direction for about 4 miles, where it divides into two arms, Great Arm and Small Arm.

(37) **Point Lauder**, low and wooded, about 15 miles north-northwest of Redfish Cape, is the southeast point of the entrance to Whale Bay.

(38) **North Cape** (56°36'N., 135°08'W.), the northwest point of the entrance to Whale Bay, 4 miles northwest of Point Lauder, is an island close to shore with three hills on it. The middle hill is the highest.

(39) **Still Harbor**, at the entrance to Whale Bay, is about 1.5 miles north of Point Lauder. The entrance, about 0.1 mile wide, is north of **Tikhaia Islands**, the chain of rocky islets that extend north-northwest from the point northeast of Point Lauder. The northeast shore at the entrance is foul.

(40) About 1 mile above the entrance to Still Harbor, a group of islets and rocks extend from the southwest shore, restricting the channel to about 150 yards. A rocky ledge extends about 250 yards from the northeast shore toward the north point of the 30-foot island that is close to the southwest shore, about 1.2 miles from the entrance. The only anchorage is at the head of the harbor, and even there the swell is felt in heavy weather; this anchorage is not recommended.

(41) **Port Banks** has its entrance about 2.7 miles northeast of Still Harbor. A submerged rock on which there is a depth of 1¾ fathoms is about 0.5 mile north off the west point of the entrance; it is reported to break in a moderate swell. Deep water surrounds this rock.

(42) It is recommended that vessels bound for Port Banks steer midchannel courses until clear of the off-lying dangers, then head into Port Banks, favoring the east shore. The Makhnati Islands can usually be identified in thick weather; they furnish a good leading mark for clearing the off-lying 1¾-fathom rock. It is reported that breakers extend from this rock to the southwest point of the entrance during very heavy weather; under such conditions it is probably better to make Rakovoi Bay. After the 50-foot islet at the entrance to Port Banks is passed, the only obstruction is the small rocky islet, 6 feet high, 1.1 mile from the entrance. Pass to the east of this islet. About 0.4 mile beyond, the bay widens and forms a basin that has depths of about 15 fathoms. Good anchorage in depths from 8 to 20 fathoms, mud bottom, may be had in Port Banks, which is used extensively during the fishing season.

(43) **Kritoi Basin**, used extensively during the fishing season, is between Port Banks and Rakovoi Bay. The bay affords excellent shelter but is used mostly by small craft because of its narrow entrance, about 75 yards wide. The entrance between **Finger Point** and **Krishka Island** is deep and clear except for a depth of 2¼ fathoms about 0.3 mile inside the entrance in 56°35.9'N., 135°00.0'W. Good anchorage in desired depths from 5 to 20 fathoms, mud bottom, can be had in the basin.

(44) **Rakovoi Bay** is 1.2 miles east of Port Banks. An island close to the east point makes the channel about 275 yards wide. The channel east of the island is foul and suitable only for small boats. Anchorage may be found south of the island at the entrance in about 18 fathoms or farther up the bay in 20 fathoms.

(45) **Great Arm**, the northeast arm of Whale Bay north-northeast of Rakovoi Bay, narrows to less than 0.3 mile at a distance of 5.3 miles from the entrance. A small bay indents the southeast shore 3.5 miles from the entrance, and another bay is at the narrows. Both bays have depths of over 30 fathoms. Great Arm is clear. An excellent anchorage with sand and mud bottom is in the small bay on the east side of the arm about 3.5 miles above the entrance to the arm. However, in the arm proper depths are too great for anchorage. **Kakovo Island** is off the north entrance point to Great Arm.

(46) **Small Arm** extends in a north-northeast direction from the northwest side of Whale Bay. At its head it turns east for 0.6 mile. **Makhnati Islands**, a group of wooded islands, are off the entrance to Small Arm. Anchorage may be found among them, but it is exposed and not recommended. The depths in Small Arm are too great to afford anchorage. If the west shore is favored when passing the Makhnati Islands, no obstructions will be encountered throughout the length of the arm.

(47) **Necker Bay**, about 35 miles northwest of Cape Ommaney and 3.5 miles north of North Cape, has its entrance between the Yamani Islets and the Guibert Islets. **Yamani Islets**, a group of wooded islets about 4 miles north from North Cape, form the northwest entrance point of Necker Bay. Good anchorage for small craft can be had north of the islets in Yamani Cove.

(48) **Guibert Islets**, consisting of three low, bare, rocky islets and several small rocks, are about 3 miles north of North Cape and 0.5 mile off the southeast point at the entrance to Necker Bay. A rocky patch where 10 fathoms were found is about 0.5 mile north of the northernmost of the Guibert Islets in the middle of the bay; it is reported to break in extremely heavy weather. Except for the dangers previously described, deep water is found throughout the

bay. About 5.6 miles from the entrance the bay widens and anchorage can be found in 30 fathoms on the east side of the bay.

(49) Two remarkable headlands are about 2 miles northeast of the Guibert Islets, one on either side of Necker Bay. The rocky outcrop shows well offshore and makes a good landmark.

(50) **Toy Harbor**, on the southeast shore of Necker Bay, about 5 miles above the entrance, with reported depths of 4 to 7 fathoms, affords shelter for small boats.

(51) **Dorothy Cove**, north of Toy Harbor and about 6 miles above the entrance to Necker Bay, affords excellent anchorage for small craft in depths of about 6 to 10 fathoms east of the largest islet near the head of the cove. The entrance to the anchorage, south of this islet, is about 125 yards wide. A shoal area, with a depth of ¼ fathom in about 56°43'44"N., 135°03'42"W., extends about 300 yards northwest of the west island.

(52) **Secluded Bay** is separated from the north part of Necker Bay by a large island. The south entrance is extremely narrow, 30 yards at one place, with least known depth of 6½ fathoms. The north entrance, north of the island, is wider but is obstructed by a ledge that extends northeast about 100 yards from the north point of the island, leaving a clear channel of about 100 yards with a depth of 3½ fathoms. A large stream enters the north part of the bay, and an extensive flat strewn with boulders makes off the mouth of this stream. Small craft have found anchorage in 14 fathoms in the north part of the bay off this flat and anchorage in 6 fathoms in the south part of the bay.

(53) A small bay extends from the head of Necker Bay where anchorage may be found in 20 fathoms, soft bottom.

(54) **Slate Islets**, a group of rocky islets, parallel the shore between Necker Bay and Walker Channel. One of the southeast islets has a few trees on it. Between the islets and the main shore is deep water, but many rocks make navigation dangerous without local knowledge.

(55)

## Crawfish Inlets to Hot Springs Bay

(56) **Crawfish Inlets**, with entrances 6.5 to 11.5 miles northwest of North Cape (56°36'N., 135°08'W.), consist of two principal arms connected about 5 miles inland by Cedar Pass. The inlets and entrances are generally deep and clear, but between the two principal entrances are off-lying dangers.

(57) **Walker Channel** is the southeast entrance to Crawfish Inlet, and **Aspid Cape**, low and wooded, forms the southeast point at the entrance.

(58) **Jamboree Bay**, with a depth of 5½ fathoms in the entrance, extends southeast from the head of Walker Channel. In entering, keep in midchannel, and anchor near the head of the bay in 10 to 17 fathoms with good holding ground. Southeast winds sweep through the anchorage with considerable force.

(59) **Rakof Islands** are a group of wooded islands between Walker Channel and the entrance to West Crawfish Inlet. **Beauchamp Island**, the largest island of the group, forms the northwest side of Walker Channel. **Scow Island**, the southwest island of the group, is west of Beauchamp Island.

(60) **Scow Bay** indents the west shore of Beauchamp Island and is much used by local fishermen as an anchorage. Favor the southeast shore when entering the bay, passing south of all the islands near the entrance. At the narrows leading to the basin at the head of the bay, a 10-foot shoal extends 100 yards northeast from the island on the southeast. Maintain midchannel between the charted rocks and island. There is good anchorage off the point about 0.8 mile above the entrance on the north shore of the bay in 10 fathoms, mud bottom; also in the basin at the head of the bay in 2½ to 3¼ fathoms, mud bottom.

(61) **Middle Channel** is a passage leading to Crawfish Inlet from the sea, midway between Walker Channel and West Crawfish Inlet. Setting a course from southwest to pass close to the northwest side of Scow Island, then adjusting course as necessary to clear the island, islets and rocks north of Scow Island, will lead clear of the dangers up to this entrance. One mile inside this entrance, near midchannel, is a submerged rock with ¼ fathom over it and marked by kelp, which should preferably be passed to the south.

(62) **Biali Rock**, bare and white, is the extreme west islet of a chain of bare islets that extend west from Rakof Islands. Foul ground extends for about 1 mile south and east of the rock. **South Rocks** are a group of rocks, awash at high water, near the southeast limit of the foul ground.

(63) An inside passage furnishes protection for small craft bound for Sitka. Pass east of Scow Island, avoiding the rock in midchannel, and through **Cameron Pass**. Favor the southeast shore of Middle Channel until up to **Second Narrows**. Pass east of a large rock off the point, then favor the south shore, and take a midchannel course through the narrows. A shoal of 2½ fathoms is in Second Narrows. Head north until up to an opening leading northwest. Favor the southwest shore of this opening, passing a rock covered ¾ fathom in the center. Then head northeast for about 0.6 mile and turn west around a point, passing in midchannel through **First Narrows**. Cross West Crawfish Inlet and enter Windy Passage.

(64) **Crawfish Inlet** is deep and clear except for a rock that uncovers 3 feet in midchannel, about 3.5 miles from its junction with Walker Channel, Middle Channel and Cedar Pass and a 4-fathom shoal on the east side of the channel in about 56°47'53"N., 135°05'45"W. and about 3 miles from the head. The inlet can be entered from seaward through Walker Channel or Middle Channel; the former is safer.

(65) **Cedar Pass**, connecting Crawfish Inlet with West Crawfish Inlet, is suitable only for small craft. In using the pass, favor the west shore up to the narrows, then keep a midchannel course. **Lodge Island** is the large island that

forms the west side of Cedar Pass. The bay formed by the bight in Lodge Island and the Rakof Islands, located between First Narrows and Second Narrows, affords good protection and anchorage for vessels up to 300 feet in length, clay bottom. Large vessels must enter the bay by passing north of Biali Rock outside of the 20 fathom contour and heading east-northeast to the narrow, deep cut between the Rakoff Islands. This cut is about 200 yards wide but carries 15 fathoms at midchannel with no dangers extending from the steep vertical walls into the cut. Anchorage in 19 fathoms may be found 400 yards northwest of the islet in the middle of the bay.

(66) **West Crawfish Inlet** extends northeast for about 8 miles where it divides into two arms. The north arm, opposite Cedar Pass, is clear in midchannel except for a landslide shoal with ¾ fathom over it, which is off the west shore about 0.8 mile from the entrance. **Shamrock Bay** leads east from a point near the head of the inlet. The inlet and bays are too deep for good anchorage.

(67) **Necker Islands** are a group of low, wooded islands that extend northwest from the entrance to West Crawfish Inlet. Between the islands are many passages. An inside passage for small craft leads through Windy Passage, Dorothy Narrows and Hot Springs Bay, which are between the islands and Baranof Island.

(68) The most prominent landmark in the Necker Islands is **The Beehive** (56°46.9'N., 135°24.0'W.), a knob 430 feet high at the southwest end of **Golf Island**, the long narrow island west of Gornoi Island.

(69) **Rachek Island** is the fairly large wooded island at the south end of the Necker Island group. It has high light-gray cliffs on its seaward side. Broken ground with isolated shoals and rocks awash extends up to 1 mile from Rachek Island with some deep channels available.

(70) **North Rock** is an isolated black rock, block-shaped, and awash in a heavy sea, 1.4 miles west of Rachek Island. Fishermen are known to trawl south of this rock. A rock, awash at high water, is about 300 yards south of North Rock.

(71) **John Rock** is the large light-gray rock, 2 miles northwest of North Rock. Broken ground, with several isolated breaking shoals, is between North Rock and John Rock.

(72) **Windy Passage** is the south approach to Hot Springs Bay from West Crawfish Inlet. Kelp and rocks cover most of the eastern shore from Big Bay to President Bay. A shoal area of kelp and rocks extends 0.2 mile into Windy Passage west of two small unnamed islands at the entrance of President Bay. A rock covered 9¾ fathoms is in about 56°47'43"N., 135°20'24"W.

(73) **President Bay** is at the southeast end of Windy Passage. By keeping in midchannel, entrance to the bay can be made on either side of the wooded islands in the entrance. Good anchorage, with mud bottom, is afforded small craft well toward the head of the bay. A basin at the head of the bay is accessible only by small boats, with passage made to the northeast of the southern island with local knowledge.

(74) **Sevenfathom Bay**, 0.7 mile north of President Bay, affords better anchorage than President Bay. When entering, keep in midchannel until near the head of the bay. A ledge that uncovers is off the south shore about 0.2 mile from the head of the bay. This ledge has a sand flat 100 yards wide. Good anchorage for small craft in 5½ to 8 fathoms, mud bottom, can be found in the bay.

(75) **Big Bay**, at the northwest end of Windy Passage, is narrow at the entrance, with greatly increased width inside. Anchorage is good in 5 to 10 fathoms, mud bottom, 0.3 mile off the stream at the southeast end of the bay. Favor either shore once beyond the small island about 1 mile from the entrance to avoid a rock that covers ¼ fathom, 0.2 mile northeast of the island.

(76) **Dorothy Narrows**, between Windy Passage and Hot Springs Bay, has 1¼ fathoms of water at lowest tides. Elovoi Island Rock uncovers 3 feet in midchannel north of the narrowest part and is marked by a daybeacon. Coming from the south, keep midchannel through the narrowest part, then swing right to avoid the rock. When past Elovoi Island Rock, swing left to avoid a rock awash at half tide, 250 yards northeast of the daybeacon. Local knowledge is essential.

(77) The passage between **Gornoi Island** and the group of islands southeast of it is clear except for a rocky islet and two rocks awash off the southeast side of Gornoi island. To avoid this danger, favor the southeast side of the passage. Vessels using this passage to reach the outside are encouraged to use caution due to the numerous offshore rocks at the southern end. Local knowledge is advised.

(78) The passage between Gornoi Island and Golf Island is very foul and should not be used.

(79) The passage along the west shore of Golf Island, between this island and the **Jackknife Islands**, has good water close along the shore of Golf Island. A foul area extends northeast of the Jackknife Islands. The shoals west of the south end of Golf Island break in a slight swell.

(80) The passage between the Jackknife Islands and **Elovoi Island** is clear if vessels keep close to Elovoi Island, passing west and north of the wooded islet 0.3 mile west of the north end of Golf Island. The passage between the wooded islet and the foul area northwest of Jackknife Island is narrow and mariners are advised to transit this area with caution.

(81) The passage between **Legma Island** on the east and **Maid Island** and **Tava Island** on the west is clear in midchannel. Small craft can pass between Maid Island and Tava Island with local knowledge.

(82) The passage between **Torsar Island** and **Fragrant Island** is dangerous and should not be used except with local knowledge.

(83) These passages are for small craft only and should be used with caution. The only ship route into Windy Passage is through West Crawfish Inlet.

(84) The best route into Hot Springs Bay from the south or southwest is to pass 0.4 mile east of North Rock in a north direction, passing between Pishak and Tiurpa

Islands and passing west of the three small wooded islands about 400 yards off the west shore of Elovoi Island and east of Fragrant Island. Keep midway between visible objects. If conditions permit, Biorka Channel is a more straightforward and comfortable route.

(85) **Herring Bay** indents Elovoi Island. The approach west of Kirbas Island is impassable. In entering by the approach east of **Kirbas Island**, pass west of a bare 20-foot rock off the east point of the entrance and follow midchannel. Excellent anchorage can be had for small craft in 2 to 3 fathoms, mud bottom.

(86) **Biorka Island** is the most westerly and largest of the Necker group. **Point Woodhouse**, the south point of the island, is moderately high and wooded. Rocks and small islands are close to the point and extend along the south side of Biorka Island. Three of the small islands are named **Kaiuchali Island**, **Terbilon Island** and **Impassable Island**. The entrance to Rocky Cove, on the southeast side of the Biorka Island, is lined with small islets, rocks awash and shoal features that break frequently. Vessels operating in this area are advised to use caution as an offshore swell can create dangerous surge conditions around the numerous rocks and shoals in the cove.

(87) **Little Biorka Island** is northwest and close to Biorka Island with a narrow passage between. This pass is foul, but in good weather small boats can use it with local knowledge. The south neck is a bare, rugged rock cliff. The west and north sides are bare rock cliff. This island is wooded in its center. A bare islet is at the south point.

(88) **Vasilief Rock**, awash at high water, is about 1 mile south of Point Woodhouse. Breakers are visible in this section in rough weather.

(89) **Golovni Island**, about 2.4 miles southeast of Point Woodhouse, is on the southeast side of Biorka Channel and has two parts. The inshore half is high and wooded; the outer half is a high, bare, gray rock, rounded on top, with a perpendicular south face.

(90) **Jacob Rock**, about 0.8 mile south of Golovni Island, is a large, outstanding, dark-gray rock. Frequent breaking waves can be seen on its south and west sides.

(91) **Biorka Channel**, southeast of Biorka Island, furnishes a short route into Sitka Sound from the southwest. The towers of the aero radio range on Biorka Island are prominent when making Biorka Channel from north or south; flashing red lights mark these towers at night. Vessels should keep between the 50-fathom curves on entering from south until past the north end of Wrangell Island, then head north. This channel is clear except for rocks and shoals as shown on the chart. The velocity of the current is about 0.4 knot. (See the Tidal Current Tables for predictions.)

(92) **Gunboat Rock**, about 1.2 miles northeast of Vasilief Rock, has two pinnacles and looks like a gunboat when seen from certain directions. The rock is a good landmark. A small reef awash, which breaks in all but dead calm weather at high water, is 0.45 mile 198° from Gunboat Rock. Depths of 3¾ and 8½ fathoms are 0.6 and 0.7 mile southeast and on the opposite side of the channel from Gunboat Rock. Broken ground with rocks awash extend about 0.3 mile north of Gunboat Rock.

(93) **Symonds Bay** is the east cove indenting the north side of Biorka Island and is sometimes a convenient anchorage for small vessels deterred from entering the sound by thick weather. **Entrance Islet** is north of and close to the west point of the entrance.

(94) **Hanus Islet** is north of and close to the east point of the entrance. The depths range from 20 fathoms at the entrance to 4½ to 6¼ fathoms at the anchorage near the head of Symonds Bay. The chart shows the dangers in the bay.

(95) The bay is open north but affords anchorage with shelter from south winds, sand and shell bottom, with infrequent rocky outcroppings. The best shelter is near the head inside the ¼-fathom rock in 4½ to 6¼ fathoms, but it is suitable only for small craft. Large vessels should anchor in midchannel just inside the entrance in 12 to 13 fathoms.

(96) A U.S. Government wharf, a mooring buoy and a seaplane float are on the west side near the head of Symonds Bay. The wharf, 178 feet long and with a 16-foot face, had a reported depth of 6 feet alongside in 1976. Biorka Island maintains telephone communication with Sitka. Water is available on the island.

(97) **Biorka Reef** is 1.2 miles 283° from the southernmost point of Little Biorka Island. The reef is a rock awash, with deep water around it, and breaks in moderate weather; it has no kelp. The channel between the reef and Little Biorka Island is about 1 mile wide, clear, and practicable for vessels of any size.

(98) **Hot Springs Bay** (56°50'N., 135°23'W.) is between Elovoi Island and Baranof Island. **Torsar Island** marks the northwest point of the entrance to the bay. **Fragrant** Island is the large island southeast of Torsar Island. **Kolosh Island** is the large island on the north side of the bay.

(99) The hot springs on the northeast side of the bay have a temperature of about 145°F., and the water contains chlorine, iron, magnesia and sulphur.

(100)

## Sitka Sound

(101) **Sitka Sound** has its entrance from the sea between Biorka Island and Cape Edgecumbe. It extends in a north direction about 16 miles, with a width east and west of 5 to 10 miles. The east and north shores are fringed with numerous islands and rocks and indented by bays and inlets. At its north end, the sound connects with several bays and estuaries that extend north, and with Olga Strait, which is part of a navigable inland passage connecting Sitka Sound, through Neva Strait and Peril Strait, with Chatham Strait. The shores are wooded, rendering it difficult to distinguish them from the wooded islets at a distance. Land along the shore usually rises rapidly a short

distance from the sea, culminating in broken mountains. The islands are mostly small, low and sparsely wooded.

(102)

## Cape Edgecumbe to Low Island

(103) **Cape Edgecumbe**, about 64 miles northwest of Cape Ommaney, is the southwest extremity of **Kruzof Island**. The cape is formed by a cliff of black lava, about 100 feet high. Foul ground extends 400 yards off the shore of the cape, and there are banks with depths of 8 to 9 fathoms, about 0.8 mile south of the cape, on which the sea breaks in very heavy weather. The rocks and cliffs north of Cape Edgecumbe are decidedly black as far as Cape Georgiana, whereas those south of Cape Edgecumbe, from Biorka Island to Whale Bay, are whitish-gray. These color characteristics are of considerable assistance in identifying the locality in thick weather.

(104) **Cape Edgecumbe Light** (56°59'53"N., 135°51'27"W.), 100 feet above the water and shown from a skeleton tower with a red and white diamond-shaped daymark, marks the north side of the entrance to Sitka Sound. **Sitka Pinnacles Marine Reserve**, a Marine Protected Area, is about 4.6 miles southwest from Cape Edgecumbe and on the range with Lazaria Islands, slightly open of Shoals Point.

(105) **Sitka Point** is about 1 mile southeast of Cape Edgecumbe Light. Foul ground extends about 0.3 mile south from the point and about 0.2 mile west of Cape Edgecumbe Light. The water is clear outside these reefs. Fishing vessels frequently anchor on the east side of Sitka Point close inshore and north of the reef, marked by kelp, that extends 300 yards off the east side of the point. This anchorage is exposed in east or south weather.

(106) **Mount Edgecumbe**, on Kruzof Island, is the prominent landmark for Sitka Sound. From any point seaward, it is easily distinguished by its isolated position, flat top, peculiar streaked appearance and its reddishness. The upper part is a bare volcanic cone, usually snow-covered. Extending down the sides of the cone are numerous deep gullies or ravines, in which the snow lies until late in the summer, giving it a peculiar appearance. The crater is 300 to 400 feet deep.

(107) **St. Lazaria Islands**, about 1 mile off the south shore of Kruzof Island, form the St. Lazaria National Wildlife Refuge. These islands are of a peculiar volcanic formation and are frequently visited by tourists. Deep water is close-to on all sides of the islands except for a reef that extends about 125 yards off the northeast point of the easternmost island and a 2.5-fathom rock in 56°59'21"N., 135°42'10"W. and about 300 yards north of the same easternmost island. Small craft frequently anchor close inshore in 8 to 10 fathoms, rocky bottom, on the north side of the island, which affords protection in moderate south weather.

(108) **Low Island** is a bare flat island, surrounded by a large area of shoals and breakers marked by kelp, which extends to Shoals Point. The highest part of the island is only 7 feet above high water and is swept by heavy seas in south storms. The island is of lava formation partly covered by sand and shells and is difficult to identify at a distance.

(109)

## Vitskari Island to Arguello Island

(110) **Vitskari Island**, about 10 miles east of Cape Edgecumbe, is a bare rock about 20 feet high. It is marked by **Vitskari Island Light** (57°00'00"N., 135°32'42"W.), 53 feet above the water and shown from a skeleton tower with a red and white diamond-shaped daymark. A racon is at the light.

(111) **Vitskari Rocks** are a group of bare rocks and rocks awash northwest of Vitskari Island. Between the rocks and Low Island is a channel 1 mile wide; however, the channel between the island and Kulichkof Rock is always used by vessels bound for Sitka.

(112) **Camel Mountain** (56°52.2'N., 135°20.0'W.), on the southeast side of Sitka Sound, is a prominent landmark with two humps at its summit. When seen from west it shows a perfect cone-shaped outline.

(113) **Peisar Island** is about 2.5 miles northeast of Biorka Island. Rocks are 0.2 to 0.5 mile offshore.

(114) **Viesokoi Rock** is about 0.7 mile southeast from the south extremity of Peisar Island.

(115) The entrance to **Kanga Bay** is about 1.9 miles east of Peisar Island, and the inner bay has depths of 10 to 21 fathoms with a 3¾-fathom shoal about 0.6 mile west of the head of the bay. The channel passes northeast of the small islet about midway between the entrance and the head of the bay. Foul ground extends 0.2 mile in a northwest direction from the south point of the entrance to the bay. Holding northeast of Kanga Island was found to be excellent in a variety of conditions.

(116) **Redoubt Bay** is northeast of Kanga Bay. The head of the bay has two arms, which are deep. **Redoubt Lake** empties into the east arm. The entrance to Redoubt Lake is not navigable by any type craft, because the entrance has the remains of a rock dam across it and the lake level is about 9 feet above high water level of the bay. The entrance to the lake has very steep rapids. A boat lift has been built along the north side of the entrance so that small boats up to 16 feet can be lifted into the lake. The U.S. Forest Service maintains the boat lift.

(117) **Islet Passage**, in which depths of 11 to 29 fathoms are found, leads from Kanga Bay to Redoubt Bay. **Fankuda Islet** is at the north end of the passage. Soundings of 18 fathoms were found west of the islet and 13 fathoms in the channel to the east. Well protected, excellent holding anchorage can be found in 17 fathoms south of Fankuda Islet. Various channels lead into Redoubt Bay and Kanga Bay through the numerous wooded islands off the entrances; these are shown on the chart. A daybeacon on a rock awash, about 0.4 mile west of **Round Island**, marks the west side of **Koka Island Passage**, which is part of the inside route for small vessels between Sitka and Hot

Springs Bay. **Kita Island** is the outermost of the larger islands of the group off **Povorotni Point** (56°57.2'N., 135°24.0'W.), which is low and wooded.

(118) Many islets and rocks are offshore between Povorotni Point and Cape Burunof. Submerged rocks extend about 0.4 mile west of Cape Burunof; many isolated rocks are even further offshore. The entire area of rocks and islets should be navigated with caution. Use latest edition of the chart.

(119) **Vasilief Bank**, marked by two rocks that uncover 10 feet and 5 feet, about 0.5 mile apart and awash at high water, is about 1.5 miles west of Povorotni Point.

(120)

### Local magnetic disturbance

(121) Differences of as much as 4° from normal variation have been observed on **Obsechki Island**, which is about 1.2 miles northwest of Povorotni Point.

(122) **Kulichkof Rock**, known locally as **6-Mile Rock**, is about 2.2 miles north of Vasilief Bank. The rock is steep-to and bare and is a prominent landmark. A small group of rocks, awash at high water, is about 0.2 mile north of the rock, and 0.2 mile west-northwest in about 56°59'35"N., 135°27'02"W., is a rock covered 3 feet that breaks in a moderate swell. Rocky patches, usually marked by some kelp at low water, are charted east. A lighted buoy, about 0.5 mile north-northwest from the rock, marks the east side of the main channel to Sitka.

(123) **Zenobia Rock**, with 2 fathoms over it, in about 57°00'15"N., 135°23'23"W., is about 2 miles east-northeast of Kulichkof Rock and about 1 mile west-southwest of **Liar Rock**, the westernmost rock of The Eckholms.

(124) The shoreline from **Caution Island** (56°56.2'N., 135°21.6'W.) north to Deep Inlet is rocky with heavy spruce timber growing to the storm high-water line. Many off-lying islets, and rocks, awash and submerged, are found along this coast, making it dangerous to traverse without local knowledge. A pass, carrying less than 1 fathom at low water, is used by small boats and fishing craft between Povorotni Point and the islets off it, but should not be attempted without local knowledge.

(125) **Three Entrance Bay**, the long narrow shallow bay south of Cape Burunof with three entrances, is a protected anchorage for small boats but is seldom used. The north entrance is the best and will carry 1¼ fathoms. In west weather, all entrances are exposed to the open sound. Do not use this bay without local knowledge.

(126) **Pirate Cove**, the first cove northeast of Cape Burunof, is a protected anchorage at the head but is constricted and shoal. Two to three small boats can anchor.

(127) **Samsing Cove**, the second cove east of Cape Burunof, is a well-protected anchorage for small boats with easy access from the west side and good holding ground of mud and sand in 2 to 8½ fathoms.

(128) **Sandy Cove**, the cove east of Samsing Cove and southwest of the entrance to Deep Inlet, is a protected anchorage for small craft in 5¼ to 9¼ fathoms, mud and sand bottom.

(129) **The Eckholms** are a small group of islets and bare rocks at the entrance to Eastern Channel, about 1.8 miles north-northeast of Cape Burunof; the easternmost islets are wooded. **The Eckholms Light** (57°00'36"N., 135°21'32"W.), 33 feet above the water and shown from a skeleton tower with a red and white diamond-shaped daymark, marks the islets. The **Belknap Islands** are close southeast of The Eckholms.

(130) **Deep Inlet**, which has a narrow entrance southeast of The Eckholms, has no anchorage. A large flat rock with ¾ fathom over it is on the south side and partly blocks the entrance.

(131) **Aleutkina Bay**, north of the entrance to Deep Inlet, offers fair anchorage in 15 to 17 fathoms, mud bottom. The bay has two entrances. The west entrance, between **Emgeten Island** and **Error Island**, is clear, and a midchannel course will lead to the anchorage. The east entrance is between **Fassett Island** and **Silver Point**, and a midchannel course will likewise lead safely to the anchorage.

(132) **Leesoffskaia Bay**, joined with Aleutkina Bay to the southwest by a narrow passage, affords anchorage for small vessels in any desired depth. The entrance is about 250 yards wide. Vessels desiring to make use of this well-sheltered anchorage should follow the north shores close-to in order to avoid the extensive sand and mudflats bordering the south shores. The bottom is mud in the middle of the bay but rocky near the shores.

(133) **Camp Coogan Bay**, on the southeast side of Eastern Channel, about 3.5 miles east of The Eckholms Light, has a narrow, but clear, entrance and a landlocked anchorage inside for small vessels in 6¾ to 14 fathoms, mud bottom. Several streams enter at its head, where a flat makes out about 0.2 mile.

(134) **No Thorofare Bay**, North of Camp Coogan Bay, is composed of two landlocked bodies of water connected by narrow, shallow channels. Only small boats can enter and then only at high-water slack, because of strong currents in the outer narrows. High water is ¾ hour later than high water at Sitka; low water is 2½ hours later; for high-water heights subtract 3.8 feet from the high-water height at Sitka. Shoal depths of ¾ fathom are off the entrance and in the outer narrows, and a rock awash at high water is on the south side of the outer narrows near the inner end.

(135) **Birdsnest Bay** is a small shoal bay between Camp Coogan Bay and No Thorofare Bay. A small foul passage connects with Camp Coogan Bay but can be used only by small boats at half tide or more. Use this passage only with local knowledge.

(136) **Silver Bay**, at the east end of Eastern Channel, extends in a northeast direction for 0.8 mile, then southeast about 4.4 miles. A light on **Entry Point** on the west side marks the entrance to the bay. Unlighted log rafts, moored close to shore, extend about 2.2 miles from Sugarloaf Point. On the opposite side of the bay log rafts

(147)




extend from Herring Cove to Bear Cove. Smoke from the pulpmill in Sawmill Cove can be seen in the bay.

(137) **Sawmill Cove**, at the north end of Silver Bay, about 1 mile above the entrance, was the site of a large pulpmill with wharves on the west side of the cove. Numerous submerged obstructions are in the northern portion of the cove. A submerged dolphin, with a least depth of 1¾ fathoms, is near the center of the cove in about 57°02'47"N., 135°13'39"W.

(138) **Herring Cove** is on the north side of Silver Bay, about 1.5 miles within the entrance. Mariners should pass with caution the 1½-fathom spot in the middle of the entrance.

(139) **Bear Cove** is on the east side of Silver Bay, halfway up the southeast arm. Most of this cove, in 1976, was used for log storage, and like Herring Cove, small craft at times can tie up to the log storage booms.

(140) **Arguello Island** is a small island on the south side at the head of Silver Bay. Anchorage in 15 fathoms can be had west of the island. Enter to the west of the island, because a 1¼-fathom shoal is in the middle of the passage south of the island. Small vessels can anchor in 8 fathoms, with a constricted swinging area, about 0.2 mile south-southeast of the island. During northeast and south winds, anchorage is poor in the southeast end of Silver Bay.

(141)

## Sitka Harbor and Approaches

(142)

### Sitka Harbor and approaches

(143) The greater part of the approaches to Sitka Harbor covers the northeast side of Sitka Sound. The area is reef studded, with numerous wooded islands and isolated shoals. These are charted and need no detailed description because they lack outstanding or prominent features. Lights mark the principal islands in the approaches or at the turns in channels; buoys mark the reefs and shoals in way of the channels. The harbor is easy to approach, and with due attention to the chart and by following the aids, the navigator should have little difficulty in entering in clear weather.

(144) **Japonski Island**, wooded, is the largest island in the approaches to Sitka. There is a wharf along its east side. **Sealing Cove**, a shallow basin off the southeast end of the island, is formed by **Charcoal Island** and **Alice Island** on its southwest and south sides and by **Harbor Island** on its east side. The entrance to the basin is marked by a light and daybeacons. The submerged ruins of a pier are on the southwest side of the entrance and extend more than half way across the entrance. These islands are connected to Japonski Island by landfills. The runway of the Sitka airport extends southeast along the

(148)




southwest side of Japonski Island, thence over a landfill to the south end of Charcoal Island (locally called **Fruit Island**). An aerolight is shown from near the northwest end of Japonski Island.

(145) **Mount Edgecumbe** is an unincorporated community on Japonski Island. The State of Alaska maintains a large school with the necessary housing for students and staff on the island.

(146) **Sitka**, the site of an early Russian settlement and once the capital of Alaska, is a major fishing port on the east side of Sitka Sound. Sitka is the main distribution point for the settlements in the northwest section of southeast Alaska. Two oil companies, a large pulpmill and several seafood processing plants are here. Sitka also has a National Military Cemetery, a National Monument and the Alaska Pioneer Home. The deepest draft of vessels calling at the port was 32 feet in 2002.

(149)

### Prominent features

(150) The white building of the Indian Health Service Hospital, at the northwest side of Mount Edgecumbe, on Japonski Island, the lighted towers of Sitka-Mount Edgecumbe (John O'Connell) Bridge, a grey cement silo on the northwest side of Jamestown Bay and the aerolight at the airport, on the west side of Japonski Island, are the most prominent objects when approaching the harbor.

(151)

### Channels

(152) From the sea, three natural channels lead to Sitka among islands and reefs on the northeast side of Sitka Sound. **Eastern Channel** is the widest and main entrance; the principal dangers are marked by buoys. **Middle Channel** has its entrance between Kayak Islands and Passage Islands; it is not recommended. **Western Channel** is used by vessels that enter from the sea and wish to go alongside a wharf heading southeast; the channel has its entrance west of Makhnati Island.

(153) Three detached breakwaters enclose Sitka Harbor from the northwest approach the Western Anchorage. The system of breakwaters runs to the southwest from the north shore of Western Anchorage, about 0.1 mile southeast of Watson Point (57°04.0'N., 135°21.8'W.). The south end of the north breakwater is marked by a light. The middle breakwater, which runs northeast and south of **Channel Rock**, is marked by a light at both ends while the south breakwater is marked on its north end by a daybeacon.

(154) A federal project provides for a channel 22 feet deep and 150 feet wide on the east side of Harbor Rock.

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### Anchorages

(156) Anchorage in 5 to 25 fathoms, mud bottom, can be had at the **Eastern Anchorage** about 0.4 mile southwest

of the entrance to Jamestown Bay. The swell from outside makes this anchorage uneasy in south weather.

(157) Anchorage in 5 to 7 fathoms, mud bottom, can also be had at the **Western Anchorage**, east of Channel Rock, just inside the lighted breakwaters. A submerged wreck in 57°03'34"N., 135°21'58"W., is about 0.4 mile northeast of Light 3.

(158) During the winter northeast gales sometimes sweep across the Eastern Anchorage with considerable force and make it rather unsafe. In south gales the sea is felt considerably at both the Eastern and Western Anchorages.

(159) **Whiting Harbor**, west of Japonski Island, affords anchorage in about 10 to 12 fathoms, mud bottom, with Japonski Island Aero Light (57°02'49"N., 135°21'56"W.) bearing 110°, distant 0.3 mile. This anchorage is exposed to west and northwest winds and swells and is seldom used, because most vessels prefer the Eastern Anchorage at Sitka.

(160) **Jamestown Bay**, about 1.5 miles east of Sitka, affords anchorage in 8 to 13 fathoms, mud bottom, about 400 yards offshore and 300 yards west of the rocks, awash at high water, in the northeast part of the bay.

(161) Other anchorages may be used by large ships, and many others are suitable for small fishing vessels and other small craft, provided local knowledge is obtained regarding off-lying rocks and dangers. One of the best ship anchorages is just off the channel courses for the northwest approach to Sitka. The depth ranges from 8 to 13 fathoms, mud bottom, with **Channel Rock** bearing 289°, distant about 0.2 to 0.3 mile.

(162)

### Dangers

(163) There are numerous rocks, reefs and shoals in the approaches to Sitka Harbor, all of which are charted; most are unmarked, but the principal ones adjacent to or in the three channels are marked.

(164) Passage north of Simpson Rock and Tsaritsa Rock should be avoided because of the numerous obstructions south of Kayak Islands, Whale Island and **Bamdoroshni Island**.

(165) Middle Channel has numerous shoals and dangers and should be used only by small vessels with thorough local knowledge. The passage between Kayak Islands and Whale Island is foul and the bottom very irregular. A rock, covered 1.2 fathoms, is in about 57°01'35"N., 135°21'08"W., and near the center of this passage.

(166) **Harbor Rock**, marked by a daybeacon, is in the northwest part of Sitka Harbor in about 57°03'12.5"N., 135°20'53.6"W. The area from Harbor Rock to Sitka Harbor Channel Lights 9 and 11 is shoal. Depths of 3 fathoms, in 57°03'09.7"N., 135°20'50.0"W., and 2.5 fathoms, in 57°03'03.4"N., 135°20'41.0"W., are about 100 and 370 yards respectively southeast of Harbor Rock. These depths are close to and east of the courses followed by ships; caution is advised.

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### Bridges

(168) The Sitka-Mount Edgecumbe (John O'Connell) Bridge is a fixed highway bridge with a clearance of 52 feet and crosses the south entrance to Sitka Harbor from Harbor Island to the vicinity of Castle Hill in Sitka.

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### Currents

(170) In the open sound the tidal currents are weak and somewhat rotary turning clockwise. Stronger currents may be expected among the islands.

(171) In Sitka Harbor the flood sets northwest and the ebb southeast. Velocities are small. In midchannel off the wharves velocities of 0.5 knot were observed. See the Tidal Current prediction service at *tidesandcurrents.noaa.gov* for specific information about times, directions, and velocities of the current at numerous locations throughout the area. Links to a user guide for this service can be found in chapter 1 of this book.

(172)

### Weather

(173) Winter is the most difficult season. With temperatures around the freezing mark, east and southeast winds blow more than 50 percent of the time from October through February; southeasterlies average 10 knots or more. Calms occur 14 to 18 percent of the time, compared to 20 to 25 percent from May through September when northwest winds are frequent. Visibilities are worst in winter and summer; precipitation is most frequent in fall. Snow falls from November through April.

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### Pilotage, Sitka

(175) Pilotage, except for certain exempted vessels, is compulsory for all vessels navigating the inside waters of the State of Alaska. (See Pilotage, Alaska, indexed as such, chapter 3 for details.)

(176) Vessels en route Sitka meet the pilot boat about 0.25 mile north of The Eckholms Light (57°00.9'N., 135°21.4'W.).

(177) The pilot boat, a tugboat, can be contacted by calling "SITKA PILOT BOAT" on VHF-FM channels 16, 13 or 12.

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### Towage

(179) Tugs up to 2,200 hp are available 24 hours a day at Sitka for assistance in docking and undocking. They are equipped with VHF-FM channels 16, 13 and 12. Arrangements for tugs should be made well in advance through ships' agents.

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### Quarantine, customs, immigration and agricultural quarantine

(181) (See chapter 3, Vessel Arrival Inspections, and Appendix A for addresses.)

(182) **Quarantine** is enforced in accordance with regulations of the U.S. Public Health Service. (See Public

Health Service, chapter 1.) The Indian Health Service maintains a large, well-staffed hospital on Japonski Island; it is available to the public in emergency cases. Sitka also has a community hospital.

(183) Sitka is a **customs port of entry**.

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### Coast Guard

(185) **Sitka Coast Guard Air Station** is at Sitka Airport on the northwest part of Japonski Island. A Coast Guard vessel is stationed at Sitka.

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### Wharves

(187) The wharves for Sitka are in Sitka Harbor, and in Starrigavan Bay. All wharves except the U.S. Coast Guard Wharf and the Alaska State Ferry Terminal are privately owned and operated.

(188) **Petro Marine Services, Sitka South Plant Wharf and Float** (57°02'54"N., 135°20'27"W.): most south wharf on the east side of the Sitka Harbor, about 75 yards north of the Sitka-Mount Edgecumbe Bridge; 150-foot face; depth alongside, 20 to 30 feet; deck height, 25 feet; pipelines extend to tank farm in rear; receipt of petroleum products; fueling vessels; owned and operated by Harbor Enterprises, Inc., d.b.a. Petro Marine Services.

(189) **Sitka Sound Seafoods Wharf** (57°03'04"N., 135°20'40"W.): about 475 yards northwest of the bridge on the east side of the harbor; 120-foot face; depth alongside, 36 feet; seafood processing and freezing plant at rear; six ¾- to 1¼-ton, electric-hydraulic or hydraulic, mast-and-boom derricks with 10- to 15-foot boom; eight 1- to 2½-ton, LP-gas and electric, forklift trucks; receipt of seafood; mooring, and icing fishing vessels; owned and operated by Sitka Sound Seafoods.

(190) **Fisherman's Quay Wharf** (57°03'09"N., 135°20'45"W.): about 670 yards northwest of the bridge on the east side of the harbor; 110-foot face with 15 to 20 feet alongside; deck height, 17 feet, receipt of seafood, mooring fishing boats and small craft; owned and operated by Fisherman's Quay, Inc.

(191) **Seafood Producers Cooperative, Sitka Wharf** (57°03'14"N., 135°20'50"W.): 278-foot face; depth alongside, 16 feet; deck height, 20 feet; five 1½-ton and one ¾-ton, mast-and-boom derricks, and seven 1- to 3-ton gasoline and electric forklifts; receipt and occasional shipment of seafood and icing fishing vessels; owned and operated by Seafood Producers Cooperative.

(192) **Sitka City Dock** (57°03'16"N., 135°20'54"W.): 350-foot face; depth alongside, 37 feet; deck height, 16 feet; occasional mooring of cruise ships and excursion vessels; handling supplies and equipment to and from fishing vessels and mooring vessels; owned and operated by the City of Sitka.

(193) **Petro Marine Services, Sitka North Plant Dock** (57°03'18"N., 135°20'56"W.): about 350 yards northwest of Sitka City Dock; offshore steel float with 60-foot face; depth alongside, 12 feet; receipt of petroleum products, fueling vessels; occasional mooring of cruise ships and excursion vessels; pipelines extend to storage tanks at rear, total capacity 20,000 barrels; one 4- and two 2-inch pipelines extend to metered pumps on float; owned and operated by Harbor Enterprises.

(194) **U.S. Coast Guard Wharf** (57°02'59"N., 135°20'43"W.): about 340 yards northwest of the bridge on the west side of the harbor; 223-foot face; 42 feet alongside; deck height, 35 feet; water and electrical connections are available; berthing for U.S. Coast Guard and other Government vessels; owned and operated by U.S. Government.

(195) **Alaska Marine Lines, Sitka Wharf** (57°06'59"N., 135°23'27"W.): about 4.8 miles north of the bridge at the south side of an unnamed cove; 140 feet of berthage, with dolphins; 10 feet alongside; one 45-ton and one 35-ton forklift; two 60- by 10- foot, steel portable ramps; receipt and shipment of containerized and roll-on/roll-off general cargo; owned and operated by Alaska Marine Lines.

(196) **State of Alaska, Sitka Ferry Terminal Dock** (57°07'45"N., 135°22'54"W.): about 5.6 miles north of the bridge, on the south side of Starrigavan Bay; 460 feet of berthing, with dolphins; 30 feet alongside; paved parking is located at rear; owned by the State of Alaska and operated by the State of Alaska, Department of Transportation and Public Facilities.

(197) **Samson Tug and Barge Co., Sitka Dock** (57°07'43"N., 135°22'45"W.): about 5.8 miles above the bridge, 300 yards east of the ferry terminal on the south side of Starrigavan Bay; 300-foot face; 65 feet alongside; receipt and shipment of containerized general cargo; mooring company-owned towboats and barges; owned and operated by Samson Tug and Barge Company.

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### Supplies

(199) Provisions, fishing supplies, and limited amounts of marine supplies are available in Sitka. Diesel fuel, gasoline, distillates, lubricating oils and greases can be obtained at the wharves of the oil companies. All of the wharves have water, and ice for fishing vessels can be obtained at the Conway Corporation Wharf.

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### Repairs

(201) There are no drydocking or major repair facilities for large vessels in Sitka or in southeastern Alaska. The nearest facilities are in British Columbia and the State of Washington. A privately owned and operated repair facility for tugs is on the south side of Starrigavan Bay about 5.5 miles north of Sitka. An 800-ton side-haul marine railway is available. Another repair facility is about 4.7 miles north of Sitka.

(202) A boatyard on the northwest shore of Jamestown Bay has one 70-ton and one 60-ton mobile vertical lift for repairing company owned vessels, barges, water taxis and sightseeing vessels.

(203) The city-operated grids, 100 feet, 72 feet and 64 feet long, are close northwest of the City Float and 0.2 mile

north of the bridge. Water, in summer, and electricity are available. There is a 72-hour limit on the grids.

(204)

### Small-craft facilities

(205) The city operates three small-boat basins. A fourth basin is operated by the U.S. Forest Service. These facilities are on the east side of the harbor, except for the city-operated small-boat basins in Crescent Bay and Sealing Cove. The city **harbormaster** with an office at the City Float enforces a 3-knot **speed limit** and a no-wake law in the city basins and a 5-knot **speed limit** in the main harbor channel makes berth assignments in the city basins and controls the use of the grids. The harbormaster can be contacted on VHF-FM channel 16 and by telephone (907–747–3439).

(206) The Crescent Bay Boat Basin, on the north side of Crescent Bay is about 0.35 mile east-northeast of the east end of Sitka-Mount Edgecumbe Highway Bridge. A federal project provides for a 10-foot depth in the entrance channel and basin. In 2010, the controlling depth was 10 feet in the entrance channel and basin except for lesser depths along the edges of the project. The basin is entered at the southwest end between two breakwaters, which have their ends marked by lights. A shoal, marked by a daybeacon, is about 100 yards south of the west breakwater light. The floats can accommodate 413 small craft. Electricity is available, but water can be had only in the summer. No transient moorage is available. A boat-launching ramp is at the southwest end of the basin.

(207) Sealing Cove Boat Basin is at the southeast end of Japonski Island between Mount Edgecumbe and Alice Island. In 2002, 8 feet was reported in the entrance channel and 9 feet was reported in the basin. A light and daybeacons mark the entrance channel. Transient berths, electricity, water and a launching ramp are available in the basin.

(208) The U.S. Forest Service Basin is on the east side of the harbor just north of Petro Marine Service. A federal project provides for a 10-foot deep basin. In 2002, the basin was reported at project depth. The basin is used by vessels of the U.S. Forest Service and other Government agencies in the area.

(209) The City Float, a divided basin with a north and south section, each with its own entrance, is on the east side of the harbor directly opposite the U.S. Coast Guard Wharf on Japonski Island. The basin is protected on the channel side by a log boom breakwater. In 2002, 15 feet was reported alongside the floats. Water and electricity are available.

(210) About 360 feet of berthing space is available on the southeast side of Fisherman's Quay.

(211) A seaplane float is approximately 600 yards north of the bridge on the east side of the harbor.

(212) **Thomsen Harbor**, protected by an L-shaped floating breakwater, is about 330 yards north-northwest of Harbor Rock Daybeacon. In 2002, depths of 12 to 25 feet were reported alongside. Approximately 227 craft can be accommodated. Water and electricity are available.

(213) Eliason Harbor, the most northerly basin on the east side of Sitka Harbor, is protected by a floating breakwater and adjoins Thomsen Harbor. In 2002, depths of 27 feet were reported alongside. Approximately 243 vessels can be accommodated. Transient vessels berth at the breakwater.

(214)

### Communications

(215) Sitka has regular passenger, express, and freight service to Puget Sound ports, British Columbia and other Alaska ports and towns by water and air. The Alaska Marine Highway System, operating from Starrigavan Bay, about 5 miles north of the city, has daily ferry service during the summer to Juneau, Haines, Skagway, Petersburg, Wrangell, Ketchikan and Prince Rupert, BC, and weekly service to Kake, Hoonah and Seattle. The schedule is less frequent during the winter. In addition to the scheduled airlines, other air services operate from Sitka on a charter basis. Radiotelephone and telephone communications are maintained with the other states and other parts of Alaska.

(216) The **National Military Cemetery** is about 0.3 mile north of Crescent Bay.

(217) **Sitka National Historical Park**, 57 acres in area, is east and west of the entrance to Indian River. It is the site of the Indian stockade where the Tlingit Tribe made their last stand against the Russian settlers. Sitka National Historical Park is a Marine Protected Area.

(218)

## Watson Point to Scraggy Islands

(219) **Watson Point** (57°04.0'N., 135°21.8'W.) is on the east side of the northwest approach to Sitka Harbor, about 0.9 mile northwest of Harbor Rock. A rocky ledge extends about 150 yards off the point. When approaching Sitka Harbor from the northwest, exercise care to give this point a berth of about 300 yards, and pass just south of the light marking the south end of the north breakwater protecting the northwest approach to Western Anchorage.

(220) **Kasiana Islands** are a group of islands on the west side of the northwest approach to Sitka Harbor. A reef, well marked by kelp, extends about 0.6 mile southeast of the easternmost island and terminates in a rock awash. The rock awash is on a line from the east tangent of the islands to the middle of Battery Island and is almost midway between them.

(221) **Halibut Point**, on the east side of the channel, is about 2.4 miles northwest of Watson Point.

(222) **Old Sitka Rocks** are a group of rocks that bare at all stages of the tide and extend 0.5 mile from the east shore. The north and largest one has two or three scraggy trees, and the rest are bare. The westernmost rock of the group covers only at highest tides and is marked by **Old Sitka Rocks Light 2** (57°06'52"N., 135°24'42"W.), 30 feet above the water and shown from a skeleton tower

with a red triangular daymark. The main channel is west of Old Sitka Rocks, but a narrow channel is between them and an island near the shore. The shore from Old Sitka Rocks to Western Anchorage should not be approached closer than 300 yards.

(223) The channel passing west of Old Sitka Rocks and east of Middle Island and Kasiana Islands is the main channel for all vessels southbound for Sitka via the inside route. This route contains deep water and the only danger is a 1-fathom rocky shoal, marked by a daybeacon on its north side, about 0.6 mile southwest of Halibut Point.

(224) **Starrigavan Bay** is a bight, open west, on the east side about 1.5 miles north of Old Sitka Rocks, and just south of the entrance to Katlian Bay. "Old Sitka," now a State Historic Site, is on the point dividing the two coves on the east side of the bay. In 1799, the Russian fort of St. Michael stood on this point. The north cove is filled by a flat. A foul area, with a rock covered 1 foot in about 57°08'15"N., 157°22'23"W., is northwest of the north cove and about 150 yards off the shore. The anchorage is abreast the south cove, about 400 yards from shore, in 18 to 20 fathoms, soft bottom. West winds and some sea have a fair sweep into this bay.

(225) The Alaska State Ferry Terminal is on the south shore of Starrigavan Bay. Bus transportation between the terminal and Sitka is available. A private barge facility is east of the ferry terminal. (See wharves at Sitka for a detailed description of the facilities in this area.)

(226) **Katlian Bay** has its entrance about 2 miles north-northeast of Old Sitka Rocks and extends in a northeast direction, curving east near its head. There are no dangers except a flat that extends about 0.2 mile from the head of the bay. At 2.5 miles within the entrance to the bay an arm extends northwest; fair anchorage can be had in this arm northwest of the group of islands on the north side in 11 to 20 fathoms, and very small vessels can anchor in **Cedar Cove**, the narrow part at the head of this arm, in 4¼ to 7 fathoms.

(227) **Promisla Bay**, on the northwest side of Sitka Sound about 1.3 miles west from **Siginaka Islands**, indents the southeast shore of Krestof Island. There is a small wooded island in its entrance with a bare rock about 0.25 mile east of the island. The depths in the bay are 15 to 21 fathoms, and a fair anchorage can probably be had near its head in 16 fathoms, mud bottom, with good protection in almost any weather.

(228) **Olga Strait**, between **Krestof Island** and **Halleck Island**, is 4 miles long in a northwest direction, with an average width of 0.2 mile, and forms a part of the inside route from Sitka to Salisbury Sound. It is in general clear, with a controlling depth of 4 fathoms in midchannel. On both sides of the channel are small flats where streams empty and the shores are fringed with kelp except off these flats. In Olga Strait the current sets northwest on the flood and southeast on the ebb. Off **Creek Point** the velocity is 1.6 knots on the flood and 1.2 knots on the ebb. (See the Tidal Current Tables for daily predictions.) About 100 yards off Eastern Point is a rock with a least depth of 6 feet. About 0.8 mile within the southeast entrance is a shoal about 300 yards across with a least depth of 18 feet, marked by a light. It extends about two-thirds of the way across the channel from the southwest shore. Scattered kelp grows all over the shoal.

(229) **Middle Shoal** is 2.2 miles from the southeast entrance to Olga Strait, midchannel between two small streams, one on each side. It is 400 yards long in the direction of the channel, with a least depth of 16 feet. The north and south ends of the shoal are marked by lights. Kelp grows all over the shoal but usually shows only at slack water.

(230) **Nakwasina Sound** separates the east side of Halleck Island from Baranof Island. It extends from the south entrance of Olga Strait in a general northeast direction and connects with Nakwasina Passage. The sound is constricted at its south end to about 0.2 mile by **Crosswise Islands** and **Beehive Island**. Small vessels can anchor in the cove west of Beehive Island in 5 to 6 fathoms.

(231) **Nakwasina Passage** separates the north side of Halleck Island from Baranof Island. It has a northeast direction for about 1.9 miles from the north entrance of Olga Strait, then it takes an east trend for about 3 miles to where it joins Nakwasina Sound. The west part of the passage is about 0.8 mile wide, with about 15 to 20 fathoms, affording anchorage. The navigable channel is winding and constricted in places to 30 yards by extensive flats. The limits of the channel are distinguishable at low water. The controlling depth in the narrowest part of the channel is about 1.9 fathoms; this passage is suitable only for small craft. A rock awash, in about 57°14'53"N., 135°26'10"W., is north of the 1.9 fathom depth. In Nakwasina Passage the currents are, in general, too weak or variable to be predicted. However, in the channel about 1.5 miles west of **Allan Point**, the current velocity is 2.0 knots on the flood and 1.6 knots on the ebb. (See the Tidal Current Tables for daily predictions.)

(232) **Krestof Sound** is west of Krestof Island and connects Neva Strait with Sitka Sound, through Hayward Strait. **Sound Islands** are at the northeast part of the sound. The sound is out of the line of travel and is of no commercial value. At its northwest end the sound connects by a high-water passage with Sukoi Inlet. At its south end the sound is filled by **Magoun Islands**, with a narrow channel east and west of them and a boat channel through them. **East Channel** is clear in midchannel; the dangers are shown on the chart. **West Channel** should not be attempted except by small craft.

(233) **De Groff Bay** opens north of East Channel; its entrance is narrow and rocky, has a depth of 1½ fathoms, is overgrown with kelp and should only be attempted by small craft. **Port Krestof** is a broad bight on the south side of West Channel; an anchorage can be had in 6 to 13 fathoms, taking care at high water not to get on the flat that fills the south end of the port to a distance of about 0.5 mile out to an islet 12 feet high. A better anchorage can be had in **Mud Bay**, west of the Magoun Islands, taking care to avoid the 1¼-fathom shoal about 150 yards off the

southeast point of the bay. Two private mooring buoys are in Mud Bay. **Hayward Strait**, connecting East Channel with Sitka Sound, has a good channel through it, but the shores are fringed with rocks and reefs, especially at its south entrance, where they extend almost to midchannel from the west side, and well off from the shore on the northeast side.

(234) A microwave tower that can be seen from Hayward Strait and Sitka Sound is on a hill about 2.6 miles west of the north entrance to Hayward Strait.

(235)

### Currents

(236) The flood current enters Krestof Sound from Sitka Sound through Hayward Strait and from Salisbury Sound through Neva Strait and, when the water has risen high enough, through Sukoi Inlet. They meet somewhere in the sound. (See the Tidal Current Tables for daily predictions of places in the entrance to the sound from Hayward Strait.)

(237) **Neva Point Reef** extends about 75 yards south from Neva Point on the east side of the south entrance to Neva Strait. It is marked by **Neva Point Reef Light 12** (57°14'04"N., 135°33'07"W.), 17 feet above the water, with a red triangular daymark on a pile off the point.

(238) **Neva Strait** between Baranof Island and **Partofshikof Island**, together with Olga Strait, is the inside route between Salisbury Sound and Sitka Sound. The strait is narrow throughout and foul and requires careful piloting especially in **Whitestone Narrows**.

(239) A federal project provides for a channel dredged to a depth of 24 feet through ledge rock in Whitestone Narrows. In 2005, the controlling depth was 24 feet with 13.7 feet on the edge of the channel about 480 feet south of Light 14. The channel is marked by a light, lighted and unlighted buoys and a **345°** lighted range.

(240) In Neva Strait the flood current sets generally south and ebb current north. The current velocity is about 1.4 knots. (See the Tidal Current Tables for daily predictions.)

(241) **Whitestone Cove**, northeast of **Whitestone Point**, is a good anchorage with depths from 5 to 7 fathoms.

(242) The limits of the channel in Neva Strait are well marked with thick kelp that shows when the current is weak. At low water the limits are best defined by bare rocks and kelp. The dangers in the strait are charted and well marked by aids.

(243) **Columbine Rock**, about 3 feet high and marked by a daybeacon, is close to the west shore about midway through the strait. A shoal, covered 2 feet, on the opposite side of the channel, is marked by a lighted buoy. **Wyvill Reef**, covered at high water and marked by a lighted buoy, is about midway between Columbine Rock and Highwater Island.

(244) **Highwater Island**, wooded and prominent, is connected with the east shore at low water. Anchorage for small craft is found southeast of Highwater Island in 8 fathoms. A rock, with 3¼ fathoms over it and marked by a lighted buoy, is midway between the west side of Highwater Island and the west shore. The main channel between the island and the buoy is about 125 yards wide.

(245) **Entrance Island**, small and wooded, is close to **Zeal Point Entrance Island 24** (57°17'30"N., 135°36'21"W.), 30 feet above the water and shown from a skeleton tower with a red triangular daymark on the southwest point of the island, marks the north entrance to Neva Strait.

(246) **St. John Baptist Bay** is to the east of Entrance Island. The northeast shore is clear and bold for 1 mile, then is irregular with two small bights that are flats at low water. The southwest shore from Entrance Island to where the bay narrows is irregular with deep water close by the points. A timbered islet is 200 yards off the southwest shore and 0.6 mile southeast of Entrance Island, with rock ledges that are covered at high water and extend to the next point. South of the islet the bight is clear, furnishing good anchorage for small craft in 7 fathoms. After this point is passed, the southeast shore is clear except for flats from small streams.

(247) Anchorages for moderate-sized vessels are near the center of the narrow part of the bay in 11 to 15 fathoms and on the north side just northwest of the narrow part in 19 fathoms. This bay is open to the sea through Salisbury Sound, which gives prevailing northwest winds a clear sweep to the anchorages. In southeast weather the bay is said to be subject to severe williwaws that make the anchorages undesirable.

(248) **Gilmer Cove** is on the southwest shore 1.2 miles northwest of Entrance Island. It is 250 yards long by 75 yards wide, with a flat 150 yards wide at the head, and is a fit anchorage only for small craft in 7 fathoms.

(249) **Kane Islands** are two low and wooded islands with several rocks and reefs close-to, except on the southeast side, where they extend 300 to 400 yards in a direction parallel to the channel. They are surrounded with kelp and have good water close to their edges. The rocks on the southeast side of the easternmost island are covered with grass. The channel is good on either side of the islands, but the northeast side is always used, because it is more direct.

(250) **Kane Islands Light 25** (57°19'22"N., 135°39'46"W.), 40 feet above the water and shown from a square frame structure with a green square daymark on the east side of Kane Islands, marks the northeast channel.

(251) **Sukoi Inlet** has its north entrance about 0.8 mile west of Kane Islands and affords good anchorage. At its head it connects at high water by a canoe passage with Krestof Sound. The inlet is comparatively clear until near its head, but the shores are foul. Anchorage may be selected in any place desired, according to depths of water and swinging room required. The best anchorage is about 2.5 miles inside the entrance, opposite a small stream and flat on the west side, in 7 to 10 fathoms. Only small craft should go into the narrow part of the inlet beyond this point.

(252) **Scraggy Islands** are 1.8 miles northwest of Kane Islands Light 25 and 0.5 mile from the southwest shore. The largest island is scantily wooded with two clumps

of trees. Ledges with bare heads extend 0.4 mile south-southeast from the island. The channel southwest of the island is not recommended. The island is surrounded by ledges that bare to a distance of 100 to 200 yards.

(253)

## Neva Bay to Sealion Cove

(254) The west coast of Kruzof Island trends north and is indented by Shelikof Bay and Gilmer Bay. Mount Edgecumbe occupies the south third of Kruzof Island and is an unmistakable landmark for this part of the coast. There are no hidden outlying dangers until Cape Georgiana is reached. Submerged rocks do exist in the bays and bights along this coast. The 100-fathom curve is 8 miles from shore abreast Cape Edgecumbe, 12 miles abreast Cape Georgiana, and the soundings decrease regularly to the coast.

(255) The shore from Cape Edgecumbe to Neva Bay rises in a precipitous cliff of brown lava and forms a prominent landmark. Numerous large caves or blowholes are to be seen in this lava cliff. From Neva Bay to Beaver Point the shore is lower and rises in gradual wooded slopes. The shore between Cape Edgecumbe and Beaver Point is fringed with ledges that extend 0.1 to 0.5 mile offshore, and shoal water, marked by thick kelp, extends from 0.2 to 0.5 mile offshore. The bottom slopes regularly out to beyond the 50-fathom curve and is uniformly rocky. There are no dangers more than 0.5 mile offshore.

(256) **Neva Bay**, 2.5 miles north of Cape Edgecumbe, is open to the sea and the entrance is choked with kelp; it is of no importance to navigation.

(257) **Beaver Point**, 5.5 miles north from Cape Edgecumbe, is low and wooded and forms the south point to Shelikof Bay. A reef, marked by thick kelp and having numerous rocks that bare, extends for 0.8 mile north of Beaver Point. The open bight, close east of the point, is full of rocks and kelp.

(258) **Shelikof Bay**, with depths ranging from 10 to 20 fathoms, is open west and is not recommended as an anchorage. Off Beaver Point and along the south shore kelp grows thick out to 6 and 10 fathoms. In the southeast corner is a sand beach 1.5 miles long. The north side of Shelikof Bay is foul with numerous rocky islets and ledges that extend 0.3 to 1 mile offshore.

(259) **Port Mary**, at the head of Shelikof Bay, has general depths of 3 to 5 fathoms except at its north end where it is shoaler. A large rock, about 20 feet high, is off the south entrance point. The only known danger in Port Mary is a rock awash 300 yards off the southeast shore and 0.7 mile northeast of the south entrance point. Small craft can find protected anchorage in south weather in the small bight, with a high rock in its center, on the southeast side of the port.

(260) Small vessels can find partially protected anchorage in the bight called **Cuvacan Cove**, on the north side of Shelikof Bay, about 1.6 miles east of Slaughter Island, and east of a group of islands and west of a bold, wooded point. To enter the cove, pass south and east of the group of islands and anchor in 3 to 4 fathoms, sand bottom.

(261) **Goleta Cove** is on the north side of Shelikof Bay, about 1.1 miles east of Slaughter Island. The cove affords protected anchorage for small craft and is much used by local fishermen. A large bare rock is in the middle of the entrance, and the passage east of the rock is choked with other rocks and kelp. A rock that bares at half tide is in the middle of the west passage. To enter, pass very close west of the large bare rock and east of the rock that bares at half tide.

(262) **Point Mary**, the north point at the entrance to Shelikof Bay, is high and wooded. **Slaughter Island**, off Point Mary, is grass covered and connected with the shore at extreme low water. Rocks that bare at various stages of the tide are off the east, southwest and west sides of the island.

(263) **Point Amelia** (57°13.5'N., 135°52.4'W.), 13.7 miles north of Cape Edgecumbe, is the northwest point at the entrance to Gilmer Bay and is the most prominent point between Cape Edgecumbe and Cape Georgiana. The point is the terminus of a peninsula. Two small knolls are at the seaward end; the inner one is wooded and the outer one a cone-shaped rock. Rocks bare at half tide are about 200 yards offshore. In the bight 2 miles north-northeast of Point Amelia is a conspicuous sand beach 0.4 mile long.

(264) **Gilmer Bay** is on the southeast side of Point Amelia. About 1 mile inside Point Amelia the bay contracts to 0.6 mile wide; it then expands to 1 mile and terminates in a narrow arm.

(265) The anchorage for large vessels is in midchannel, halfway up the narrow arm in about 15 fathoms, sticky bottom. In summer the swell does not come much beyond the entrance of the arm, but there is no record of the value of the anchorage in winter gales. The bight on the southeast side of the bay affords the best anchorage for craft up to 150 feet long. An anchorage, east of the reef, has depths of 5 to 6 fathoms, hard bottom.

(266) A submerged rock is on the east side in the approach to the bay, on line from Point Amelia to a white rocky islet about 58 feet high and close to the east shore. The rock is about 0.4 mile from the islet, has 3½ fathoms over it and shows a breaker at low water with a moderate swell.

(267) Approaching from south, give the east shore a berth of over 0.8 mile to clear the submerged rock off Slaughter Island and the submerged rock described above. Otherwise, there are no dangers and a midchannel course leads safely through the bay.

(268) **Sealion Islands** are 3.5 miles north of Point Amelia. They are five in number, the easternmost about 0.8 mile from shore. The two largest are grass covered; the east one has a number of dead trees. The easternmost of the group is partially covered with grass; the remaining two are bare rocks.

(269) **Eagle Rock** is about 1.6 miles north of the westernmost Sealion Islands and 1.4 miles south-southwest of Cape Georgiana. It is dome shaped and bare.

(270) **Sealion Cove** is a small cove about 2 miles south-southeast of Cape Georgiana. A sand beach at the head is almost 1 mile long. A small peninsula forms its south point.

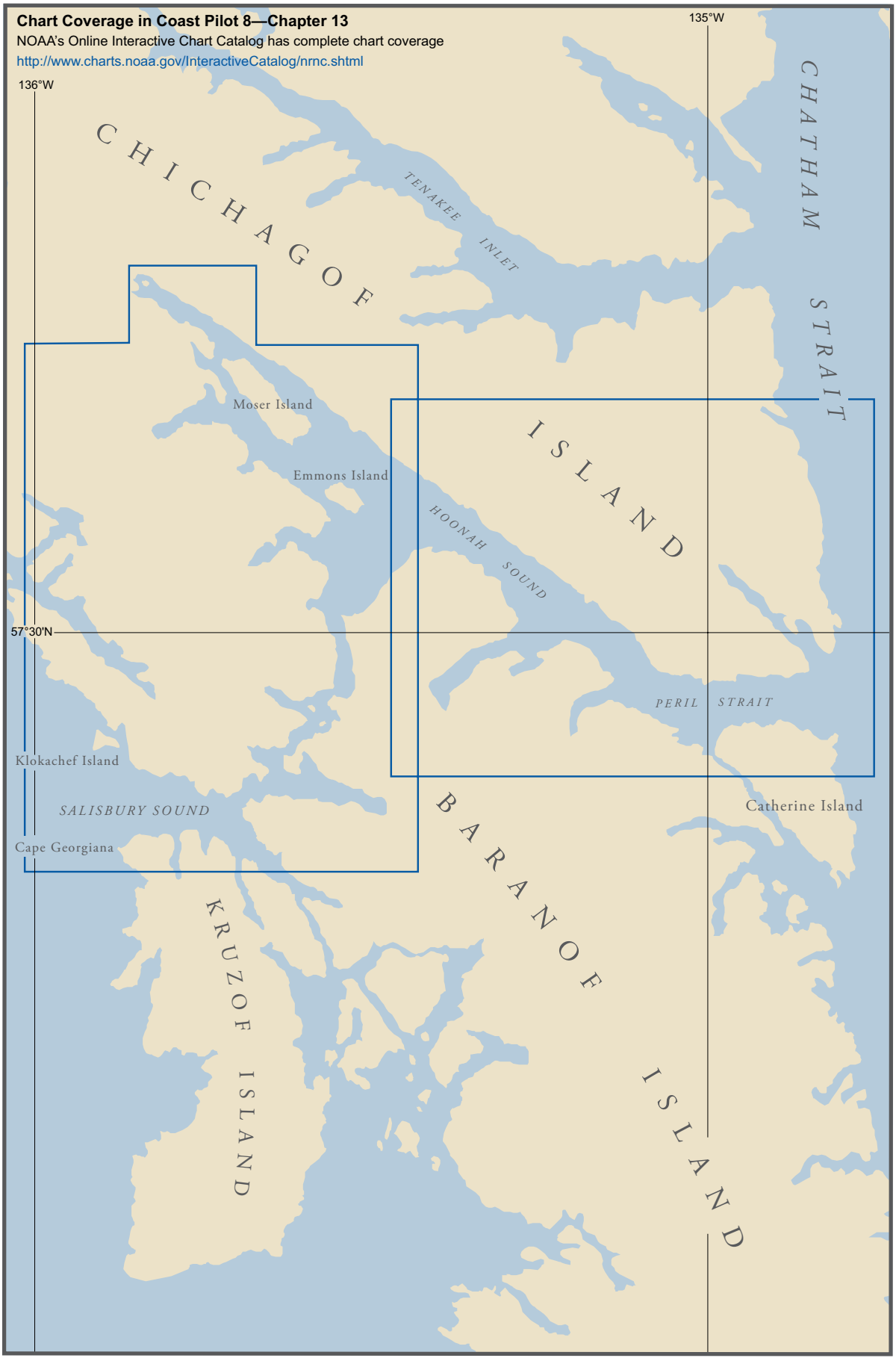


Chart Coverage in Coast Pilot 8—Chapter 13
NOAA's Online Interactive Chart Catalog has complete chart coverage
http://www.charts.noaa.gov/InteractiveCatalog/nrnc.shtml
135°W
136°W
CHICHAGOF
TENAKEE INLET
CHATHAM STRAIT
Moser Island
Emmons Island
ISLAND
HOONAH SOUND
57°30'N
PERIL STRAIT
Klokachef Island
SALISBURY SOUND
Cape Georgiana
Catherine Island
BARANOF ISLAND
KRUZOF ISLAND

# Salisbury Sound and Peril Strait

(1) This chapter describes Salisbury Sound, Hoonah Sound and Peril Strait, the inside passage from Chatham Strait to Sitka, via Neva Strait and Olga Strait.

(2) Weekly scheduled mail and passenger vessels bound from Wrangell, Petersburg, Juneau or Skagway to Sitka pass through Peril Strait and Salisbury Sound and then proceed south through Neva Strait and Olga Strait. Under adverse conditions, when coming south from Juneau or Skagway, they sometimes pass through Icy Strait and Cross Sound, then outside to Salisbury Sound before entering Neva Strait. Sergius Narrows in Peril Strait is a difficult passage to make under any conditions, because of its narrowness and strong tidal currents and eddies. Passage through Sergius Narrows should only be attempted at slack water and preferably at high-water slack, and with local knowledge. Small craft, barge and ship traffic is heavy through the narrows; caution is advised.

(3)

### Weather

(4) Salisbury Sound is open to prevailing wind and sea from the Gulf of Alaska, whereas Peril Strait is sheltered somewhat by Chichagof Island. In the sound, southwest swells frequently roll in and break along the north shore, sometimes reaching Baranof Island. Winds often draw through Salisbury Sound and into Peril Strait, which, because of its orientation, is susceptible to both strong southeasterlies and northerlies. These winds are most likely from October through February. Heavy fog sometimes moves into the sound but frequently disappears at the mouths of Fish Bay and Neva Strait. Occasionally, the fog reaches Peril Strait as far as Sergius Narrows and sometimes fills the strait north of the narrows.

(5)

## Salisbury Sound to Round Island

(6) **Salisbury Sound** has its entrance from the sea 200 miles northwest of Dixon Entrance and connects Peril Strait and Neva Strait with the Pacific Ocean between Cape Georgiana and Klokachef Island. About 1.8 miles from the east end, the channel is constricted to 1 mile by Goloi Islands on the north side and Sinitsin Island on the south. Vessels bound for Sitka from Cross Island, Yakutat Bay and the coast west commonly enter through Salisbury Sound, as the distance is less than by way of Cape Edgecumbe and that route puts them sooner into smooth water.

(7) The shores of the sound are foul, especially the north side, which is studded with islands, rocks and reefs with some kelp. It is open to the prevailing wind and sea, and generally a southwest swell rolls in and breaks along the north shore, sometimes reaching Baranof Island. There are no dangers through the middle of the sound, but the depths are irregular and the bottom rocky; banks with depths of 6 to 20 fathoms have been found in the middle of the entrance.

(8) The country back of the north shore is steep and rugged. The south shore is more undulating, though quite high near the ocean, and is covered with trees from the top to the water's edge.

(9) Approaching Salisbury Sound from seaward, especially from west, it is sometimes difficult for a stranger to recognize the entrance until close-to. The bare, rugged mountains on the north side of the sound are prominent, and the sand beach at the head of Sealion Cove, 2 miles south of Cape Georgiana, is at times useful in identifying the cape.

(10)

### Currents

(11) The current from the sea sets east on the flood into Salisbury Sound, Peril Strait and Neva Strait. The ebb current sets west. The current velocity is 1 to 1.5 knots. (See the Tidal Current Tables for daily predictions.)

(12) **Cape Georgiana** is the south point at the entrance to Salisbury Sound. **Mount Georgiana**, 1,383 feet high, is a rounded hill, about 0.7 mile east of the cape. About 2 miles southeast from the cape is the first prominent peak that, from south and west, seems to rise gradually from the low point by a series of steps. This is a prominent landmark from southwest for Salisbury Sound.

(13) **Sea Rock** is an irregular, bare ledge, about 6 feet high, 0.6 mile northwest of Cape Georgiana. **Morskoi Rock**, 0.6 mile northwest of Sea Rock, has 1 fathom over it, is not marked by kelp, and has the sea usually breaking over it. The rock is marked on its northwest side by a buoy.

(14) A channel is between these two rocks and between Sea Rock and the cape, but shoaling exists in both passages and neither is recommended. Strong tide rips are found around the cape and these two rocks when the wind is from northwest or northeast, whereas with south winds the rips are more prevalent around **Point Leo**, on the north side of the entrance to the sound.

(15) **Klokachef Island**, on the north side at the entrance to Salisbury Sound, is of triangular shape. On its south side, bare cliffs, 900 feet high, have the appearance of the north half of a crater and are prominent from well out to sea to the southwest. Bare reefs extend from the south and west sides of the island. At the east point are several bare

rocks and **Vincent Reef**, which extends about 0.4 mile south and generally has the sea breaking over it. From the northwest point of the island the **Fortuna Reefs** extend as a partially submerged reef for 600 yards northwest to two bare rocks; and thence from these rocks for 0.5 mile west a submerged reef, showing some kelp and always a breaking sea. Klokachef Point, the south point of Klokachef Island, is the north point at the entrance to Salisbury Sound and is marked by **Klokachef Island Light** (57°24'12"N., 135°54'22"W.), 85 feet above the water and shown from a square frame with a red and white diamond-shaped daymark.

(16) **Olga Rock**, in 57°24'39"N., 135°56'39"W., and about 1.2 miles west of Klokachef Point, on line with Klokachef Point and the north shore of Salisbury Sound, has ½ fathom over it and, except at high water and a very smooth sea, always shows a breaker. Deep water is between Klokachef Island and the rock.

(17) **Kalinin Bay**, on the south side of Salisbury Sound 2.5 miles inside the entrance, has anchorage near its head that is used by fishing craft, but its narrow entrance is obstructed by rocks. Large craft should favor the southwest shore in approaching the entrance in order to avoid a 3¼-fathom kelp-marked shoal off the entrance in 57°20'48"N., 135°47'13"W. Favor the west shore in entering until the first bend, then steer midchannel courses. A large rock awash is about 100 yards off the east shore in 57°19'27"N., 135°47'00"W and at the narrowest part of the channel, just before the bay widens to form the main anchorage. The ruins of a building with stub piling that extends about 100 yards off the east shore and a pile are north of the rock.

(18) A 1¼ fathom depth is 100 yards off the west shore in 57°19'29"N., 135°47'04"W and about 100 yards northwest of the large rock awash. Strangers should enter the anchorage at half tide or low water, passing about 50 yards west of the large rock. Well-protected anchorage in any weather can be found near the head of the bay in 3 to 5 fathoms, soft bottom.

(19) **Sinitsin Island**, low and wooded, is about 0.8 mile east of the entrance to Kalinin Bay and is the farthest projection on the south side of Salisbury Sound. It should not be approached closer than 0.2 mile on its north side and 0.5 mile on its west side. Deep water extends close up to the east side of the island. Small craft sometimes pass between the island and Kruzof Island, but strangers should use this passage with extreme care.

(20) **Sinitsin Cove**, on the south side of Salisbury Sound 1 mile southeast of Sinitsin Island, has deep water and an irregular, rocky bottom; its shores are fringed with ledges. A 4.6-fathom shoal is in the west side of the entrance in about 57°20'25"N., 135°44'46"W. In bad weather the swell rolls heavily into this cove.

(21) **Goloi Islands**, about 5.9 miles east of Klokachef Point and 0.5 mile off the north shore, are two in number and bushy; the north one is divided at high water; the south one has the appearance of a flattened cone. There are a number of other islands along and close to the north shore, but these and **Krugloi Islands**, 0.5 mile east, are the most prominent. These islands are surrounded by kelp rather close-to, and there is deep water close to the edge of the kelp on their south sides. A submerged rock with 0.6 fathom over it in 57°21'53"N., 135°43'48"W. and surrounded by kelp, is about 125 yards southeast of the westernmost Krugloi Island.

(22) **Round Island**, about 500 yards east of the Krugloi Islands, is wooded and close to the north shore of Salisbury Sound at the entrance to Peril Strait.

(23)

## Peril Strait

(24) **Peril Strait** is important as affording a frequently used passage from Salisbury Sound and the waters south to Chatham Strait. Its total length is about 39 miles. From Salisbury Sound it extends in a general northeast direction for 11.5 miles through Kakul Narrows, Sergius Narrows and either Rose Channel or Adams Channel to Povorotni Island; this part of the strait is narrow, and has frequent changes in direction and strong tidal currents, and strangers, other than small craft, are advised to take a pilot. From Povorotni Island the strait has a general northeast direction for about 4.5 miles to Otstoia Island, where it turns southeast for 16 miles to Lindenberg Head, and then east for about 7 miles to Chatham Strait. Some of the more serious dangers are marked by buoys or lights. A pilot may sometimes be acquired at Sitka, Juneau or Ketchikan.

(25) **Fog** from Salisbury Sound occasionally makes into Peril Strait as far as Sergius Narrows and at times fills the strait north of the narrows.

(26)

### Currents

(27) The flood current from Salisbury Sound sets northeast through Sergius Narrows and Adams Channel and meets the flood from Chatham Strait in the broad part of Peril Strait between Povorotni Island and Otstoia Island; the ebb current sets in the opposite direction. In Peril Strait the strongest currents are in Sergius Narrows, where the maximum velocity is 8 to 9 knots on the flood and 8 to 9 knots on the ebb, creating standing waves. For other places in the strait, the velocity of the current is between 1.4 and 2.5 knots. See the Tidal Current prediction service at *tidesandcurrents.noaa.gov* for specific information about times, directions, and velocities of the current at numerous locations throughout the area. Links to a user guide for this service can be found in chapter 1 of this book.

(28)

## Point Kakul to Otstoia Island

(29) **Point Kakul**, the southeast point at the entrance to Peril Strait from Salisbury Sound, is bold and wooded. **Kakul Rock**, with 2.1 fathoms over it in 57°21'44"N.,

135°41'47"W., is about 275 yards west from the point. A lighted buoy marks the west side of the rock.

(30) **Kakul Narrows** forms the entrance to Peril Strait from Salisbury Sound. The narrows are deep, the dangers are marked by aids, and they are easily navigated. The narrows have been found clear as shown on the chart.

(31) **Salmonberry Cove** is a small bight on the northwest side of Kakul Narrows where small craft can find indifferent and partially protected anchorage.

(32) **Brad Rock**, with 2.2 fathoms over it in 57°22'24"N., 135°41'29"W., and marked by a buoy, is about 0.2 mile west of the outer Channel Rock. There are heavy tide swirls through this narrow part of the strait. The buoy tows under when currents are strong.

(33) **Channel Rocks** extend about 300 yards north of the northeast end of Kakul Narrows. The largest rock is about 3 feet high and close-to; north of it are two rocks that cover only at the highest tides. **Kakul Narrows Light 4** (57°22'26"N., 135°41'01"W.), 27 feet above the water, is shown from a skeleton tower with a red triangular daymark and is on the north side of the rocks.

(34) **Fish Bay** has its entrance on the east shore south of Sergius Narrows. Sand and gravel beaches show along the shores at low water, and at its head is a flat nearly 0.5 mile in extent. **Haley Rocks** is a group of three rocks in the entrance, extending about 0.3 mile from the south shoreline and baring at the lowest tides. **Haley Anchorage**, 300 yards from the south shore and about 0.3 mile west of Haley Point, has depths of 17 to 22 fathoms, sand bottom, and affords fair shelter in south weather. **Haley Point** is a sand flat terminating in a high-water island.

(35) **Schulze Cove** is on the north side of Fish Bay. **Piper Island**, low and wooded, is in the entrance; the navigable channel, about 0.2 mile wide, is between it and the west shore; the channel on the east side of the island should not be attempted. The only danger in the approach to the cove is Haley Rocks. It is reported that southeast winds draw through the cove with considerable force.

(36) A former log storage area occupied most of the cove. Dangerous submerged obstructions are located within the cove.

(37) **Suloia Bay**, west of the south entrance to Sergius Narrows, has anchorage for small craft near its head in 18 to 22 fathoms, rocky bottom. The shores are foul near the anchorage, constricting it somewhat, and it is not recommended. Swirls make well into the bay. **Suloia Point**, the south entrance point to the bay, is marked by a light. **Suloia Islet**, wooded, is in the bay 0.2 mile from the south side with rocks between. **Suloia Rock**, with 0.6 fathom over it in 57°24'03"N., 135°39'30"W., is about 400 yards north of Suloia Islet.

(38) **Sergius Channel** is a 24-foot-deep and 450-foot-wide dredged channel that leads through Sergius Narrows. In 2005, the controlling depth was 24 feet. The channel is marked by two buoys on the south side marking the north side of Wayanda Ledge, which makes into the south side of the channel. The channel between the buoys and the north project limits is about 300 feet wide. Mariners are advised to use caution. Vessels should pass through the narrows only at or near slack water, especially with the large tides, and preferably at high-water slack. At the strength of the current it is not safe for any vessel bound either way, especially long ones, between Francis Rocks and Liesnoi Shoal. With the smallest tides those with local knowledge pass through at all stages of the current.

(39) Mariners are advised to be on hand at least one-half hour before the predicted times of slack water in case abnormal conditions cause slack water to occur earlier than the stated times. If the current tables are not available, tide tables may be used. In Sergius Narrows the current turns north to south about 2 hours before the time of high water at Sitka and from south to north about 1¾ hours before the time of low water at Sitka. These are average times and do not take into consideration variations due to tidal inequalities as do the tidal current predictions. See the Tide prediction service at *tidesandcurrents.noaa.gov* for specific information about times, directions, and velocities of the current at numerous locations throughout the area. Links to a user guide for this service can be found in chapter 1 of this book.

(40) At the strength of the current the water is very much disturbed, heaving up over West Francis Rock, Prolewy Rock and Wayanda Ledge in the middle and boiling and swirling in the channel, especially at the end where the water is passing out. The channel is so narrow and the current so variable in direction that if a vessel gets a sheer she may be carried onto the ledges or shore before she can be straightened out. With a strong north flowing current a sharp deflection occurs at Shoal Point, which is dangerous, especially to long vessels bound south, as it sheers the bow east in the direction of Wayanda Ledge, and there is little room to straighten out again on the proper channel line. With a strong south-flowing current a similar sharp deflection occurs west of West Francis Rock, which is dangerous, especially to long vessels, bound either way, as it sheers the bow in toward the cove on the west side. (See the Tidal Current Tables for daily predictions in Sergius Narrows.)

(41) Vessels awaiting slack water at Sergius Narrows usually slow down before reaching it. If anchorage is desired when north of the narrows, Bear Bay is convenient for small vessels. Deep Bay is a much better anchorage, but its entrance is narrow.

(42) A small-craft channel that passes south of East Francis Rock and Rapids Island is narrow. The channel is used extensively by local fishermen and should only be used with local knowledge. The current is reported to be weaker in this channel than in the Sergius Narrows channel.

(43) **Rapids Island** is a small wooded island near the middle of Sergius Narrows. **East Francis Rock**, 350 yards southwest of the southwest point of Rapids Island in 57°24'06"N., 135°38'14"W., has a least depth of 1.1 fathoms. **West Francis Rock**, marked by a lighted buoy, 400 yards west-northwest of the west point of Rapids

Island, has leaf kelp that only shows at slack water. West Francis Rock and the immediate area surrounding the rock has a least depth of 3.3 fathoms. Mariners are urged to exercise caution in the area. Vessels pass northwest of the rock. In this vicinity the swirls and whirlpools are very strong while the current runs south.

(44) **Prolewy Rock**, and an islet about 18 feet high, is about 250 yards north of the northeast side of Rapids Island. Submerged rocks are close north and southwest of the islet. Standing waves are said to form over them when strong currents are running near low water. **Wayanda Ledge** -extends from 60 yards north of Prolewy Rock right up to the south edge of the maintained channel; the north-northeast side of the ledge is marked by a buoy.

(45) **Sergius Narrows Light 9** (57°24'28"N., 135°37'52"W.), 17 feet above the water and shown from a skeleton tower with a green square daymark, is on the north side of the narrows.

(46) **Liesnoi Shoal**, in about 57°24'47"N., 135°36'04"W. and midchannel 300 yards south of Midway Rock, has a least depth of 1.6 fathoms. A lighted buoy is on the southeast side of the shoal. **Midway Rock**, grass covered, in 57°24'55"N., 135°36'27"W. and about 300 yards northeast, is awash at highest tides.

(47) **Point Siroi Island**, marked by a light, is about 0.8 mile northeast of Mountain Head.

(48) **Bear Bay**, on the southeast shore, has anchorage for small vessels only but is convenient if awaiting slack water in Sergius Narrows. Enter in midchannel and anchor with **Arthur Island** in line with the southwest side of **Bear Bay Island**, bearing north, in 13 to 18 fathoms, soft bottom. Vessels should not go inshore of the range given to avoid swinging onto the ledge on the south side of the bay.

(49) **Deep Bay**, on the northwest side of the strait between Big Island and Little Island, is a good anchorage and the most convenient for large vessels north of Sergius Narrows while awaiting slack water in the narrows. **Grasstop Rock**, about 7 feet high, is midway between Big Island and Little Island and is marked by a daybeacon. The best passage into the bay is between the rock and Big Island.

(50) To enter, keep the south side of Big Island aboard at a distance of 100 yards in passing Grasstop Rock, then follow a midchannel course into the bay and anchor 0.2 to 0.8 mile beyond the wooded islet on the north side, west of Big Island in 10 to 12 fathoms, sticky mud and broken shells bottom. An islet, about 6 feet high, is 80 yards southeast of Big Island, and a kelp-marked rock extends 80 yards southeast of the islet.

(51) **Middle Point Rock**, marked by a light, is 300 yards west of **Middle Point** with a narrow channel between. The rock is covered at half tide. A ledge with 2.1 fathoms over it is about 350 yards south-southeast of Arthur Island in 57°26'45"N., 135°34'37"W.

(52) **Yellow Point**, marked by a light, is about 0.6 mile north of Middle Point. A ledge, bare at half tide and marked by a daybeacon, is 150 yards offshore, 0.3 mile east of Yellow Point.

(53) Wooded **Big Rose Island** and **Little Rose Island** are in midchannel 3 miles south from Pogibshi Point. **Adams Channel** is the passage east of them; **Rose Channel** is the passage west.

(54) **Rose Island Rock**, bare and marked by a light, is 230 yards off a bight on the east side of Big Rose Island. A light is about 400 yards to the north.

(55) **Rose Channel Rock**, marked by a daybeacon, is 250 yards northwest of Little Rose Island and 440 yards from the west shore. It is awash at highest tides and is a danger only when using Rose Channel.

(56) **Povorotni Island**, low and wooded, is 500 yards north-northwest of **Pogibshi Point** and is marked by a light on the north end of the island. The island shows against a wooded highland in coming from north and is not readily seen until fairly close-to. A bare ledge is between the island and Pogibshi Point; the narrow passage between this ledge and the point is suitable only for small craft.

(57) **Poison Cove** has its entrance west of Povorotni Island. Anchorage for small craft is available throughout the cove.

(58) From Pogibshi Point the shoreline trends in a northeast direction for about 5.5 miles to Nismeni Point, about 1 mile beyond Otstoia Island. **Deadman Reach** is the stretch of water off the flat between Otstoia Island and Pogibshi Point, about 2.2 miles from the latter. Anchorage may be made in several places along the shore.

(59) **Pogibshi Anchorage**, in about 20 fathoms, soft bottom, is in Goose Cove on the northeast side of Pogibshi Point off the entrance to a small lagoon. **Favorite Anchorage**, in 17 fathoms, is about 1.2 miles southwest of Otstoia Island and 0.2 mile from shore. Anchorage may also be made 0.4 mile southwest of Otstoia Island.

(60) **Emmons Island** is about 5 miles north of Povorotni Island. A bar, which bares, extends west from the westernmost point of Emmons Island 0.3 mile into the channel between Emmons Island and Chichagof Island. Passage can be made in 9 to 15 fathoms by holding a midchannel course to within 0.5 mile of the westernmost point of Emmons Island; the course should then be shaped so as to hold the Chichagof Island shore aboard at about 300 yards while passing the bar.

(61) A 4.3-fathom shoal in 57°34'54"N., 135°30'23"W. is about 0.64 mile southwest of the southern tip of Emmons Island.

(62) **Ushk Bay** has its entrance on the west side about 2.5 miles southwest of Emmons Island. Secure anchorage may be found in the bay, in 17 to 22 fathoms, soft bottom. Caution is advised during the periods of reduced visibility.

(63) **Hoggatt Reefs** are about 2.7 miles northeast of Povorotni Island and 1.2 miles from the east shore. The largest and highest part of the reef at the east end is **Hoggatt Island**, a grass and sand islet covered only at highest tides. Ledges, covered at about half tide, are west of the island, and rocks, covered at ordinary high water,

are south of it. The south end of the reef is marked by a light.

(64) **Dolph Rock**, which bares at low tides, is about 0.8 mile off the west shore at the entrance to Ushk Bay and 1.2 miles west of Hoggatt Island.

(65) **Ford Rock**, which bares only at lowest tides, is about 0.8 mile north of Hoggatt Island and 1.5 miles west of Krugloi Islet, about in line between it and the north point at the entrance to Ushk Bay.

(66) **Otstoia Island**, low and wooded, with dead trees standing at its northeast end, is 4.5 miles northeast of Povorotni Island. **Otstoia Island Light** (57°33'41"N., 135°27'01"W.), 17 feet above the water, is shown from a skeleton tower with a red and white diamond-shaped daymark on the south end of the island.

(67) **Elovoi Islet**, small and wooded and marked by a light, and **Krugloi Islet**, small with a clump of trees in the middle, are close together about 0.6 mile west of Otstoia Island.

(68) A flat extends about 300 yards off the **Duffield Peninsula** shore constricting the channel between it and Otstoia Island to a clear width of about 150 yards. A light, about 250 yards south-southeast of Otstoia Island Light, marks the edge of the flat. The channel has a depth of about 7½ fathoms.

(69) **Cozian Reef**, with ¼ to 10 fathoms over it, extends about 0.7 mile northeast of the northeast end of Otstoia Island. The reef is marked near its east extremity by a light.

(70) **Nismeni Point** is low and wooded and is about 1.1 miles east of Otstoia Island. A reef extends 0.4 mile east of the point.

(71)

## Hoonah Sound to Douglass Bay

(72) **Hoonah Sound** is the prolongation of Peril Strait northwest of Emmons Island (57°36.0'N., 135°32.5'W.). **Vixen Islands**, a group of small islands, is about 0.5 mile to the northwest of Emmons Island. They consist of two wooded islands; the northernmost island has an isthmus in the center almost dividing it from its low rocky northeast side. A bar extends about 0.1 mile southwest from the southernmost island. A midchannel reef, baring 5 feet, obstructs the passage between Emmons Island and the Vixen Islands. Ledges and shoal areas fringe the northwest shore of Emmons Island. Small craft may make the passage in 3 to 10 fathoms by holding the wooded Vixen Islands close aboard at about 200 yards and staying well clear of the ledge that extends about 150 yards northeast of the wooded and rocky northernmost island. **Moser Island**, about 2.5 miles northwest of Emmons Island, divides Hoonah Sound into two arms, connected at high water at the northwest end of Moser Island.

(73) **North Arm** is comparatively clear to within 2 miles of its head, where a rock, covered 3 feet, is midchannel surrounded by a shoal. The shoal extends for 0.6 mile south-southeast from an island on the north side of the arm. There is no safe passage between the island and the north shore of the arm. A restricted passage, usable by small craft, is available along the south shore of the island. To make the passage in 7 to 12 fathoms, keep the south shore of the island aboard at about 200 yards and 0.2 mile off the north shore of the arm until well past the island and rock. Passage may also be made in 30 to 35 fathoms along the south shore. Care should be taken to avoid the gravel bar, projecting 0.3 mile from the tree line, at the mouth of a stream on the south shore of the arm south-southeast of the island. A flat extends 0.5 mile from the head of the North Arm; a wooded island, with a ledge that extends about 0.2 mile east from its east shore, is near the center of the flat. The tidal flat is west of a north-south line through the middle of the ledge; anchorage may be made east of this line in 15 to 25 fathoms.

(74) **South Arm** extends northwest about 5.5 miles along the south shore of Moser Island. On the south side of the arm, 1 mile within its entrance and just west of a wooded islet, is **Fick Cove**; the head and west edge of the cove are shoal. A rock quay projects from the south shore near the head but is surrounded by a shoal that bares. Anchorage with minimum depths of 15 fathoms is found within the cove, east of a line running northwest from the cabins on its east edge. A shoal extends 0.4 mile into the arm 1.5 miles northwest of Fick Cove. Just to the north of the shoal the South Arm divides into two branches, Patterson Bay leading west-southwest and another small branch leading north-northwest.

(75) The north branch of the South Arm is clear to within about 1 mile of its head; a flat extends about 0.8 mile from the head. In the middle, about 1.8 miles within the entrance, is a rock that bares 9½ feet. Clear passage may be gained by staying about 200 yards off either shore when passing the rock; a ledge extends about 250 yards offshore from a point north of the head. Anchorage can be made 300 to 500 yards north of the rock in 13 to 16 fathoms. The north branch connects to the North Arm during tides greater than 12 feet, when the passage can be made by skiff.

(76) **Patterson Bay**, the south branch of the South Arm, has shoals fringing its northwest side and a flat at its head. Near its entrance on the north, adjacent to Point Reynard, is a small, northwest trending inlet (57°40.7'N., 135°42.9'W.), about 0.3 mile long, that offers anchorage for small craft in 3 to 8 fathoms in its center. **Douglass Bay** (57°41.0'N., 135°44.0'W.), just to the west around Point Reynard, affords anchorage in 5 to 12 fathoms. To enter, keep the east shore aboard at a distance of 200 yards to avoid the reef to the west, and anchor in the middle of the bay about 0.4 mile from the head. Near the center of the branch, opposite Douglass Bay is a 4-fathom pinnacle, the only obstruction in the central channel of Patterson Bay. Anchorage may be made near the head in 24 fathoms, but care should be taken to avoid the extensive tidal flats that extend 0.5 mile from the head.

(77)

## Broad Island to Chatham

(78) **Broad Island**, 200 feet high and wooded, is 2.1 miles northeast of Otstoia Island and 0.5 mile off the north shore at the entrance to Hoonah Sound. **Broad Island Light** (57°35'09"N., 135°23'37"W.), 14 feet above the water, is shown from a skeleton tower with a red and white diamond-shaped daymark on the west side of the island. Passage may be made between Broad Island and Chichagof Island to the north. Midchannel depths range from 40 to 60 fathoms; a shoal extends 0.2 mile northeast from Broad Island, and a bar extends 0.2 mile out from the tree line on Chichagof Island into the channel.

(79) On the north shore of Peril Strait, 2.5 miles east of Broad Island, a large landslide extends up the mountain side for several hundred feet.

(80) **Nismeni Cove**, on the east side of Nismeni Point, affords anchorage for small craft, with protection from south winds. To enter, keep the south shore aboard at a distance of about 200 yards to avoid the reef off Nismeni Point, and anchor in the middle of the cove about 0.3 mile from the head, in 6 fathoms, fair holding ground.

(81) **Peschani Point** is a low wooded point on the south side 2.8 miles northwest of Rodman Bay. The point is marked by a light.

(82) **Rodman Bay**, on the south side 6 miles southeast of Nismeni Point, offers good anchorage at its head. The wide mouth of the bay contains several shoal areas: **Rodman Rock**, with 1 fathom over it and marked by a buoy, is in the bay about 0.5 mile northwest of the east point at the entrance; depths of 3 fathoms are found on an extensive shoal 0.9 mile west of Rodman Rock; shoals with depths of 1½ fathoms extend out to 0.5 mile from the west shore about 0.7 mile south of Point Elizabeth and from the south shore about 0.3 mile west of the entrance to Appleton Cove. Safe passage to the head of the bay may be gained by passing 0.2 mile to the north and west of Rodman Rock Buoy 1 until southwest of the buoy; continuing, stay 0.6 mile off the south shore until south of Point Elizabeth, and follow a midchannel course up the narrow part of the bay to its head.

(83) **Point Benham** and **Point Elizabeth**, rounded wooded points, are, respectively, east and west of the entrance to Rodman Bay. Point Benham is marked by **Point Benham Light** (57°28'59"N., 135°11'52"W.), 19 feet above the water and shown from a square frame structure with a red and white diamond-shaped daymark.

(84) **Lauf Islands** are on the east side near the head of Rodman Bay. The anchorage is 0.2 to 0.3 mile southwest of Lauf Islands in 14 to 15 fathoms, soft bottom. A midchannel course leads safely to the anchorage. Flats extend 0.5 mile from the mouth of streams that enter the southeast and southwest corners of the head of the bay. Southwest winds blow with considerable force through the pass at the head of Rodman Bay.

(85) **Appleton Cove**, about 1.5 miles inside Rodman Bay on the south shore, affords good anchorage and lee from seas for small craft though winds may be quite strong. The entrance channel is deepest east of center, about 0.1 mile off the east shore. Care should be taken to avoid a reef and foul area about 0.2 mile south of the southeast corner of **Prince Island**.

(86) **False Island**, small and wooded, is connected to Chichagof Island by a rocky isthmus that covers only on extreme high waters. A log storage area occupies most of a small cove formed by False Island and the mainland. The cove opens to the northwest and has depths ranging from 2 to 6 fathoms and offers protection for small boats from storms from all but the northwest. Care should be given to avoid the submerged ledge that extends about 100 yards northwest from the northwest tip of the island.

(87) **Saook Bay** has its entrance on the south side of Peril Strait, 4 miles southeast of Rodman Bay. **Paradise Flats** extend about 0.8 mile from its head. The bay affords a good and convenient anchorage with shelter from all winds. Water can be had from small streams.

(88) **Saook Point** and **Point Kennedy** are the north and south points of the entrance to Saook Bay. A depth of 2½ fathoms exists 0.4 mile off shore and 0.5 mile east of Point Kennedy.

(89) To enter, take a midchannel course until approaching the small islands on the southeast side. Keep the islands and the southeast shore at a distance of 150 yards to avoid the 2½ and 2¼-fathom shoals about 0.3 and 0.4 mile northwest and west-northwest of the largest islands and a sand and gravel flat that extends to midchannel from a small stream coming from a ravine in the west shore. The anchorage is in midchannel 0.6 mile south of this ravine, in 18 fathoms, mud bottom. There is a log raft storage buoy south of the anchorage, about 0.3 mile north of the flats in midchannel.

(90) **False Lindenberg Head**, steep and wooded, is on the north side of the strait, 2.3 miles northeast of the entrance to Saook Bay.

(91) A bight is on the north shore of Peril Strait, about 1.5 miles east-southeast of False Lindenberg Head and about 0.8 mile northwest of Lindenberg Head. A rock, covered 2¼ fathoms, is in and slightly east of the entrance to the bight.

(92) **Lindenberg Head** is a wooded knoll on a point projecting from the northeast shore 2.2 miles east of False Lindenberg Head.

(93) **Lindenberg Harbor** is a small cove on the west side of Lindenberg Head and affords protection from north and east. The anchorage is in the middle of the cove in 12 to 15 fathoms, with indifferent holding ground. A private mooring buoy is in the west side of the harbor. In 1976, a log storage area was occupying most of the north side of the harbor.

(94)

### Local magnetic disturbance

(95) Differences of as much as 4° from the normal variation have been observed in Peril Strait from McClellan Rock to Point Thatcher.

(96) **McClellan Rock**, about 200 yards off Lindenberg Head, with no safe passage between, covers at highest tides. It is marked by **McClellan Rock Light** (57°27'11"N., 135°01'38"W.), 17 feet above the water from a cylindrical pier with a red and white diamond-shaped daymark.

(97) **Hanus Bay** is a broad open bight in the south shore south of Lindenberg Head. At the west end of the bay are two coves; the south one almost bares, the north one has anchorage for small craft. Ledges that bare are about 200 yards off the north point of this cove and about 300 yards off the south point. Hanus Bay is not recommended for large vessels, because of its irregular bottom and exposed situation. A temporary anchorage might be made in its entrance. Small craft frequently anchor in the cove at the southeast side of the bay in 3 fathoms, mud bottom. The anchorage is approached through the entrance east of **Dead Tree Island**. It offers no shelter during southeast weather as strong winds draw through Portage Arm and are known to have blown small vessels out of the bay. The area is used for storage of log rafts. Care should be given to avoid a 1-fathom shoal 0.4 mile north-northwest of the north tip of Dead Tree Island.

(98) **Eva Islands**, close to the south shore and about 1.6 miles east of **Point Hanus**, have broken ground on all sides. A bare rock is about 400 yards north of the small wooded islet northwest of Eva Islands, and a submerged rock is 600 yards northeast of the same wooded islet. **Svenson Rock**, submerged and sparsely marked by kelp, is 0.5 mile west of the same wooded islet.

(99) **Fairway Island**, wooded and marked by a light, is about 2 miles northwest of Point Thatcher. Submerged ledges with 1 to 2 fathoms over them exist at 0.6 mile and at 0.4 mile west of Fairway Island. Ledges, which are bare at low tide, extend 400 yards east of the island. South of Fairway Island the bottom is very irregular and there are several shoal areas.

(100) **Midway Reef** is about 0.4 mile long in a north direction. A rock awash is near the north end of the reef about 0.8 miles east of Fairway Island.

(101) **Traders Islands**, low and wooded, are 0.5 mile south of Fairway Island. **Thatcher Channel** is the narrow channel south of Traders Islands. A shoal sounding of 4¼ fathoms is in midchannel, 1.85 miles west-northwest of Point Thatcher. The Traders Islands and Catherine Island should be given a 250-yard berth when going through Thatcher Channel. The chart is the guide.

(102)

### Local magnetic disturbance

(103) Differences of as much as 4° from the normal variation have been observed in Peril Strait from McClellan Rock to Point Thatcher.

(104) **Point Thatcher**, the south point at the east entrance to Peril Strait, is low and wooded and terminates in a ledge 250 yards long, with three bare heads. A rock with 2¾ fathoms over it is 0.6 mile north of Point Thatcher, and a submerged feature of 6½ fathoms is 0.7 mile northwest of the point.

(105) **Point Craven**, the south point at the entrance to Sitkoh Bay, is 1.4 miles north from Fairway Island. **Point Craven Light** (57°27'48"N., 134°52'00"W.), 35 feet above the water, is shown from a skeleton tower with a red and white diamond-shaped daymark on the outer of two bushy islets off the point.

(106) **Point Hayes**, the north point at the entrance from Chatham Strait, is moderately high, but is low at the extremity. Two wooded islets, about 60 feet high and a bare rock are close to the point.

(107) **Morris Reef** is a dangerous group of ledges and submerged rocks surrounding Point Hayes to a distance of 0.9 mile to the east, 1.1 miles to the south and 0.8 mile to the west. The southeast extension of the reef is broken ground with patches of kelp and depths of 2 feet to 7 fathoms and is marked at its southeast extremity by a lighted bell buoy that is 1.5 miles southeast of Point Hayes. On a line between the buoy and Peninsular Point, 1.5 miles north of Point Hayes, is an extensive reef, marked by kelp, which partly bares.

(108) **Sitkoh Bay** has its entrance between Point Craven and Point Hayes. The bay is deep throughout in midchannel, but there are several flats at the mouths of streams, and an extensive one, 1 mile wide, at its head.

(109) **Chatham**, on the southwest side of Sitkoh Bay, about 2.1 miles inside the entrance, is the site of a privately-owned inactive cannery. The cannery wharf has a face of 200 feet with 30 feet reported alongside in 1976. A rock awash and a seasonal seaplane float is off the southeast end. A pier close northwest of the cannery wharf had 20 feet reported at its outer end in 1976. Access to the cannery wharf may be intermittently blocked during the winter when Sitkoh Bay has 2 to 3 inches of ice as far as 3 miles down from the head. Icebreakers visit the area on an irregular schedule.

(110) Anchorage can be made 0.2 to 0.4 mile from the head of the bight on the north shore 2 miles from Point Hayes, in 15 to 20 fathoms, soft bottom, sheltered except from southeast winds. Secure anchorage can be had near the flat at the head of the bay about 1.4 miles above the cannery in 17 to 22 fathoms, soft bottom. Care should be taken to avoid the extensive tidal flat that extends 1.1 miles from the tree line at the head. A bar surrounding a small island extends 0.2 mile into the bay from the south shore, 1.8 miles from the head. A private mooring buoy is on the northeast side of Sitkoh Bay about 0.4 mile northeast of Chatham.

(111) Entering Sitkoh Bay, keep the Point Craven shore aboard distant about 0.3 mile to clear Morris Reef, and then keep in midchannel. The chart is the guide.

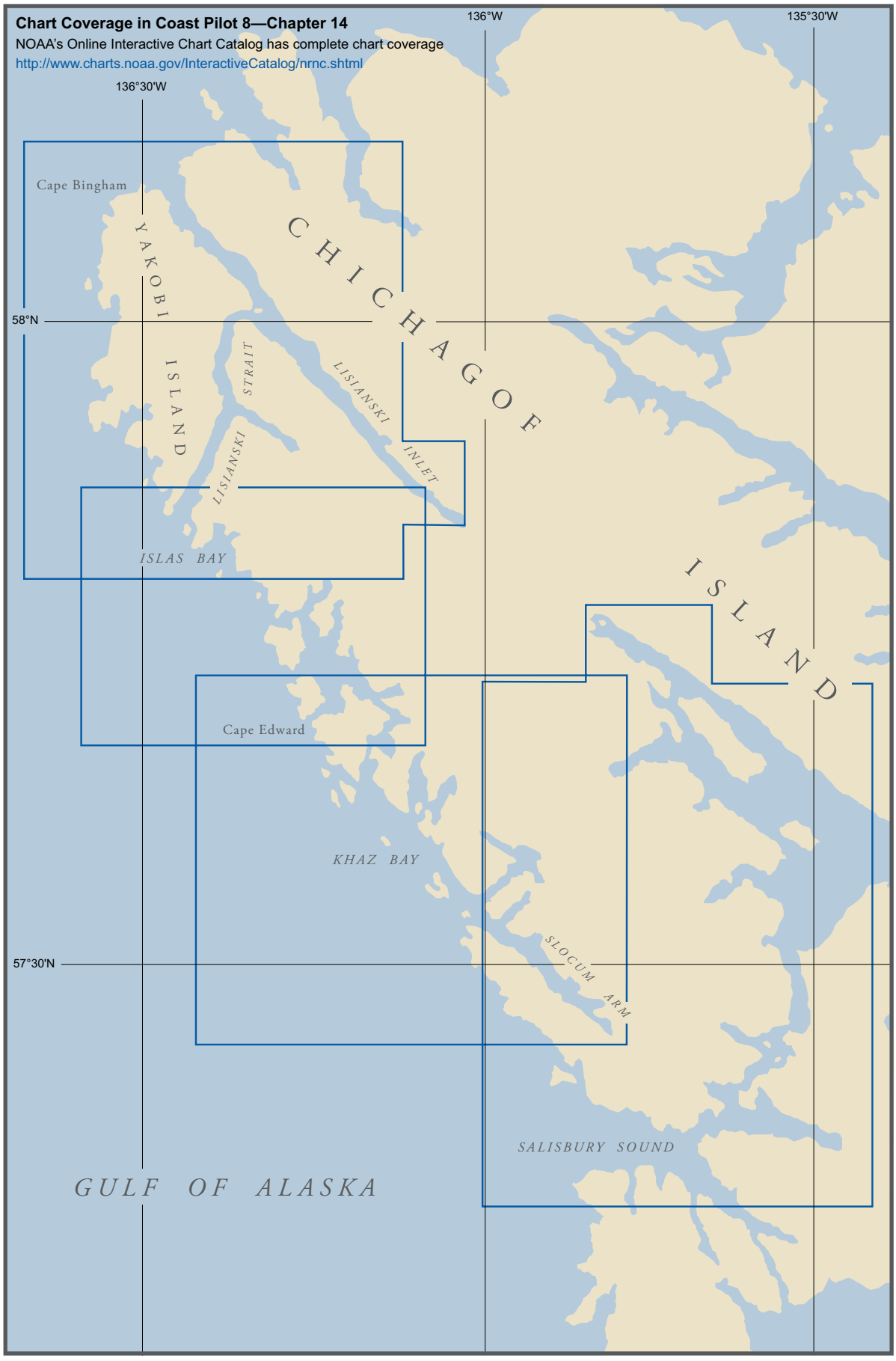


Chart Coverage in Coast Pilot 8—Chapter 14
NOAA's Online Interactive Chart Catalog has complete chart coverage
http://www.charts.noaa.gov/InteractiveCatalog/nrnc.shtml
136°W
135°30'W
136°30'W
58°N
57°30'N
Cape Bingham
YAKOBI ISLAND
CHICHAGOF
STRAIT
LISIANSKI INLET
LISIANSKI
ISLAS BAY
ISLAND
Cape Edward
KHAZ BAY
SLOCUM ARM
SALISBURY SOUND
GULF OF ALASKA

# West Coast of Chichagof Island and Yakobi Island

(1) This chapter describes the west coast of Chichagof Island and Yakobi Island from Fortuna Strait to Cape Bingham. Also discussed are the numerous bays and coves and an inside passage for small vessels that extends along the greater part of this coast.

(2)

**Weather**

(3) While these coasts are exposed to the rigors of the Gulf of Alaska, the climate is tempered somewhat by the maritime location. From October through February, winds and waves pound the shoreline creating a hazard to navigation. Swells from distant storms often arrive from southwest while heavy seas are more often out of south and southeast. Gales are encountered about 10 percent of the time in open waters. The maritime influence is evident in the average maximum temperatures, that run in the mid 30s (°F) in winter and minimums which are only about 5° to 7° colder. In winter, temperatures drop to freezing or below on about 80 to 85 days and in summer usually remain below 70°F. Extremes range from just below 0°F to about 80°F. Precipitation is plentiful year round, particularly in October, November and December. Reduced visibilities are a problem in June, July and August and also in winter; poor visibilities in winter often occur in snow.

(4)

## Chichagof Island

(5) The west coast of Chichagof Island has a general northwest direction for about 38 miles from the west end of Klokachef Island to Cape Cross, and then the coast trends north for 10 miles to Yakobi Rock. The main shore is formed by **Chichagof Island**, which has numerous mountain peaks. From Klokachef Island to Khaz Bay the 100-fathom curve is about 13 miles offshore. The 50-fathom curve is about 6 miles offshore, and inside of that distance the soundings are irregular and less than 50 fathoms, except a narrow pocket with depths of 50 to 101 fathoms, which extends about 5.5 miles southwest from Khaz Bay entrance. From the entrance of Khaz Bay to Cape Edward, the coast is formed by numerous islets, rocks and breakers that prevent a close approach to the shore.

(6) An inside passage for small vessels extends along the greater part of this coast. From Salisbury Sound this route leads north through Fortuna Strait and then outside to Khaz Bay. Small craft sometimes enter Slocum Arm through Piehle Passage, which is close west of Khaz Head. From Khaz Bay the route leads through Ogden Passage and Surveyor Passage to Portlock Harbor, thence through Imperial Passage to the outside coast. Small craft can take the shorter route from Khaz Bay, passing through Ogden Passage and Kukkan Passage and Bay. Small craft with local knowledge can leave Portlock Harbor by Dry Pass. From Portlock Harbor to Lisianski Strait the route leads outside, thence through Lisianski Strait and Inlet to Cross Sound.

(7) This entire coast has been surveyed and is shown on a series of large-scale charts; all known dangers are charted.

(8)

## Fortuna Strait to Point Slocum

(9) **Fortuna Strait** separates Klokachef Island from Chichagof Island. The southeast entrance is between ledges that extend west from Chichagof Island and **Vincent Reef**, which extends south from the east end of Klokachef Island. A shoal marked by kelp, with a least depth of 2¼ fathoms, is 0.5 mile north from the east end of Klokachef Island. A rock, with ½ fathom over it and marked by kelp, is about 600 yards from the north shore on the west side at the entrance to Leo Anchorage.

(10) Fortuna Strait is used, especially by small craft, when bound to Khaz Bay from Salisbury Sound.

(11) **Leo Anchorage**, on the northeast side of Fortuna Strait, narrows at the head, where there is a stream and small flat. The anchorage affords a fair shelter from north winds, but it is not recommended in south weather. With south winds there is less swell near the west side. The anchorage is near the middle in 15 to 20 fathoms or for small craft near the head in 5 to 7 fathoms. The bottom is hard with sticky patches.

(12) **Point Slocum** is about 3.5 miles north-northwest of Klokachef Island. A bare, flat rock, about 30 feet high, is about 200 yards south-southwest of the point; inside the rock a boat landing can be made in ordinary weather. A breaker is about 0.5 mile west of Point Slocum. An isolated breaker is about 0.6 mile south from this point.

(13)

## Khaz Head to Kimshan Cove

(14) **Khaz Head**, a bold, bluff headland, particularly noticeable from southwest, is about 7 miles northwest of Klokachef Island and about 4 miles north-northwest of Point Slocum (57°27.9'N., 135°58.0'W.). It is the northwest end of **Khaz Peninsula**, a rugged peninsula between Slocum Arm of Khaz Bay and the sea.

(15) **Khaz Point**, the southwest point of Khaz Head, shows from the southeast as a conical hill. It is about

2.8 miles northwest of Point Slocum. The shore between these points forms a shallow bight in which there is much foul ground as well as numerous breakers. Breakers extend about 0.8 mile west of Khaz Point. A rock, awash at high water, at the end of the reef that extends south from the point, is used as a landmark by local motorboats that keep close inshore. The surf shows on this rock at all times.

(16) **Piehle Passage** is entered close-to, west of Khaz Point, and leads among the rocks and islets west of Khaz Head to Slocum Arm. This passage is extensively used by small craft with local knowledge but is difficult for strangers. The entrance at Khaz Point is closed by breakers in heavy weather. Good protected anchorage for small craft can be had in the bight at the northwest end of Khaz Head on the southeast side of Piehle Passage. Anchorage can be selected at the head of the bight in 8 to 10 fathoms, mud and gravel bottom.

(17) From Khaz Head a chain of numerous islands, rocks and reefs, some wooded and all generally low, extend about 3.4 miles northwest to Ramp Island and Deuce Island, at the entrance of Khaz Bay.

(18) **Middle Breaker** is on a bare rock about 2 miles west-northwest of Khaz Point and almost 1 mile from the nearest islet to the east.

(19) **Khaz Breakers**, marked by a lighted whistle buoy off the west side, are the outer dangers in approaching Khaz Bay from south and are on a reef about 1.4 miles west of Middle Breaker.

(20) **Outer Rocks** are the southernmost bare rocks on the west side of the entrance to Khaz Bay. They are two in number, about 250 yards apart. Outer Rocks are distinctly darker than the rocks to the north, mound like in appearance and can easily be identified by strangers.

(21) **Black Island** is the highest of a group of small islands about 3.2 miles northwest of Outer Rocks. It is the only wooded island of the group and forms an easily distinguishable landmark. Two bare rocks are about 0.8 mile west of Black Island. A group of bare islets and rocks extends 0.8 mile south of Black Island. Breakers extend 2 miles west of the island.

(22) **White Sisters** are two outlying large white rock islets, about 2.2 miles north-northwest of Black Island.

(23) Inside the lines joining Outer Rocks, Black Island, White Sisters and Cape Edward are numerous bare rocks and reefs, but the four mentioned are the most prominent and easily recognized.

(24) **Khaz Bay**, about 11 miles northwest of Klokachef Island, is 2.2 miles wide at its entrance between Ramp Island (57°33.6'N., 136°05.3'W.) and Outer Rocks, and extends north about 2 miles to Quit Point. Here it divides into an extensive system of inland passages that extend east, north and west and connects with the sea northwest of Cape Edward, through Kukkan Bay and Portlock Harbor.

(25) The entrance, marked by a lighted whistle buoy off Khaz Breakers, is wide and has deep water but is difficult to recognize because of the many islets and bare rocks. In the entrance are a number of breakers that show except at high water with an exceptionally smooth sea and help shape the course in daylight and clear weather. Once in the entrance, vessels should have no difficulty in going into Slocum Arm or through Ogden Passage to Kimshan Cove. Klag Bay is difficult except for small vessels at slack water.

(26) **Black Rock**, about 1.1 miles northeast of Outer Rocks, covers at high water and is generally marked by a heavy breaker.

(27) **Ramp Island**, small, about 100 feet high and scantily wooded, is the westernmost of the islands on the east side of Khaz Bay.

(28) **Deuce Island** is the northwesternmost wooded island on the east side of Khaz Bay and is about 0.5 mile north of Ramp Island. At its northwest end is a round bald knob. **Ninefoot Shoal**, about 0.5 mile north-northwest of Deuce Island, is marked by a buoy.

(29) **Quit Point** is the south end of the southernmost of the low wooded islands on the north side in the entrance to Khaz Bay and is about 1.2 miles northwest of Deuce Island. The end of the point is bare, and at the timber line is about 90 feet high. This island is somewhat higher than others near it and from most points shows as two knobs. The south knob is the larger and higher, with a saddle between. A bare, rocky islet is about 0.3 mile west of Quit Point, and there is foul ground, generally marked by breakers, between this islet, Quit Point and **Gray Rock** about 0.4 mile southwest of the point.

(30) **Rough Channel**, west of Quit Point and Gray Rock, is an entrance to Ogden Passage from Khaz Bay. Its north end has rocks above and under water that constrict the channel to about 200 yards. Because it generally has heavy swell, the channel should be avoided except possibly at low water with a smooth sea. Smooth Channel is the better entrance to Ogden Passage.

(31) **Guide Rock**, bare and 15 feet high, is about 0.3 mile east-northeast of Quit Point and is the easternmost of the bare rocks that extend 0.2 mile east from the island. It is an important mark for entering any of the arms.

(32) **Smooth Channel**, the best entrance to Ogden Passage, is protected from the ocean swell by a chain of wooded islands and ledges. From north of Guide Rock it extends in a northwest direction, with depths of 7 to 33 fathoms. Smooth Channel also forms the approach to Klag Bay and connecting bodies of water. South of **Vorota Island** in 20 to 25 fathoms is an excellent anchorage for vessels up to 250 feet long. With heavy southwest swells some of the turbulence enters the anchorage, but not enough to make it unsafe.

(33) **Doolth Mountain**, 7 miles north of the entrance to Khaz Bay, is wooded. It stands out from the higher mountains farther inland and is the most prominent one near the coast.

(34) **Slocum Arm** extends southeast from Khaz Bay. Its southwest side is formed by the mountainous Khaz Peninsula terminating west at Khaz Head and by the chain of wooded islands that extends 3.4 miles northwest

from that head to Deuce Island. The arm is free from dangers, with the exception of a rock, bare at half tide, 300 yards from the northeast shore.

(35) **Ford Arm**, northeast of Khaz Head, extends northeast from Slocum Arm and is constricted in places by islands and rocks. At its head is an expansion about 0.8 mile in diameter, from which arms extend southeast and northwest. The southeast arm has some islets and a flat at its head; there is anchorage for vessels northwest of the islets in desired depths up to 15 fathoms. The northwest arm has anchorage for small craft at its head in 6 to 15 fathoms. Small craft can also anchor in **Elf Cove**, the cove north of the north point at the entrance to the northwest arm, in 5 to 8 fathoms; a ledge bare at half tide is close to the north side of the cove.

(36) The entrance to Ford Arm is marked on the southeast side by a group of small wooded islands that should not be approached closely. Two miles inside the entrance on the southeast shore is a projecting point.

(37) **Falcon Arm**, 1.4 miles southeast of Ford Arm, extends northeast and narrows to 350 yards at its head. In 1998, shoaling to 12 fathoms was reported in the center of the entrance to the arm in about 57°32.0'N., 135°35.3'W. A rock with 1 foot over it is 0.4 mile inside the bay, in the middle. Favor the northwest shore for 0.5 mile from the entrance to avoid this rock and then keep in midchannel. The depths in the wide part of the arm are 22 to 25 fathoms. A good anchorage is in an expansion above a point on the northwest side 1.5 miles from the entrance in 11 to 14 fathoms, soft bottom.

(38) **Waterfall Cove**, about 1.8 miles southeast of Falcon Arm, is identified by a large waterfall about 1 mile above its head. Two bights are at the head; the east one dries and the west one, which has 4 to 11 fathoms, affords anchorage for small craft.

(39) **Island Cove**, about 4.5 miles southeast of Falcon Arm, has several islands in it near the shore. The anchorage is in the southeast end of the cove in about 16 fathoms. Favor the southeast point of the cove when entering and avoid a flat that extends about 300 yards from the north shore of the anchorage.

(40) On the southwest shore of Slocum Arm, opposite Island Cove, is a small point with a wooded knoll 80 feet high. Anchorage for small craft is in the cove west of this point in 6 to 10 fathoms.

(41) **Flat Cove**, on the northeast side 6 miles southeast of Falcon Arm, has depths of 12 to 32 fathoms to the flat that extends 700 yards from its head.

(42) Good anchorage is 0.5 to 0.6 mile from the head of Slocum Arm in 16 to 18 fathoms. A flat extends about 0.2 mile from its head.

(43) **Klag Bay**, at the head of Khaz Bay, is cluttered with islands, and the shores are foul especially on the east side behind the islands in the bay. The two entrances to the bay lead through narrow crooked channels, with foul shores and strong currents, which are difficult except for small vessels at slack water. Strangers should enter at low water slack when the dangers will show above water or be indicated by kelp.

(44) The main entrance is through **The Gate**, which has its entrance 1 mile north of Guide Rock. It has a depth of 4¾ fathoms and a width of 50 yards at its narrowest part, between a daybeacon on the east side of Vorota Island and a rocky 1-fathom shoal 20 yards off a sparsely wooded islet on the east side of the entrance. A **008°** unlighted range marking the centerline of the channel clears the 1-fathom shoal.

(45) **Elbow Passage** is the west entrance to Klag Bay. The west part of this passage has a midchannel depth of 2¾ fathoms and is constricted in places to a width of about 75 yards by kelp-marked shoals.

(46) The two entrance channels merge north of The Gate and the channel then continues through Elbow Passage around the south and east sides of **Klag Island**. The pass west of Klag Island is almost blocked at the north end and is suitable only for small boats and launches. North of Klag Island the bay is comparatively clear, though there are a number of islands in it.

(47)

### Anchorages

(48) Anchorage can be found in the bay above Klag Island in depths of from 3 to 20 fathoms.

(49)

### Currents

(50) It is reported that the currents in Elbow Passage, south of Klag Island, are strong and the passage is navigable only near the time of slack water.

(51) **Ice** forms in Klag Bay early in January and is a hazard to navigation through February and most of March.

(52)

### Caution

(53) The last of the ebb sets out of Elbow Passage west with great velocity through the west entrance, forming heavy swirls, and passage should be attempted only at slack water, preferably low-water slack.

(54) **Lake Anna** has its entrance through a narrow channel from the east side of the north end of Elbow Passage. There is anchorage at the south end of the lake in 6 to 15 fathoms. About 1.1 miles northeast of the entrance a ledge with bare heads extends to midchannel from the east side; the channel is northwest of it. At the north end of the lake is an anchorage in 5 to 12 fathoms. Lake Anna should only be entered by those with local knowledge because of its narrow entrance and extreme currents, except at slack water.

(55) **Sister Lake** is joined to the northeast end of Lake Anna by a narrow, foul passage 0.5 mile long. Passage should be made at slack water only. It is reported that slack water occurs about 2½ hours after slack water at Sitka and that the currents reach a maximum strength of about 12 knots. The south end of this lake is only 200 yards from Ford Arm and about 300 yards from **Double Cove**, a small bay at the northeast end of Khaz Bay, with low land between. The lake is reported to be deep,

with good anchorage in the coves. The lake should be navigated with caution.

(56) Khaz Bay is connected with Portlock Harbor by Ogden Passage and Surveyor Passage and is a navigable route for small vessels. Another route, partially protected, leads from Ogden Passage through Kukkan Passage and Bay to South Passage, which is the south entrance to Portlock Harbor. This route is recommended for small craft only. Rough Channel and Smooth Channel have been described previously in this chapter.

(57) **Ogden Passage** is entered from Khaz Bay through Rough Channel or Smooth Channel, the latter being the best. From Klag Bay it can be entered through the west part of Elbow Passage. The depths in Ogden Passage are generally good and the dangers are charted, but several narrow passages and sharp turns make its navigation difficult for large vessels. The bottom is generally rocky, and the only good anchorage is in Kimshan Cove.

(58) **Frog Rock** is a steep, grassy rock, about 35 feet high, and is the outermost of a small group of islets in the east side of the passage.

(59) **Snipe Rock**, about 0.6 mile southwest of Frog Rock, is a flat, grassy rock about 10 feet high and is part of a long submerged ledge. It is marked by a daybeacon and is in the entrance to Kukkan Passage which leads through Kukkan Bay to the sea, north of Cape Edward.

(60) In 2003, a dangerous submerged rock was reported in Ogden Passage about 300 yards west of **Drip Point** in 57°39'20"N., 136°10'17"W.

(61) **Fitz Island**, **Dippy Island** and **Port Island** are wooded islets that are at the junction of Ogden Passage and Surveyor Passage. A daybeacon marks a reef with ½ fathom over it, which is on the northwest side of the channel between Fitz Island and Dippy Island. Boats passing between the daybeacon and Fitz Island should give the daybeacon a berth of at least 75 yards to avoid the reef. A submerged rock is in the middle of the channel west of Port Island, making it unsafe.

(62) **Kimshan Cove**, East of Fitz Island, has depths of 6 to 11 fathoms. Anchorage can be selected anywhere in the cove, being careful to avoid the pile ruins of a wharf on the southeast side of the cove.

(63)

## Surveyor Passage to Black Bay

(64) **Surveyor Passage** is the passage that extends from Portlock Harbor to Ogden Passage northwest of Kimshan Cove. Many submerged rocks are in the passage. A daybeacon marks a reef that uncovers about 7 feet on the northeast side of the passage 0.4 mile southeast of Lydonia Island. A rock awash is 50 yards off the northeast shore in the narrow part of the passage about 0.5 mile southeast of the daybeacon. **Lydonia Island** is a wooded island in the northwest end of Surveyor Passage. The channel west and south of the island is foul, and large vessels always use the east channel.

(65) **Minnie Reef**, marked by a daybeacon and which uncovers about 5 feet, is in the main channel north of Lydonia Island. The area between the reef and the island is foul ground.

(66) **Black Bay** extends for 1.2 miles east from Surveyor Passage and has two islands obstructing its entrance. The best passage into the bay is between Point Lydonia and the northernmost of these islands, although small boats can pass between them. The shoreline is steep and rocky except at the head where there is a large sand and gravel flat. Strong winds draw through the bay from the head, and it is not recommended for shelter.

(67)

### Currents

(68) The currents in Surveyor Passage are small. The flood enters the passage from both ends and meets in the vicinity of the entrance to Black Bay.

(69)

## Kukkan Bay to Cape Edward

(70) **Kukkan Bay** is between Edward Islands and Herbert Graves Island and immediately north of Pole Point (57°39.6'N., 136°13.8'W.). It is poorly protected and is used only as a passage into Ogden Passage through Kukkan Passage. The principal entrance is north of Edward Islands, but vessels can also enter south of these islands. Kukkan Bay is connected with Ogden Passage by **Kukkan Passage** and is used by fish packers of about 12-foot draft at all stages of the tide; however, the spot shown as 2 fathoms, on the north end of the shoal area off Pole Point, breaks in heavy weather and may have less than 2 fathoms on it. It should be avoided by all vessels. **Pole Point**, on the south side of the bay, is a bare, bluff point with high, wooded land behind it. **Ittar Rock** is a bare rock 12 feet high in the middle of the entrance to Kukkan Passage.

(71) **Tawak Passage** extends south from the northwest end of Kukkan Passage and affords a protected, although intricate, passage for small boats along the coast. The north end of the passage is foul and should not be used without local knowledge. The islands west of Tawak Passage are called the **Myriad Islands**. **Gig Pass** is a deep, narrow passage leading from the south end of Tawak Passage to Ogden Passage.

(72) **Edward Islands** are two groups of prominent, wooded islands, on the west side of Kukkan Bay, about 0.8 mile south of Cape Edward. Foul ground extends for over 0.5 mile west of these islands. A brown, bare rock, 16 feet high, is 1 mile south-southwest from Edward Islands.

(73) **Cape Edward**, on the west point of **Elkugu Island**, is about 2.6 miles north of White Sisters. A rock, bare at high tide, is about 0.5 mile west-southwest of the cape, and there are submerged rocks 300 yards north and 500 yards east-southeast of this rock. **Elkugu Bay**, on the east side of Cape Edward, is exposed to the south and is of no importance.

(74)

## Portlock Harbor to Zhilo Cove

(75) **Portlock Harbor** is formed on its seaward side by Hogan Island and Hill Island. **Hogan Island** is almost flat topped and timbered with scrubby growth. The shoreline is very steep and rocky, with practically no sand beach except for small coves, which are unfit for beaching any size boat. **Hill Island** is well timbered except in the northwest section, which is almost a flat plateau sparsely wooded with scrub spruce. The highest point of the island is near the center. **Herbert Graves Island**, on the south side of the harbor, is sparsely wooded except for a high, wooded hill on the east part, which is a prominent landmark. The west half of the island is low and rolling with numerous small lakes and swampy areas. **Mount Lydonia**, on Chicagof Island east of the harbor, is a prominent landmark and the highest mountain in the vicinity.

(76) Portlock Harbor is used chiefly by boats going through the inside waters to Ogden Passage. It has three entrances from the sea: South Passage, Imperial Passage and Dry Pass. Imperial Passage is used by most vessels, although South Passage is equally good. Dry Pass is foul and is used only by small boats.

(77) **South Passage** is between Cape Edward and **Point Hogan**, which is the south point on Hogan Island. Reefs extend for 0.3 mile south from Point Hogan.

(78) **Imperial Passage**, between Hogan Island and Hill Island, is the main entrance into Portlock Harbor. The group of islands off the northwest side of Hogan Island form a good landmark; the outer ones are grass covered and the inner ones have a few trees. Two reefs, awash, are 500 yards west of the center of the outer islands. The north side of Imperial Passage is marked by **Hill Island Light** (57°43'39"N., 136°16'36"W.), 60 feet above the water, and shown from a square frame with a red and white diamond-shaped daymark on the south end of Hill Island.

(79) **Peer Island**, a bare rock 20 feet high, is in the passage about 500 yards east of the light, and there is a shoal that extends 150 yards south of this rock, with a least depth of 1¾ fathoms. Several shoal areas are off the entrance to the passage where a heavy sea will break.

(80)

### Anchorages

(81) Anchorage can be found in Portlock Harbor about 300 yards northeast of **Sholin Island**, in 7 to 18 fathoms, rocky bottom. Anchorage can also be had at the junction of Goulding Harbor and Dry Pass in 15 to 18 fathoms. Most of the bays making off from Portlock Harbor are too deep for good anchorage.

(82) **Didrickson Bay** has its entrance on the east side of Portlock Harbor 0.7 mile north-northeast of **Lock Island**. Between submerged rocks and reefs on each side, the entrance is deep and clear. A 6-foot waterfall at the head of the bay can be seen from the entrance. Good anchorage can be had near the head of the bay in 5 to 16 fathoms, mud bottom.

(83) **Pinta Bay** extends north for 2.1 miles from Portlock Harbor. Two small, wooded islands on the west side of the entrance are joined by a reef that bares. East of these islands the entrance is clear.

(84) **Goulding Harbor**, at the northwest end of Portlock Harbor, has two branches. **Baker Cove** is the north branch. The northeast branch terminates in a shallow cove, bordered with sand and gravel flats. With local knowledge it is possible to take launches of 4 feet or less draft to the head of the cove where a large stream empties into the bay. Small craft can anchor near the flat at the head of the cove. Soundings taken at the entrance to the northeast branch show a depth of 1 fathom on a reef of considerable size that extends from the south point of the entrance to the arm.

(85) **Dry Pass**, the north passage from Portlock Harbor to the Pacific Ocean, is north of Hill Island. For 0.4 mile from the west end, the pass is less than 0.1 mile wide and is foul. A narrow channel with depths ranging from 3 to 10 feet passes between rocks at the entrance and to the south of a rock in midchannel, 0.1 mile from the west end and to the south of a small rocky islet near the north shore, 0.1 mile from the east end of this section. The pass then expands into a basin, with a group of islets at the southwest end.

(86) Anchorage in Dry Pass is reported in the cove on the north shore back of a large island in 6 fathoms, sticky bottom, and also in the cove on the southeast shore in 4 to 7 fathoms.

(87) From the northeast side of the basin the pass continues in a northeast direction for about 0.5 mile and then turns southeast to Portlock Harbor.

(88) The coast from Imperial Passage to Lisianski Strait is very irregular and characterized mainly by bold cliffs, rocky beaches, and many small islands, inlets and bays. The immediate shoreline and larger islands are well wooded, but the rolling country back from the beach are stretches of open marsh with lakes or tidal lagoons. Two or three miles inland the mountains rise to elevations of 2,000 to 3,000 feet and are generally bare above 1,200 feet. **North Mountain**, about 1.8 miles to the north of Mirror Harbor, which is 4.3 miles north of Hill Island Light, is timbered to an elevation of about 1,600 feet and appears dark against the peaks beyond. As seen from the south it shows cone shaped with a shoulder 220 feet lower that extends to east. **Mount Douglas**, a rounded double peak, is about 1.5 miles east from Mirror Harbor.

(89)

### Dangers

(90) There are many outlying rocks and breakers along this coast and many rocks and shoals extend north from Cape Dearborn. Several rocks are south of Skinner Island, and several submerged rocks are south from Porcupine Islands.

(91) **Cape Dearborn**, the west extremity of Hill Island, is a bold bluff about 80 feet high and has several small rocky islets close-to.

(92) **Little Bay** is 1.5 miles north-northeast from Cape Dearborn. **Point Weigle**, the north point of the entrance, is 1.5 miles north from Cape Dearborn. The entrance to the bay is wide and clear, except near the shores, and has a depth of about 11 fathoms decreasing to 2½ fathoms near the head of the bay where it is foul.

(93) **Cormorant Island**, **Shag Rock**, **Grace Island**, **Middle Island** and **Snag Island** form a group about 1.7 miles north from Cape Dearborn. **Fern Rock**, **Gull Rock** and a rock awash midway between the two are 270 yards north of Grace Island. **Davison Bay**, the bight east and northeast of this group, has depths of 3½ to 15 fathoms.

(94) **Fleming Island** is 2 miles north of Cape Dearborn. **Mirror Harbor** is north of Fleming Island and has depths of 3 to 4 fathoms in the middle. In 1972, the harbor was reported to be a good anchorage for small craft with excellent protection and holding qualities, soft bottom. The channel leading to the harbor is between Fleming Island and the group to the west. It is intricate, narrows to about 10 yards and in places has depths of about 1 fathom. Local knowledge is required for safe passage.

(95) **Point Shultz** is the south point of Fleming Island, and **Fairway Rock** is 275 yards southwest from Point Shultz. In 1972, a ledge reportedly covered about 10 feet was reported to extend east about 200 yards from Fairway Rock. Passage west of the rock was recommended. **West Arm**, north of **Pluma Island**, is foul, but limited anchorage for small craft is available.

(96) **Skinner Island** is the largest of the outer islands of the group on the west side of the entrance to Mirror Harbor. A rocky islet is 300 yards west and breakers and foul ground extend 0.8 mile southwest.

(97) **Caution Pass** is close east of Skinner Island. It is used by small local launches going to Bertha Bay.

(98) **Bertha Bay**, an open bight about 0.9 mile wide at the entrance, extends in a north direction from Skinner Island. The bay is rocky at the head and is very foul; it affords little protection from the ocean swell. Even small boats must keep over 600 yards from the shore to avoid rocks and reefs. **White Sulphur Springs** and two U.S. Forest Service buildings are on the northeast side of the bight. Small craft usually anchor in West Arm, and users of the White Sulphur Springs follow a trail, about 0.5 mile long, to the springs. Local knowledge is advised.

(99) **Porcupine Rock** is a prominent bare rock, about 1.4 miles west of **Beric Island**, the westernmost of the Porcupine Islands.

(100) **Porcupine Islands**, so named from the shape of the outer one, are about 1.2 miles west of the entrance to Bertha Bay and about 1 mile offshore. Extensive bare ledges prolonged by breakers extend 0.5 mile south from the islands. **Winifred Island** is the largest of the group. Two rocky islets are about 0.5 mile north of Porcupine Islands. A submerged rock with 2½ fathoms over it and showing a breaker in a moderate sea is about 300 yards northwest of the rocky islets.

(101) **Islas Bay** extends north from Porcupine Islands. On its northwest side are numerous inlets, most of which have shoal water and rocks at the entrances. Ilin Bay and Porcupine Bay branch off from the north end.

(102) **Porcupine Bay** is about 0.3 mile in diameter and has general depths of 8 to 12 fathoms. A wooded island, 90 feet high, is in the west part of the entrance. The entrance southeast of this island is clear. The entrance northwest is shoaler and narrower. A waterfall at the east end of the bay shows from the entrance. The harbor affords protected anchorage.

(103) **Ilin Bay**, narrow, rocky and suitable for small craft only, has its entrance 0.5 mile west of the entrance to Porcupine Bay. An anchorage in 8 fathoms, mud bottom, is in the upper half of the bay, but this anchorage is exposed to the south. A more protected anchorage is in **Zhilo Cove**, behind the islands, on the east side of the bay in 3 to 4 fathoms, mud bottom. The south and west entrances between the islands leading to this anchorage are foul, but the north entrance at the head of the bay is clear.

(104)

## Lisianski Strait to Bingham Cove

(105) **Lisianski Strait**, between Yakobi Island and Chichagof Island, about 11 miles long and from 0.2 to 0.8 mile wide, follows a general north-northeast direction and connects Lisianski Inlet with the Pacific Ocean. The waters throughout the strait are generally deep, but the southwest entrance is foul. From the southwest end north-northeast, the strait is clear until 1.2 miles to the southwest of the junction with Lisianski Inlet, where there are two small islands; the north is grass covered with a lone tree on it, and the south is rocky and wooded, with several rocks close-to. A light is about 100 yards south of the south island. Kelp extends from the islands to the Chichagof Island shore.

(106) From the southwest entrance the land presents a succession of low, wooded hills, gradually rising to sharp rocky peaks.

(107) The south entrance channel to Lisianski Strait is about 125 yards wide, with a reef on the east side with 2½ fathoms over it, and rocks on the west side. Favor the west side, especially if the current is ebbing, because there is a southeast set then.

(108)

### Currents

(109) Outside the rocks and reefs at the south entrance the current floods to the north and ebbs to the south. Near the entrance among the rocks, on the ebb, a set to the southeast has been experienced. Tide rips are encountered here, with an ebb current against the wind. Swirls are formed in the vicinity of Esther Island, and the current has been reported to exceed 3 knots at times. From Esther Island to about 0.5 mile to the south of the islands near the north

entrance the current is slight; swirls and eddies are formed 0.5 mile to the south of the islets. Along the islets a current of 0.5 to 2 knots floods to the north and ebbs to the south. North of the islets the current is small. In the vicinity of Miner Island currents are 0.5 to 2 knots. Eddies and swirls occur between Miner Island and Chichagof Island. The currents from Cross Sound and Lisianski Strait appear to meet in the vicinity of Miner Island. An ebb current of 0.5 knot from Stag Bay has been experienced.

(110) **Point Theodore**, on the west side of the south entrance, is low and wooded, with a background of high mountains. Two wooded islands are within the entrance close to the point. Rocks and reefs, bare at various stages of the tide, extend for 0.5 mile in a south direction from the point.

(111) **Star Rock**, about 1 mile south of Point Theodore, is awash at high water; a bell buoy is moored about 200 yards southwest of the rock.

(112) **Point Urey**, the east point of the south entrance to Lisianski Strait, is low, flat and timbered; it has a small sharp knob near the south end. Rocks and foul ground extend about 1.4 miles off the point; the most prominent is Porcupine Rock. Submerged rocks and rocks awash at high water are about midway between Porcupine Rock and Point Urey. **Threenob Rock**, a conspicuous triple-headed rock, is 0.4 mile southwest from the point.

(113) **Urey Rocks**, about 0.8 mile west from Point Urey, are two bare rocks; the east rock is longer and wider. Small rocks and foul ground practically surround Urey Rocks. Kelp extends to the shores of Chichagof Island and Esther Island.

(114) **Esther Island**, just within the entrance, is heavily timbered. Near the middle of the island on the east side is a bight that almost cuts the island into two parts, and during storm tides the seas almost wash across. The east shore of Esther Island is on the west side of what is known locally as the **Inside Passage**. Rocks extend for about 0.5 mile north-northeast of the north end of Esther Island. **Lisianski Strait Light 2** (57°50'42"N., 136°26'08"W.), 53 feet above the water, is shown from a square frame with a red triangular daymark on Esther Island. The light, most brilliant on the bearing 044° and diminishing in intensity around the remainder of the horizon, marks the southwest entrance to the strait.

(115) **Lumber Cove** is a small-boat anchorage northwest of Point Urey. Midway in the entrance is a small steep island that is covered with trees. In entering, pass close to the island, leaving it to south. When clear of the island, pass in midchannel and anchor near the head of the cove in 5 to 6 fathoms, sticky bottom.

(116) **Canoe Cove**, about 1.4 miles north of Point Urey, furnishes anchorage for small boats in 4 to 5 fathoms, sticky bottom. The anchorage is small, about 250 yards wide. It has two entrances, known locally as the **North Pass** and the **West Pass**; both are narrow. At low water North Pass bares for a short distance while West Pass has about 1 foot at its shoalest part. At the seaward end of West Pass is a heavy growth of kelp. A good supply of water will be found on the east side of the cove. Lumber Cove and Canoe Cove are connected at high water by narrow **Canoe Pass**.

(117) **Lost Cove**, about 1 mile above the light on Esther Island, affords anchorage for small vessels in 11 to 17 fathoms, mud bottom. The anchorage is about 300 yards wide. Midway between the entrance points is a rock that uncovers 5 feet and is marked by kelp during the summer and fall. Water may be had at the head of the arm near the end of the cove.

(118) **Stag Bay** is on the east side of Lisianski Strait, 6 miles from the south entrance. The shores are steep and precipitous, the land rising rapidly on each side. The slopes are timbered to an elevation of about 600 feet and to an elevation of about 1,000 feet with a scrub growth above that the entire country is generally barren. About 2.5 miles from the entrance on the south side is **Cub Mountain**, a prominent peak, which from the entrance shows steep on the north side near the summit, with a shoulder on the south side. At the head of the bay is an extensive tide flat; the greater part of it bares at lowest tides and the approach is very steep. Depths within the bay at the center range from 27 fathoms at the entrance to 41 to 73 fathoms inside.

(119) Along each shore are mountain streams at the mouths of which banks have been formed that extend offshore for 100 to 150 yards. In entering follow midchannel courses. There is an anchorage at the head of the bay off the flats in 40 fathoms, with restricted swinging room; this anchorage is not recommended.

(120) A nickel exploration camp is at the mouth of **Bohemia Creek**, on the west side of Lisianski Strait, about 1.6 miles southwest of its junction with Lisianski Inlet. The camp consists of three prominent buildings and a small-boat float about 60 feet long. In 1976, a depth of 6 feet was reported alongside the float. A shoal at the mouth of the creek is marked by a daybeacon.

(121) **Rock Point**, at the south side of the junction of Lisianski Strait and Lisianski Inlet, is marked by a light.

(122) **Miner Island**, at the junction of Lisianski Strait and Lisianski Inlet, is separated from Yakobi Island at high water by a channel about 100 yards wide. It is heavily wooded and surrounded by kelp.

(123) **Junction Island**, a small wooded island marked by a light, is in Lisianski Inlet about 0.5 mile off the Chichagof Island shore and 0.9 mile southeast of Miner Island.

(124) A rocky ledge extends about 200 yards north from Junction Island; kelp extends about 50 yards beyond this. Two rocks, each covered ¼ fathom and marked by kelp, are about 0.2 mile and 0.5 mile north of Junction Island.

(125) **Yakobi Island** is densely wooded in its lower part but contains many high, bare, mountain peaks. The south and north parts of the island are low; the interior and east parts are high. The west coast of the island is broken by many islands and off-lying rocks into numerous bays and bights, forming frequent shelter for small craft.

(126) **Greentop Island**, about 1 mile northwest of Point Theodore, is the outermost and largest of the numerous

small islands, mostly wooded, that are between Point Theodore and Squid Bay. The middle of the island is marked by **Greentop Island Light** (57°51'21"N., 136°29'06"W.), 79 feet above the water and shown from a monopile with a red and white diamond-shaped daymark. Close-to northeast of Greentop Island is **Greentop Harbor**, which extends in a northeast direction. Enter the harbor north of Greentop Island, passing north of the two large islands and the small elbow-shaped island. Favor the north shore of the harbor, being careful to avoid the rock near the north shore.

(127)

### Anchorages

(128) Secure anchorage may be had in the harbor in 4 to 7 fathoms, mud bottom, about 0.3 mile from the head. A large anchorage is on the east side of the harbor. This anchorage has a depth of 5 to 8 fathoms, mud bottom, but there are rocks that bare in the entrance, and caution is required in entering. The other passages among the islands are foul and should not be attempted except by very small craft with local knowledge.

(129) **Squid Bay** is about 2.5 miles northwest of Point Theodore and about 1.3 miles north of Greentop Island. The anchorage here in 5 to 17 fathoms, soft bottom, is exposed to south. The entrance is clear and is bounded to southeast by the high, wooded shoreline and to the northwest by a large area of foul ground that extends to Point Satchrun. All vessels should keep well away from this foul area. In entering, favor the southeast shore.

(130) **Point Satchrun**, bold and wooded, is on the southeast side of the entrance to Takanis Bay, about 3 miles north-northwest of Greentop Island. The point can be identified by a prominent cross of white quartz in the dark basalt that forms the point. This cross is about 40 feet above the waterline and close below the tree line.

(131) **Takanis Bay** has its entrance close west of Point Satchrun. Several narrow arms make off from the bay in various directions. The bay is exposed to the south, but small craft can usually find protected anchorage in its branches. The long narrow arm at the head of the bay is clear but has too limited swinging room for anchorage. The west half of Takanis Bay is foul and should be avoided.

(132)

### Anchorages

(133) The usual anchorage for small craft is in the northwest branch, which contains a small, wooded island near its head. There is ample swinging room south of this island in 6½ fathoms, mud and rock bottom. Very small craft anchor north of this island, which affords more protection but limited swinging room, the best approach being east of the island.

(134) Small craft with local knowledge sometimes anchor in the lagoon east of the upper end of Takanis Bay. The entrance is in the east shore of the bay, about 1.2 miles north of Point Satchrun, and is through a long, narrow arm about 25 yards wide, between bold cliffs. The tidal currents through this arm are very swift, and this passage should not be attempted except at high-water slack and with good local knowledge. Anchorage exposed to the south can be found in the middle of the bay in 8 fathoms, mud and rock bottom, about 0.5 mile above the large flat rock on the east side of the bay just inside the entrance.

(135) **Cape Cross**, the southwesternmost extremity of **Takanis Peninsula**, is about 5.2 miles northwest of Point Theodore. The point is comparatively low and wooded and identified by a high, rocky islet 0.2 mile off the cape, on which is a prominent clump of trees. Two large, bare islets are north of this islet and are connected at extreme low water. Foul ground extends for 500 yards west and for 300 yards south of the islet.

(136) Between Takanis Bay and Cape Cross are numerous small islands, some of which are wooded. With local knowledge small boats can pass among these islands, but there is much foul ground and there are no protected anchorages. **White Crag Island**, the outermost island about midway between Cape Cross and Point Satchrun, is bare and has a conspicuous white top that forms a prominent landmark. Foul ground and breakers extend almost 1 mile south of the cape.

(137) Between Cape Cross and Surge Bay the coast is rocky and broken with numerous large rocks close to shore. The 20-fathom curve follows the coast at a distance of about 0.5 mile, outside of which there are no dangers. Off Surge Bay, however, the 20-fathom curve extends for more than 2 miles offshore, and there are several 8- and 9-fathom spots from 1 to 1.8 miles offshore; but there are no dangers more than 1 mile off the general coastline. Two miles north of Cape Cross is a large bight. Considerable kelp is found here, and there is no protected anchorage even for small boats in the main part of the bight. A rock with less than 2 fathoms over it is reported in the southwest part of the bight in about 57°56'18"N., 136°34'14"W. A bell buoy is about 0.2 mile southwest of the rock. In the south part of the bight, east of the large wooded island, is an inner bight called **Deer Harbor**. It is entered only on the upper half of the tide. Vessels should pass south of the large wooded island. Sheltered anchorage may be had in either the north or south arm of Deer Harbor in 4 to 7 fathoms, mud bottom.

(138) **Surge Bay**, about 4.1 miles north of Cape Cross, is an open bight with numerous rocks and is suitable only for small vessels with local knowledge. The small bights on the east side of the bay are open west. The only protected anchorage for larger vessels is at the extreme north end of the bay, the passage to which leads among numerous small islands and rocks. In about the center of the bay is a high rocky islet, with two grass-covered knolls on it, which is the best mark for the bay. The best entrance to the bay is south and east of the islet; the entrance north-northwest of it is through kelp, and in west weather breakers extend clear across the entrance.

(139) **Surge Bay Entrance Light** (57°58'36"N., 136°33'40"W.), 65 feet above the water, is shown from a

steel post with a red and white diamond-shaped daymark on a small islet marking the south entrance to Surge Bay.

(140) From Surge Bay to Cape Bingham (58°05.5'N., 136°32.5'W.), the coast is very broken with many off-lying rocks and islets. Most of the coves among these islets are foul, and there are no protected anchorages for large vessels. There are no dangers that extend more than 0.5 mile off the outermost islets.

(141) **Yakobi Rock** is about 0.6 mile west of Cape Bingham and is the farthest offshore of the numerous rocky islets in the vicinity.

(142) **Hoktaheen Cove**, a small, open, and exposed cove about 1.2 miles south of Cape Bingham, is suitable only for small craft, and local knowledge is required for its entry. A small timbered knob is about 0.3 mile south of the south shore of the cove, and two somewhat sharp knobs are 1.5 miles south of the cove.

(143) **Bingham Cove**, requiring local knowledge to enter, is on the south side of Cape Bingham. The cove is open to the west but has a well-sheltered south arm. It is reported that local fishing boats use Bingham Cove as a foul weather anchorage.

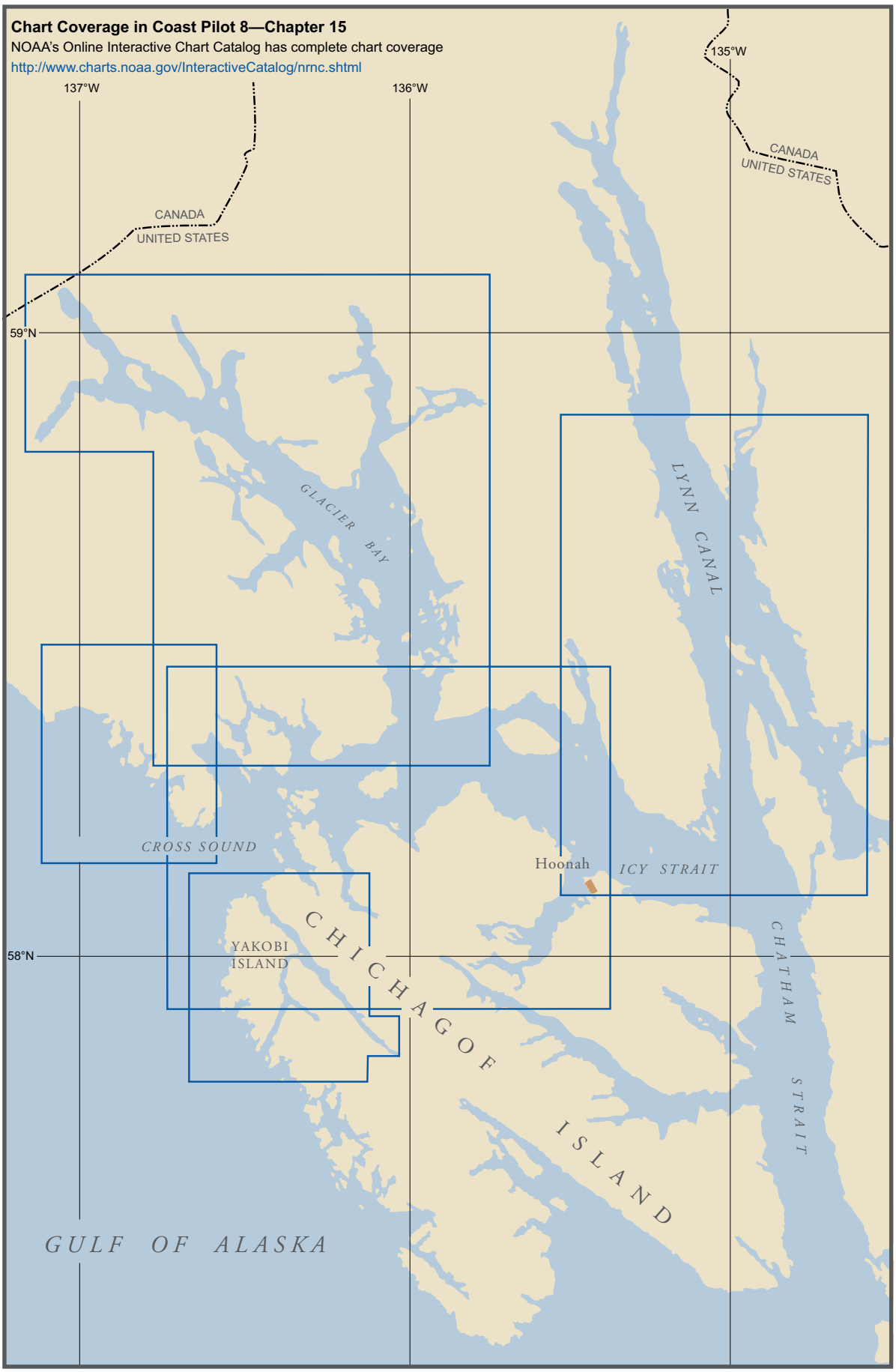


Chart Coverage in Coast Pilot 8—Chapter 15
NOAA's Online Interactive Chart Catalog has complete chart coverage
http://www.charts.noaa.gov/InteractiveCatalog/nrnc.shtml
137°W
136°W
135°W
CANADA
UNITED STATES
CANADA
UNITED STATES
59°N
58°N
GLACIER BAY
LYNN CANAL
CROSS SOUND
Hoonah
ICY STRAIT
YAKOBI ISLAND
CHICHAGOF ISLAND
CHATHAM STRAIT
GULF OF ALASKA

# Cross Sound and Icy Strait

(1) This chapter describes Cross Sound and Icy Strait, which are the northernmost sea connections for the inland passages of southeastern Alaska. Also described are the tributary waterways and the various communities in the area, such as Pelican, Elfin Cove, Gustavus and Hoonah.

(2) Cross Sound and Icy Strait are the northernmost sea connections for the inland passages of southeastern Alaska, separating the mainland between Cape Spencer and Point Couverden, and from Yakobi Island and Chichagof Island between Cape Bingham and Point Augusta. The waterway is about 61 miles long from Cape Spencer at the west entrance to Point Augusta, at its junction with Chatham Strait. It averages 4 to 8 miles wide, but in places this is reduced by islands.

(3)

### Currents

(4) The current from the sea sets northeast on the flood into Cross Sound and Icy Strait and meets the flood current in Chatham Strait south of Point Augusta. The ebb current sets in the opposite direction. The velocity varies with the range of tide and width of passage. The ebb velocity is stronger than the flood. Currents are also modified by wind; an easterly wind has been observed to reduce predicted flood tide to almost slack water in Cross Sound.

(5) In the wide parts of Cross Sound, the estimated velocity of the current is 1.2 knots on the flood and 2 knots on the ebb.

(6) Between the Inian Islands and Point Wimbledon, the current has a velocity of 2.9 knots on the flood and 5.1 knots on the ebb. When the current is strongest, heavy swirls occur northwest of the Inian Islands. Daily predictions for times of slack water and velocity of the current in North Inian Pass are given in the Tidal Current Tables.

(7) South of the Inian Islands, in the narrowest part of the passage between them and Point Lavinia, the velocity of the ebb current is 6 knots, and heavy dangerous rips and swirls occur, especially with an ebb current and west or southwest winds.

(8) In North Passage and South Passage of Icy Strait, the estimated velocity of the ebb current is 3.6 to 4.1 knots. There are swirls and tide rips at times off the entrance to Glacier Bay. At Point Augusta the tidal currents usually have little velocity. See the Tidal Current prediction service at *tidesandcurrents.noaa.gov* for specific information about times, directions, and velocities of the current at numerous locations throughout the area, including Cross Sound and Icy Strait. Links to a user guide for this service can be found in chapter 1 of this book.

(9) Strong tide rips occur at the entrance to Swanson Harbor with a slight S breeze.

(10) On the south side of Icy Strait between Point Sophia and Point Augusta very little current is encountered. Occasionally, when weather indicates a southeast storm along the outer coast in the vicinity of the entrance to Chatham Strait, a current of 2 or 3 knots may be noted, flowing in a west direction along the shore in this locality. Its direction seems to be unaffected by the stage of the tide.

(11)

### Weather

(12) While Cross Sound is exposed to wind and weather off the Gulf of Alaska, its orientation lessens the effect of the strong southeasterlies and northerlies of fall and winter. It is more exposed to winds and seas from southwest through northwest. These winds are most frequent in summer and fall; fall conditions are roughest. Swells from distant storms often arrive from southwest from October through March. Poor visibilities are most frequent in summer and winter. During July and August, warm air moving across the still-cool waters results in fog. Poor winter visibilities often result from rain and snow and are usually worst from Gustavus westward.

(13) Cross Sound weather is mostly maritime while Icy Strait reflects some continental influences. Average maximums in Cross Sound range from the mid 30s (°F) in winter to the mid 50s in summer with a 7° to 9° drop to minimum. In Icy Strait, the range is from around freezing to the mid 60s with a 10° to 15° drop to minimum. At Cape Spencer, the extreme low is –1°F compared to –25°F at Gustavus. Cape Spencer receives about twice as much precipitation as Gustavus, on average. Both locations show a peak during October, November and December.

(14)

## Cross Sound

(15) **Cross Sound** is that part of the passage southwest of the Inian Islands. Icy Strait is that part east of the Inian Islands.

(16) The north shores of the sound are mostly high, formed by the slopes of the Fairweather range. The south side, formed by the Chichagof group, is comparatively low.

(17)

**Caution**

(18) From Cross Sound to Excursion Inlet, shoalings amounting to as much as 6 feet in several critical areas were disclosed during 1959. It is probable that these shoalings and others not yet discovered were due to the major earthquake of July 10, 1958. Accordingly, mariners are urged to use caution in navigating over or near critical depths.

(19)

## Cape Bingham to Soapstone Cove

(20) **Cape Bingham**, the northwest extremity of Yakobi Island and the southeast point at the entrance to Cross Sound, is a low, irregular, rounding, wooded point with a gradual rise for about 1 mile to the interior. Numerous open glades occur in the vicinity. Low timbered islets and points extend offshore for a distance of about 0.4 mile.

(21) From Cape Bingham to Soapstone Point the shoreline is of a very irregular and broken character and presents an almost continuous line of perpendicular cliffs with numerous indentations and inlets, at the heads of which are gradual sand beaches. Numerous columnlike pinnacle rocks and small rocky islets mark the entire shoreline.

(22) **Soapstone Point**, on the west side of the entrance to Lisianski Inlet, is the extremity of a neck of land of bold appearance with a shoreline of steep cliffs. West is a small cove open and exposed and with depths of 8 to 9 fathoms at the entrance. East is **Soapstone Cove**, a narrow inlet that has at its head a valley with a stream. Depths shoal rapidly from 25 fathoms at the entrance to less than 1 fathom 0.5 mile within Soapstone Cove. In 1978, an 8-fathom shoal was reported off the entrance to the cove, about 0.5 mile east-northeast from Soapstone Point. From the shoreline in the vicinity of the point the land rises rapidly and is generally timbered to elevations of about 1,500 feet. The bottom is very irregular for a distance of about 1 mile in a northwest direction from this point. Rocks and kelp extend off the point.

(23)

## Cape Spencer to Graves Harbor

(24) **Cape Spencer**, the northwest entrance point to Cross Sound, is a conspicuous headland. Extending from the cape for about 1.2 miles in a south direction is a large shoal area in which there are rocky islets, some of the inner ones wooded, and rocks, the outer ones usually showing as breakers. From the shoreline the cape rises rapidly to timbered ridges.

(25) **Cape Spencer Light** (58°11'56"N., 136°38'26"W.) 105 feet above the water, is shown from a white square concrete tower on a rectangular concrete building on the outermost large, rocky islet south from Cape Spencer.

(26) **Dicks Arm**, about 1 mile north of Cape Spencer Light, is a narrow inlet less than 200 yards wide in places that extends in a north direction for about 2 miles. From the head of the arm is a gradually rising valley, passing over a saddle to Taylor Bay. A narrow channel, with depths of 2½ to 12 fathoms leads east of **Zip Rock**, 20 feet high and bare, through the off-lying rocks and islets to the inlet. Depths of ¾ to 8 fathoms are found in the inlet to within 0.5 mile of the head, where it is shoal.

(27) **Graves Harbor**, the first main inlet north of Cape Spencer, affords protected anchorage in the southeast arm.

(28)

## Taylor Bay to Fern Harbor

(29) **Taylor Bay** on the northwest side of Cross Sound has its entrance about 6 miles northeast of Cape Spencer. The bay is open to the southeast. **Brady Glacier**, at the head of the bay, has a face about 2 miles long, about 400 feet high, and presents a broken, ragged appearance, with dark streaks. Off the face of the glacier there is an extensive flat that drops off rapidly to 10 to 12 fathoms. The flat at the face of the glacier is extending rapidly down the bay. Vessels proceeding up the bay should use caution and keep sounding. Extensive shoaling has been reported in the upper half of the bay with bare spots in some places. The bottom is mud. The southwest side of the bay is shoal for 0.5 mile offshore. At the entrance to Taylor Bay a rock that exposes at low water is about 0.75 mile off the southwest shore.

(30) **Taylor Island**, high and hummocky, forms the northeast side of the bay for 1.9 miles from the entrance with small rocky islets up to 0.4 mile off the south end of the island. From Taylor Island a chain of small islets extend northwest. There is no navigable channel between the islets and the shore.

(31) **Fern Harbor**, the inlet on the east side of Taylor Island, extends about 1 mile in a northwest direction and is about 0.3 mile wide. Depths of 25 fathoms were found at the entrance and depths of 9 to 11 fathoms, sticky bottom, within the cove. A boulder reef closes the head of the bay except a narrow high-water channel near the Taylor Island shore. The harbor affords anchorage for small craft.

(32)

## Lisianski Habor to Soloma Point

(33) **Lisianski Inlet** follows a general southeast direction for about 21.5 miles. There is temporary anchorage for vessels up to 150 feet long off the east side of Miner Island in 20 fathoms, rocky bottom, poor holding ground. The vessel swings to the current, and the effects of wind drawing through the channel are felt. Good anchorage and shelter may be had at the head of Lisianski Inlet in 15 fathoms, soft, sticky bottom. Small boats anchor alongshore where the depths are not too great, particularly in Mite Cove, off Miner Island, and off the flats alongshore.

(34) **Currents** in Lisianski Inlet are reported slight and set fair with the channel.

(35) In entering, favor the southwest shore until inside the entrance then follow midchannel courses. The chart is the guide.

(36) If bound for Lisianski Strait, round Miner Island at a distance of about 300 yards. This passes close to an 8-fathom spot surrounded by deep water.

(37) If bound for the head of the inlet, pass northeast of Miner Island and Junction Island, follow midchannel courses for about 3 miles beyond Junction Island, then favor the southwest shore until well past the flats off the northeast shore at Pelican and the 5-foot rock almost in midchannel about 0.6 mile beyond. Follow midchannel courses until near the head of the inlet, then favor the southwest shore through the narrows and proceed in midchannel to anchorage.

(38) **Column Point**, the northeast headland of Lisianski Inlet, receives its name from the columnlike masses of rock that extend from its shores. The shoreline is rough and broken and is marked by steep cliffs 20 to 100 feet high. The land east rises rapidly and is timbered to elevations of about 1,500 feet. Small rocky islets and rocks awash, marked by kelp, extend about 0.4 mile offshore, just inside the entrance to Lisianski Inlet. The west extremity of the foul area is marked by a buoy.

(39) The southwest shore of Lisianski Inlet is bold but broken by a number of small bights. **Mite Cove**, 2.5 miles from the entrance, is the best anchorage for small craft. **Mite Island** is off the northwest point of the entrance. Kelp and rocks extend for about 50 yards offshore of the island. Depths of 9.5 to 20 fathoms were obtained in the channel southeast of the island, while to the south depths of 5 and 6 fathoms were found. Protected anchorage may be had in 9 to 10 fathoms, soft bottom, in the center of the cove. There are several freshwater streams, and at the head of the cove and on each side are sand and gravel beaches. **Mite Head**, the southeast point of the entrance, is marked by a light.

(40) A rock awash, marked by a daybeacon, is 350 yards off the southwest shore about 3 miles above Mite Head. There is deep water between it and the southwest shore.

(41) **Basalt Knob**, on the northeast shore about 4 miles above Mite Head, is marked by a light.

(42) The northeast shore of Lisianski Inlet from inside the entrance to opposite Miner Island is clear. The beach is rocky, and the land rises rapidly to mountain ridges, timbered to an elevation of about 1,500 feet. To the head of the inlet the shoreline is generally rocky with several islands and points with flats extending short distances offshore. The slopes of the ridges are moderate and heavily wooded. On the southwest side the slopes are steep and the peaks are bare.

(43) **Pelican**, on the northeast shore of Lisianski Inlet about 4.5 miles southeast of Miner Island, is a community with a cold storage plant, a general store, and two restaurants. Lodging is also available in this community.

(44) **Pelican Entrance Light** (57°57'21"N., 136°13'48"W.), 17 feet above the water and shown from a post with a red and white diamond-shaped daymark, is about 190 yards off the end of the breakwater.

(45)

### Dangers

(46) The dangers in the immediate area are two rocky islets and rocks awash south of the light and off the flat that extend from the shore south of the breakwater.

(47)

### Quarantine, customs, immigration and agricultural quarantine

(48) (See chapter 3, Vessel Arrival Inspections, and Appendix A for addresses.)

(49) **Quarantine** is enforced in accordance with regulations of the U.S. Public Health Service. (See Public Health Service, chapter 1.) Pelican is a **customs station**.

(50)

### Wharves

(51) The wharves at Pelican are city owned and operated, except for a state ferry terminal on the northwest side of the breakwater. The wharves and the small-craft floats are partially protected from southeast winds by the breakwater and the rocky islets.

(52) **Pelican Seafoods Dock** (57°57'34"N., 136°13'53"W.): 140-foot face, 18 feet reported alongside; 2½-ton hoists; shipment and receipt of containerized and conventional cargo, seafood, ice and the handling of supplies for fishing vessels.

(53) **Pelican Seafoods Crab Dock** (57°57'35"N., 136°13'48"W.): about 75 yards east of Seafoods Dock; 95-foot face; 15 feet reported alongside; 3-ton hoist; receipt and shipment of seafood and handling supplies for fueling vessels.

(54) **Pelican Seafoods Fuel Dock** (57°57'36"N., 136°13'46"W.): just east of Crab Dock; 60-foot face; 30 feet both east and west sides; 12 feet reported alongside; offers gasoline, diesel #1, diesel #2 and propane.

(55) **Pelican Ferry Terminal Dock** (57°57'28"N., 136°13'38"W.): on the northwest side of the breakwater; 20 feet reported alongside; owned and operated by the State of Alaska.

(56)

### Supplies

(57) Provisions and fishing supplies can be obtained at the general store; gasoline, diesel fuel, lubricating oils, greases, aviation fuel and water at the fuel pier; and ice for fishing vessels and water at the cold storage wharf.

(58)

### Repairs

(59) Vessels up to 75 feet long can be handled at one of the city-operated grids in the mudflats east of the fuel pier. Two other city-operated grids, capable of servicing three vessels, are between the fuel pier and small-boat basin. A nearby machine shop is available to small craft for minor engine repairs.

(60)

### Small-craft facilities

(61) A federal project provides for a small-boat basin dredged to a depth of 12 feet between the wharves on the north and a breakwater 1,000 feet long on the south. The city-operated small-craft floats close southeast of the fuel pier provide about 3,600 feet of float space. In 2007, 12 feet was alongside the floats except for lesser depths along the floats on the north and east outer parts of the harbor. A seaplane float is at the west end of the second float east of the fuel pier. Water and electricity are available at the floats.

(62) A 60-foot small-craft float, with 10 feet alongside, is about 25 yards northeast of the east corner of Pelican Seafoods Wharf. An 800-pound hoist for transferring supplies for the general store is on the float. Another small-craft float, with 6 to 8 feet alongside, is on the north side of the Pelican Fuel Pier.

(63)

### Communications

(64) Pelican has scheduled year-round seaplane service to Juneau. Seaplane services to Sitka are by charter only. A bi-monthly state ferry service is available during summer and one a month in the winter. Telephone and radiotelephone services are maintained with other parts of Alaska and with other states. Cell phone service is planned for 2019.

(65) About 1.5 miles from the head, Lisianski Inlet is narrowed to a width of about 330 yards by **Soloma Point**, a grassy point projecting from the northeast shore. Beyond this the inlet widens to about 0.5 mile. At the head of the inlet is a flat that bares for about 0.5 mile. Two streams empty here. The north stream is about 60 yards wide and of considerable volume; the current is swift, but the water is shoal. Beyond the flat is a grass-covered area, the west end of a large valley.

(66)

## Port Althorp to Inian Cove

(67) **Port Althorp**, on the southeast side of Cross Sound, between Point Lucan and Point Lavinia, with Three Hill Island and George Islands across the entrance, narrows to an inlet about 0.3 mile wide near the head. An aquatic farm (58°07.1'N., 136°17.9'W.) is behind an inlet on the west side of the port 1.3 miles from the head. Three passes lead to Port Althorp.

(68) **Point Lucan**, 3 miles northeast of Column Point, is a prominent wooded headland. From Column Point to Point Lucan the shoreline consists of almost unbroken precipitous cliffs 50 to 100 feet high, with the exception of a narrow strip of sand beach 0.5 mile south-southwest of Point Lucan. Heavy masses of kelp extend offshore for 0.2 to 0.5 mile. A small rocky islet is 0.4 mile offshore about 1.2 miles north-northeast of Column Point. From the shore the land rises rapidly and the slopes are heavily timbered.

(69) **Three Hill Island**, northwest of Point Lucan, has three prominent wooded hills separated by low saddles; the southeast summit is somewhat flat; the northwest summit appears conical. The southwest shore is fringed with rocks and rocky islets. Off the southeast extremity of the island are two small rocky islets close together, about 25 feet high. **Three Hill Island Light** (58°09'13"N., 136°23'03"W.), 80 feet above the water, is shown from a skeleton tower with a red and white diamond-shaped daymark on the west islet. Between the light and the rocky islet off Point Lucan is a deepwater channel 0.2 mile wide.

(70) **George Islands**, a group of four islands at the entrance of Port Althorp, are about 8 miles northeast of Cape Bingham. The larger islands are sparsely wooded. The two north islands are small with off-lying rocks that extend about 0.1 mile in a north direction. A light is on an islet off the northeasternmost island.

(71) The westernmost and largest of the George Islands is irregular in shape with a deep indentation. **Granite Cove** on its south side is open to the south. The sides of the cove are irregular cliffs, and the head is a shingle beach. A shoal point extends for about 150 yards from the rock off the point on the west shore of the cove where the shoreline turns west.

(72)

### Local magnetic disturbances

(73) Differences of as much as 3° from normal variations have been observed on George Islands at the head of Granite Cove.

(74) From a low depression in the center of the island, at the head of Granite Cove, the land rises to the south to an elevation of about 300 feet, steep and with rocky cliffs on the south side; north of the depression the land rises less steeply to an elevation of over 200 feet. The west and south shores are fringed with rocks and kelp.

(75) The easternmost island, separated from the west island by a narrow channel with a depth of 3¼ fathoms, rises to an elevation of over 100 feet; the shores are fringed with kelp and rocks, and kelp is off the south end, close-to. On the south side of the island is a white gravestone 4 feet high and 30 feet above water cemented to the bare rock outcrop.

(76) **Gaff Rock** is about 0.4 mile west of the southwest end of the west George Islands. There is no safe passage between the rock and the island; kelp surrounds the rock, and there is a kelp patch to the east.

(77)

### Currents

(78) Current observations in the entrance east of George Islands indicate that the current usually flows north with a varying velocity that reaches a strength of about 2 knots 2¼ hours before flood strength in North Inian Pass. (See the Tidal Current Tables for daily predictions.)

(79) **Point Lavinia**, about 10 miles east of Cape Spencer, is the north headland at the entrance to Port Althorp. The point appears to form a little bluff at its extremity with

rather low land behind it, rising in a southeast direction. It is wooded, and depths of 2¼ to 5¼ fathoms extend 200 yards off the point. The point is marked by **Point Lavinia Light** (58°13'24"N., 136°21'15"W.), 60 feet above the water and shown from a skeleton tower with a red and white diamond-shaped daymark.

(80) **Elfin Cove** is a narrow inlet in the northeast shore of Port Althorp east of the east George Islands. A large islet with several smaller ones close north is in the middle of the entrance to the cove; channels are on either side of the islet. A light marks the northernmost of the smaller islets.

(81) The main entrance channel to the cove, southwest of the large islet, is marked by **Elfin Cove Entrance Light 2** (58°11'41"N., 136°21'06"W.), 48 feet above the water, shown from a small house with a red triangular daymark on the south entrance point. The channel then leads southeast between rock ledges and through a narrow cut into the inner harbor.

(82)

### Channels

(83) A federal project provides for two dredged sections in the main channel; a 10-foot section just north of Elfin Cove Entrance Light 2, and an 8-foot section through the narrow cut that leads into the inner harbor.

(84)

### Anchorages

(85) The harbor affords protected anchorage in either of the two basins in the inner harbor and is extensively used by small fishing vessels. Care should be taken when anchoring in the lower basin of the inner harbor; numerous vessels have been reported dragging anchor and often going aground on the eastern shore.

(86)

### Dangers

(87) The principal danger in the approach to the cove is a 1¼-fathom rock, marked by kelp, about 500 yards north-northwest of Elfin Cove Entrance Light 2. The rocky ledges on the sides of the entrance channel are marked by daybeacons.

(88) **Elfin Cove**, a fishing settlement on the northeast side of the harbor, has a small hotel, restaurant, electronic shop and laundromat open from May through September. A general store maintains limited supplies year round.

(89) A fuel float with a 250-foot face is in the outer harbor, about 240 yards east of Elfin Cove Entrance Light 2. In 1991, 9 feet was alongside the float. Gasoline, diesel fuel, lubricating oils and greases can be obtained from the float. Water and limited provisions are available in the summer. On the south side of the southwest corner of the float, a fish-buying scow, with ice and a limited amount of provisions and fishing supplies, is docked in the summer.

(90) The settlement of Elfin Cove operates small-craft floats in both the inner and outer harbors. A 203-foot float with a capacity for 12 boats with 21 feet on the northwest end and 9 feet on the inshore side in 1991 is just east of the fuel float. A 34-foot seaplane float is at the northwest end of the 203-foot float. The floats at the north end of the inner harbor provide 46 berths for small craft with depths of 13 to 18 feet alongside in 1991. Water is available at the gangway. There is a private float landing on the east shore of the inner harbor.

(91) A community-operated grid that can handle craft up to 60 feet in length is in the inner harbor west of the small-craft floats. A nearby machine shop is available for minor engine repairs.

(92) Elfin Cove has scheduled seaplane service with Juneau. Telephone and radiotelephone communications are maintained with other parts of Alaska, and with other states.

(93) **Althorp Rock**, about 15 feet high and marked by a light, is in the middle of Port Althorp, about 0.5 mile east of Three Hill Island. Several rocks that cover are close-to. A group of rocks, several of which show at high water, are west of Althorp Rock; kelp usually marks the rocks. Deep water is found between the patches, but the use of these channels is not recommended.

(94) On the northeast shore of Port Althorp, about 5 miles south-southeast of Point Lavinia, is a cove with a small island near the north shore and a small islet with rocks close-to near the east shore. Depths of 18 fathoms near the head to 29 fathoms in the middle were obtained. From the north part of the cove an inlet extends east for about 0.3 mile to a bight about 0.3 mile in diameter; flats extend for a considerable distance off the north shore. Depths of 1 fathom were found in the bight and in the channel.

(95) The ruins of a pier are on the southwest side of Port Althorp, about 1.5 miles southeast of Point Lucan. Anchorage may be had in 15 to 20 fathoms, mud bottom, at the head of Port Althorp. Small craft anchor closer in, near the head in 5 fathoms, soft bottom. In 1992, local fishermen reported that cable remnants were pulled up in the vicinity of 58°08'12"N., 139°19'18"W. In entering, the channel east of the islet is preferred. At the head of the bay is a flat with a stream emptying into the southeast corner.

(96) The **Inian Islands**, consisting of five principal islands, five smaller islets and a few rocks, are between Point Wimbledon and Point Lavinia and separate Cross Sound from Icy Strait. They are close together, mountainous and wooded. The northwest island rises to a conical peak with a shoulder on the southeast side. **North Inian Pass Light** (58°16'20"N., 136°24'08"W.), 64 feet above the water, is shown from a skeleton tower with a red and white diamond-shaped daymark on the northwest point of the northwest island.

(97) **South Inian Pass** connects Cross Sound and Icy Strait south of the Inian Islands. Two shoal spots are off the point on the south side of the pass at the east entrance; the north one, a rock awash, is marked by a lighted bell buoy; the south spot is covered by 2 fathoms at low water.

(98) **South Rock**, at the entrance to the bight in the south side of the pass, and **Dad Rock**, at the entrance to the irregular indentation in the north side of the pass, both bare and are marked by kelp. There are no dangers in South Inian Pass proper and no anchorages.

(99) The current is stronger than in North Inian Pass, approaching 9 knots on the ebb at times. The flood is considerably weaker. Severe tide rips and swirls occur, especially at the west entrance, with an ebb current and west or southwest wind.

(100) Coming from the east and rounding into Port Althorp, Point Lavinia should be given a berth of not less than 250 yards to avoid a rock, exposed 3 feet at MLLW, northwest of the point.

(101) **Earl Cove** is the indentation about 400 yards wide in the east side of Inian Islands. It is clear, and a small vessel may anchor here temporarily in 8 to 16 fathoms, but it is exposed east.

(102) **North Inian Pass** is between the north coasts of the Inian Islands and Point Wimbledon. A dangerous rock awash in 58°16'36"N., 136°19'40"W., is about 0.8 mile east-northeast from the northeast entrance point of Inian Cove and about 0.2 mile offshore; a bare rock is between this shoal spot and the shore.

(103) **Point Wimbledon**, about 3 miles east from the south extremity of Taylor Island, is a bold headland rising sharply to about 0.8 mile off the beach, then with less slope to higher peaks to the northwest. It is thickly wooded and presents a continuous shoreline of gray cliffs about 50 feet high. In the bight between Taylor Island and Point Wimbledon is a rather prominent headland off which a shoal extends for about 0.6 mile.

(104) **Inian Cove**, on the north side of Inian Islands, is a secure anchorage with a clear width of about 600 yards. Its entrance is about 0.8 mile east of the northeast point of the westernmost Inian Island. A small grassy islet with steep rocky sides is off the north point of the entrance. Kelp grows in deep water on both sides in the entrance. Ice drifts into the cove, usually along the southwest side, but is not considered dangerous to vessels at anchor.

(105) Approaching from east, pass north of foul ground that extends 0.2 mile off Inian Islands, 0.8 mile east-northeast of the entrance to the cove. A 2½ fathom shoal is in the east side of the entrance in 58°16'13"N., 136°20'50"W. From west the approach is clear. Enter in midchannel and steer east so as to keep the northeast shore aboard, distant 100 yards, in the narrowest part of the cove. Anchor in the wide part of the cove in 4½ to 6½ fathoms, soft bottom.

(106)

## Icy Strait

(107) **Icy Strait** extends from Inian Islands in an east direction for about 16 miles to Point Adolphus, where it takes a southeast direction for about 27 miles to its junction with Chatham Strait. It averages 6.5 miles wide, but in places this is reduced by islands.

(108)

## Point Dundas to Pleasant Island Reef

(109) **Point Dundas**, the east point of the entrance to Dundas Bay, on the northwest shore of Icy Strait to the north of Inian Islands, is bold, steep and wooded. There is deep water close to the point; the 50-fathom curve is less than 0.2 mile offshore.

(110) **Dundas Bay** has its entrance on the northwest side of Icy Strait, north of Inian Islands. The main bay is about 2 miles wide and 4 miles long in a north direction. The north end of the main bay is filled by flats to a distance of about 1.3 miles from its head. Between the flats is a channel of very deep water leading north toward the mouth of the **Dundas River**. Southwest of the flats is a channel along the southwest shore of the bay leading into the narrow crooked inlet that extends 5 miles in a northwest direction and then turns abruptly south and reaches to within 1 mile of Taylor Bay, with low land between. Numerous deadheads have been observed in the bay.

(111)

### Ice

(112) Ice begins to form in November in the north and southwest arms of the bay and may linger into May if colder weather prevails.

(113)

### Anchorages

(114) Anchorage in 8 to 12 fathoms, sticky bottom, can be had about 0.3 mile off the southwest shore, opposite a wooded islet, about 3 miles north of Point Wimbledon. At the anchorage the tidal currents have an estimated velocity of 2.5 knots.

(115) **Idaho Inlet** has its entrance on the south shore southeast of Inian Islands. A shoal extends about 0.2 mile west from the east point at the entrance to Idaho Inlet. Anchorage can be made in 15 fathoms in the entrance to **Gull Cove**, on the east shore of the inlet just south of this point. At low water a small vessel can select an anchorage closer in, with better shelter from north winds in depths of 15 fathoms.

(116) **Shaw Islands**, two in number and wooded, are on the west side about 1.8 miles inside the entrance. The islands are connected by a ledge, but a good channel is on each side of them. A midchannel course leads safely to the head of the inlet, where there is anchorage in 18 fathoms, mud bottom, in the middle about 0.4 to 0.5 mile west-northwest of a wooded islet. Container barges often use this anchorage during foul weather. Small craft find anchorage closer to the head of the bay in 5 to 10 fathoms. A marker at the head of the bay marks a trail that extends inland for about 8 miles to the head to Tenakee Inlet. The trail is maintained by the U.S. Forest Service.

(117) **Lemesurier Island** is in the middle of Icy Strait, 4 miles east of the Inian Islands. **Lemesurier Island Light** (58°19'09"N., 136°02'27"W.), 22 feet above the water, is shown from a small house with a red and white diamond-shaped daymark on the northeast point of the island. **South Passage Light** (58°15'31"N., 136°06'56"W.) marks the southwest point of the Lemesurier Island. The island is heavily timbered and has several summits. A small wooded island is about 200 yards off the northwest shore. A shoal extends 0.4 mile offshore from the east side

of the island and about 0.9 mile south-southeast from the light; a reef extends about 0.2 mile from the southeast point of the island. Tide rips occur off this reef, off **Jacks Cove**, and about 1 mile east of South Passage Light. **Willoughby Cove** on the southeast side of Lemesurier Island affords anchorage in 8 to 10 fathoms in the east part of the cove about 0.2 mile off the beach.

(118) **North Passage** and **South Passage** lead north and south of Lemesurier Island, respectively. North Passage is more often used, furnishing a more direct passage to sea. A 5.3-fathom reef is in the entrance to North Passage, 2.3 miles 033° from Lemesurier Island Light. South Passage is clear, but the south shore should be given a berth of at least 0.8 mile to avoid the reef and submerged rocks off Goose Island.

(119)

### Local magnetic disturbance

(120) Differences of as much as 7° from the normal variations have been observed in North Passage.

(121) From the east point at the entrance to Idaho Inlet (58°13.2'N., 136°09.6'W.), the shoreline is low and wooded and trends to the east for 4 miles to **Mud Bay**. Mud Bay River empties through the sandspits at the head of the bay, where flats extend for a considerable distance. The three wooded islands on the west side of the bay are separated from the mainland by a narrow channel that bares. Foul ground, bare in places, extends 0.5 mile offshore from the north side of **Goose Island**, the largest of the wooded islands. There is a depth of 5 fathoms about 1.8 miles east-northeast of **Quartz Point**, the northeast point of Goose Island.

(122)

### Anchorages

(123) Anchorage may be had in 5 to 9 fathoms, 1 mile from the head of Mud Bay, but is exposed from west to northeast, and at times ice is encountered. In entering from the west, give the north shore of Goose Island a berth of at least 0.8 mile and Quartz Point a berth of 0.5 mile.

(124) **Point Adolphus**, the northernmost point of Chichagof Island, is marked by **Point Adolphus Light** (58°17'10"N., 135°46'59"W.), 20 feet above the water and shown from a small house with a red and white diamond-shaped daymark. It is a bold prominent point covered with timber and rising to a rounded summit. Tide rips occur north of the point. About 1 mile southwest is another rounded peak. The shoreline between Mud Bay and Point Adolphus is fairly regular. **Pinta Cove**, the bight on the east side of Point Adolphus, has been used as a temporary anchorage but is not recommended. A ½-fathom rock is near the center of the cove.

(125) **Flynn Cove** is on the south side of Icy Strait, about 7 miles southeast of Point Adolphus and about 1.7 miles southeast of **Eagle Point**. A shoal extends 300 yards northwest from the northwest extremity of **Burger Point**, the high wooded peninsula forming the northeast side of the cove. **Harry Island**, small and wooded, is in the entrance 600 yards northwest of this point. An islet is 0.3 mile west of Harry Island. A submerged rock is reported to be about 50 yards southeast of Harry Island. A 2¾-fathom spot was reported to be about 800 yards north-northwest of the island in about 58°13'23.2"N., 135°36'16.7"W.

(126) **Pleasant Island**, on the north side of Icy Strait about 4.5 miles northeast of Point Adolphus, is comparatively low. **The Knob**, near the middle of the south shore, is a prominent wooded knob. **Noon Point** is the east extremity of Pleasant Island. Rocks and kelp extend 0.6 mile off the point.

(127) **Icy Passage Light 2** (58°23'11"N., 135°37'43"W.), 22 feet above the water, is shown from a skeleton tower with a red triangular daymark off the north shore of Pleasant Island and marks the south side of Icy Passage, the channel between Pleasant Island and the north shore. Mudflats extend off the north shore to within 0.8 mile of the north shore of Pleasant Island. The shallow cove on the north shore of Pleasant Island, southeast of the light, offers fair shelter in 1 to 8 fathoms, mud bottom.

(128) **Gustavus** is a community with an airport on the north shore of Icy Passage at the mouth of **Salmon River**. A lighted buoy, about 3.7 miles west of Icy Passage Light 2, marks the river entrance. River navigation should not be attempted in low or no light situations. Prominent from offshore is the white tank farm south of the community. A state-owned mooring dock, with a 75-foot face and 20 feet reported alongside in 2014, is about 0.3 mile east of the entrance to Salmon River. The dock is connected to shore by a 1,300-foot-long causeway. Alaska Marine Highway ferry service has priority at the mooring dock. Community owned seasonal small-craft floats extend east off the end of the dock. No services are provided and overnight moorage is not allowed. West and southwest swells can make the floats unstable. A paved road connects Gustavus, the airport and Glacier Bay National Park headquarters at Bartlett Cove. Upon advance notice, taxi service is available from the floats or dock to the airport, the community of Gustavus, seasonal lodges and Bartlett Cove. Gustavus is served by air-charter services year round and Alaska Airlines from Juneau in the summer. Satellite phone, VHS and cell phone communications are available with other parts of Alaska and the Lower 48 states.

(129)

### Weather

(130) Gustavus is somewhat protected from the harsh winds of fall and winter by its inside location. Gales are rare while winds of 17 to 27 knots blow about 4 to 7 percent of the time from October through April. The best weather conditions are likely on May through September afternoons, when, on an average of 20 times per month, surface winds range between 4 and 10 knots, temperatures are 33° to 87°F and no precipitation occurs. Poor visibilities are most likely in summer and autumn, falling below 0.5 mile on 2 to 3 days per month from July through September and again from December through

March. During the summer, visibilities are worst in the early morning because of fog, while winter shows less of a diurnal variation since both fog and snow are responsible. Snow is most likely from November through March, averaging 66 inches annually. Precipitation is most frequent during October through February. Temperatures drop to freezing or below on an average of 144 days annually and climb to 70°F or above on about 12 days. Extremes range from –25°F to 87°F.

(131) **Pleasant Island Reef** is an extensive reef, 1 mile south of Pleasant Island. The reef is marked by a lighted bell buoy. Between the reef and the south shore of Pleasant Island is a ¾-fathom rock (58°19'23.7"N., 135°38'06.4"W.); between this rock and the reef is a narrow channel with depths of 20 to 30 fathoms.

(132)

## Porpoise Islands to Tarr Inlet

(133) **Porpoise Islands**, a group of four islands, are near the east end of Icy Passage, about 2 miles east of Noon Point, Pleasant Island. The southernmost and largest island is high and wooded and has a prominent yellow cliff about 370 feet high on the south side. The northwest end of the island is a long low point, terminating in a clump, beyond which a sandspit extends almost to the next island.

(134) Foul ground extends off the islands in places for almost 0.3 mile. A 13½-fathom spot is 0.6 mile northwest of the northernmost island in about 58°20'57.4"N., 135°30'09.6"W. Anchorage may be had in 10 to 17 fathoms, clay and sand bottom, good holding ground, off the west side of the largest island, with the tangents of the largest island bearing 031° and 125°. The strong current and southeast exposure make this area a poor anchorage.

(135) **Excursion Inlet**, a deep, clear, narrow inlet in the north shore of Icy Strait, has its entrance north of Porpoise Islands. About 2.5 miles northeast of the west entrance point is an extensive area of low land on the east side of the inlet. The inlet divides into two arms 4.5 miles inside the entrance.

(136) Vessels will find indifferent anchorage near the head of the east arm, 0.2 mile from the east shore, in about 30 fathoms. Small craft can select anchorage in about 10 fathoms in the coves at the head of the west arm.

(137) **Excursion Inlet**, a small settlement on the east shore about 3.3 miles above the entrance, is the site of a cannery. A wharf at the cannery has a 130-foot face. A seaplane float and a seasonal small-craft float are just north of the wharf. In 1999, 10 feet was reported alongside the small-craft float. Vessels usually stem the current, making either a port or starboard landing at the cannery wharf. The flood current is reported to set about parallel with the face of the wharf; the ebb sets off the wharf, particularly during the first part of the ebb. At low water, large vessels will ground at the bilge keel next to the wharf in soft mud but will have 25 to 30 feet at the keel line, the shoalest water being at the south corner of the wharf. The oil wharf, 165 feet south of the cannery wharf, has a least depth of about 20 feet at the face and a length of 40 feet. During the fishing season provisions and fishing supplies can be obtained at the cannery general store, water and ice at the cannery wharf and gasoline, diesel fuel, distillates, lubricating oils and greases at the oil wharf.

(138) The cannery maintains radiotelephone communication. Scheduled seaplane service, daily in the summer and weekly in the winter, is maintained with Juneau.

(139) A caretaker is in charge of the cannery when it is not in operation.

(140) **Point Carolus**, the west point at the entrance to Glacier Bay, is a low gravel and boulder point, back of which it is low and timbered; high land is west and north.

(141) An extensive reef and several rocks are off the point. Vessels rounding Point Carolus should give it a berth of over 1 mile in order to stay outside the dangers. A small cove, into which a stream empties, is about 1 mile southwest from the point.

(142) **Point Gustavus** (58°23'N., 135°55'W.), the east entrance point to Glacier Bay, is low and wooded and does not exceed 120 feet in elevation or 250 feet tree height. The beach is of gravel and boulders. It is advisable for all vessels to stay well outside Ancon Rock when rounding Point Gustavus. Old pilings of fishtraps are in the area east of the point. A shoal bare at low water is 1 mile north of the point; the bottom in this locality is broken and uneven. Depths to 9 fathoms extend 2.7 miles south of the Point.

(143) **Ancon Rock**, which uncovers more than 1 foot, is about 0.4 mile south-southwest of Point Gustavus and is marked by a buoy 0.3 mile to the west. A rock that uncovers 3 feet is 0.2 mile northwest of Ancon Rock. Another rock area uncovers about 0.2 mile to the southeast of Ancon Rock. Broken ground with depths from 2 to 5 fathoms and a possibility of less extends 1.4 miles south of Point Gustavus; it should be avoided.

(144) **Glacier Bay** has its entrance on the north side of Icy Strait between Point Gustavus and Point Carolus. It is about 50 miles long to the head of Muir Inlet, 54 miles to the head of Johns Hopkins Inlet and 62 miles to the head of Tarr Inlet, its northwest arm, near the Canadian border. From Point Gustavus to Willoughby Island, the east shore, including Beardslee Islands, is low and quite shelving, and the west shore is low for a short distance back; above Willoughby Island both shores of the bay are steep and foul and should be avoided. All the shoals of less than 6-fathom depth are covered with kelp part of the year, but this kelp cannot be depended upon to indicate the dangers as the strong current tows the kelp under most of the time.

(145) **Glacier Bay National Park and Preserve**, 4,400 square miles in area, comprises all of Glacier Bay. It has over 20 tremendous glaciers and many others almost equally impressive. They illustrate all stages, from actively moving ice masses to those that are nearly stagnant and slowly dying.

(146) Humpback whales frequent Glacier Bay. The U.S. National Park Service advises that Glacier Bay National Park and Preserve is involved in a management program to minimize the impact of motor vessels on the whales. All motor vessels are prohibited from pursuing or approaching within 0.25 mile of humpback whales. In the period June 1 through August 31, all mariners, except NPS commercial fishermen, are required to have advance permission from the Superintendent, Glacier Bay National Park and Preserve, to enter Glacier Bay past a line extending from Point Carolus to Point Gustavus. The National Park imposes vessel speed limits in the lower bay during the summer to protect humpback whales. Mariners are advised to check with the park for current restrictions.

(147) Requests for entry authorization are submitted to the ranger station in Bartlett Cove, addressed to Superintendent, Glacier Bay National Park and Preserve, U.S. Park Service, Bartlett Cove, Gustavus, AK 99826, or by telephone 907–697–2627 or by VHF-FM radiotelephone or by email: glba_vis@nps.gov. The ranger station, call sign, KWM-20, monitors VHF-FM channel 16, from 0800 to 1700 daily in the summer.

(148) Special regulations govern Glacier Bay National Park and Preserve. (See **36 CFR 13.1** through **13.55** and **13.1102** through **13.1188**, chapter 2, for regulations.) For current regulations and information, mariners are encouraged to read the information board at the Park Service information station at Bartlett Cove or contact the station by telephone or radiotelephone.

(149) A lodge at Bartlett Cove, with accommodations, is open during the summer season. Cruise ships enter the bay frequently during the summer season. In the upper fiords, VHF-FM and AIS transmissions are poor. Alternative communications, like satellite phones and two-way messaging devices provide more reliable connections.

(150)

### Currents

(151) The tidal currents from Point Gustavus to Willoughby Island at times attain a velocity of 6 knots or more. Heavy tide rips and swirls occur abreast Beardslee Islands, especially off the channel southeast of the northwest island of the group. From this channel the ebb current sets across the bay and meeting the direct current coming down on either side of Willoughby Island produces heavy swirls and rips during large tides. Above Willoughby Island the currents have little velocity. See the Tidal Current prediction service at *tidesandcurrents.noaa.gov* for specific information about times, directions, and velocities of the current at numerous locations throughout the area. Links to a user guide for this service can be found in chapter 1 of this book.

(152)

### Ice

(153) Numerous discharging glaciers enter the bay, and glacial ice is always present, sometimes in enormous quantities in Muir Inlet, Tarr Inlet and Johns Hopkins Inlet. The quantity of ice discharged into Glacier Bay varies from year to year and is greatly affected by seismic activity and local weather. Variations in ice conditions throughout the bay follow no absolutely predictable pattern. Water circulation near the glaciers is very erratic as freshwater enters at all depths. Swirls and eddies are common and cause the ice to move slowly in all directions. During periods of active calving, ice can be present in dense packs. When the ice falls from the faces of the glaciers, it may create waves 30 feet high. Therefore, small boats should not approach closer than 0.5 mile to active glaciers. Icebergs are unstable and should not be approached closely because, if disturbed by swell from the small boat passing, they may roll over or break apart at any time. Icebergs may have underwater projections that extend far from the visible portion at the surface.

(154) Beginning in January, Glacier Bay is at times frozen in its upper reaches and in the bays and inlets where much freshwater is discharged. In the upper end of all bays and inlets, the ice never gets thick during the winter freeze-over, and it either thaws or is broken by the wind and waves. The greatest amount of float ice is found in the spring, and it lessens as the season advances. In June the ice in front of the glaciers, as seen from mountains farther down, appears to be solid at the head of the bay. More ice comes down the bay on the large tides than the small, and winds also exert a marked influence on the ice movements.

(155)

### Caution

(156) The navigation of Glacier Bay outside of the main channels is not considered safe without local knowledge. The shoals are occasionally marked by grounded ice.

(157) Ocean liners and other vessels that cruise the bay are advised to watch for kayaks and small vessels in the area.

(158) Vessels are advised to be wary of ice when navigating Glacier Bay.

(159) **Bartlett Cove**, 4 miles north of Point Gustavus, formed by the mainland on the southeast and **Lester Island** on the northwest, is large and affords good anchorage. It is open to the southwest, but the holding ground is good. The best anchorage in the cove is about 0.2 mile off the southeast side in 7 to 10 fathoms, mud bottom. Take care not to approach too close to the head of the cove. In south weather small boats can anchor close inshore on the southeast side of the cove. The water on the northwest side of the cove is deeper; anchorage for large vessels is recommended in the center of the cove in 8 to 16 fathoms.

(160) To enter Bartlett Cove, follow the east shore of Glacier Bay at a distance of 1 to 1.5 miles offshore for 4 miles from Point Gustavus to the entrance of the cove, and enter in midchannel. No dangers exist that are not connected with the shore except at the head of the cove and off the east and west entrance points. The reef making off the east entrance point is particularly dangerous. Foul ground extends for about the same distance off the west

point of the entrance and is marked at times by kelp. A cable was reported in shallow water near shore along the northern side of Bartlett Cove then across the mouth of Bartlett Cove for a hydrophone; avoid anchoring or dragging in these areas.

(161) The 300-foot T-head pier of the U.S. National Park Service is on the southeast side of Bartlett Cove. In 2002, 25 feet was reported alongside the 400-foot face with 20 feet along the rear of the face. It has been reported that strong currents run parallel along the face of the pier with a west set on the ebb. Mooring facilities alongside the pier are limited and available on a first-come, first-served basis up to 3 hours during the summer. Mariners are encouraged to anchor out and use skiffs to land. Some slips on the inside of the dock are marked for use by government vessels only. A seaplane float is at the end of the northeast side of the pier. Anchoring is prohibited in the area close to the dock. Warning signs are posted on the T-head pier. Close to the pier, the U.S. National Park Service maintains a headquarters and a ranger station throughout the year. A lodge, close to the ranger station, is available on a seasonal basis for food, showers and laundry. Water is available during the summer. Fuel is available seasonally at the dock close southwest of the T-head pier with 25 feet available alongside and a 2-ton mast-and-boom derrick.

(162) The U.S. National Park Service at Bartlett Cove maintains radiotelephone and telephone communications. A road connects with Gustavus and the airport. Bartlett Cove is serviced from Juneau by scheduled and charter seaplanes and by a scheduled airline at Gustavus airport in the summer.

(163) **Beardslee Islands**, low, hilly and sandy, 5 miles above Point Gustavus, extend north along the east shore of Glacier Bay and should be given a good berth. The southwest and west sides are quite shelving, and there are detached shoals north of them for a considerable distance. Beyond these islands the east side of the bay has shoals and sand dunes formed by the glacial debris from the head of the bay; many of these shoals show only at low water.

(164) **Beardslee Entrance**, about 7.5 miles above Point Gustavus and on the southeast side of Strawberry Island, is the approach to the area among the Beardslee Islands. The shoals at the entrance, although they have comparatively deep water over them, cause numerous swirls and the tide rips.

(165) **Sita Reef** is about 0.5 mile north of the north side of **Strawberry Island**. A rocky area, about 2 miles north of Strawberry Island, is in the east half of the channel up Glacier Bay.

(166) A group of reefs about 5.5 miles north of Strawberry Island consists of coarse gravel and scattered boulders and is considered the north extremity of the Beardslee Islands. The tidal currents in Sitakaday Narrows between **Rush Point** (58°28.0'N., 136°04.5'W.) and the Beardslee Islands reach a velocity of 8 knots on spring tides.

(167) **Berg Bay** is on the southwest side of Glacier Bay, 10 miles above the entrance. In the approach from southeast, Lars Island shows as detached from the shore and is readily identified. The main entrance is between **Lars Island** and **Netland Island**. Care should be taken in passing a rock, reported to uncover, making out from the north end of Lars Island. It is advisable to make passage at or near high water. Kelp grows in about 6 fathoms, but the strong currents make the kelp tow under most of the time except during slack water. The passage north of Netland Island is not recommended due to several rocks and low water.

(168) The bay is made up of three arms, north, west and southeast. A narrow, tortuous channel leads into the southeast arm of Berg Bay. This channel is not recommended due to a rocky bottom with many boulders. The currents are strong except for a short time immediately preceding and following high water. Below half tide there is a divided gradient between Berg Bay and the water in the southeast arm.

(169) Anchorage is good in about 18 fathoms about 1 mile inside the entrance. Small craft can anchor farther inshore for protection from south winds. Good anchorage, with protection from north winds, can be had in the north arm. In the west arm, the best anchorage for small craft with good holding ground is reported to be along the northeast shore near the head of the arm.

(170) **Willoughby Island**, about 12.5 miles above Point Gustavus, is a densely wooded mountain, and three small islets are close to its north end. **Johnson Cove**, the small indentation at the northeast extremity of Willoughby Island, is partially protected from wind and waves by the small islets and affords some protection for small boats in all but southeast weather.

(171) The main channel of Glacier Bay passes about 1 mile east of the Willoughby Island shore. **Whidbey Passage**, a well-defined and deep channel, separates Willoughby Island from the mainland to the west.

(172) **Francis Island** is a densely wooded islet, 1.6 miles northwest of Willoughby Island, with a deep channel between. **Drake Island**, like Willoughby Island, is densely wooded. The shores are rocky and steep, with short stretches of gravel beach; a depth of 8 fathoms is about 2.6 miles 062° from the northeast end of Drake Island.

(173) **Marble Islands**, high and partially forested, and weathered to a slate color, are 1.4 miles apart; the south one is 3 miles northeast of Willoughby Island. Just off the south end of South Marble Island are some rocks awash, and relatively shoal water extends in a narrow ridge some 750 yards southeast. A shoal, uncovers in extreme low tide and marked by kelp, is midway between **North Marble Island** and **South Marble Island** and makes passage dangerous between them. Shallow water extends northwest from the north end of North Marble Island. Near the north extremity of the shoal, 470 yards from the island, is a rock that uncovers about 6 feet.

(174) **Leland Islands**, the two islands about 1.7 miles east of the Marble Islands, are low, thickly wooded and have an extensive area of shoal water surrounding them

and a large reef to the south. The channel between these islands and the Marble Islands is navigable, but caution is necessary.

(175) **Beartrack Cove**, which indents the east shore of Glacier Bay about 13 miles north of Point Gustavus, is very deep throughout, and the bottom slopes steeply from the shore. **Beartrack River**, a stream of considerable size, empties into the upper end of the cove. To anchor in 20 fathoms or less a vessel must lie about 175 yards off the low-water line. Strong north winds bring swells into the cove.

(176) A deep channel passes north between the Leland Islands and the mainland, and then between North Marble Island and Sturgess Island. It affords good passage from Beartrack Cove to Sandy Cove and Muir Inlet.

(177) **Spokane Cove** is 6.5 miles northwest of Beartrack Cove. In entering, care must be taken to pass south of the rock off the north shore and to avoid the boulders that fringe the shore of the mainland. The entrance channel has a depth of 10 fathoms. This cove is used by boats with local knowledge but is open to winds from the south. Anchorage can be had in 5 to 8 fathoms, mud and sand bottom.

(178) There are two rocks 0.5 mile off the south entrance point. The south rock was reported to uncover 19 feet and the north one 2½ feet.

(179) **Sturgess Island** is 3 miles north of North Marble Island. Sturgess Island has a longitudinal ridge that rises from the water with an even slope. A chain of islets extends southeast from Sturgess Island. A 5-fathom shoal is about 0.5 mile southwest of Sturgess Island. There are shoal areas in the west half of the strait between Sturgess Island and the large island to the east, but deep water is found if the east shore is favored.

(180) Good holding ground for larger vessels can be found 0.25 mile south of Sturgess Island in 15 fathoms.

(181) **North Sandy Cove**, between the mainland and the two islands about 1.2 miles east of Sturgess Island, affords anchorage in 4 to 6 fathoms, good holding ground, and good protection from winds from any quarter. Ice rarely drifts into the cove, but is exposed from all directions. Two channels lead into North Sandy Cove. The north channel on the east side of **Puffin Island**, the north island, is preferred. The south channel that leads between the two islands is used to some extent by local vessels.

(182) **South Sandy Cove**, immediately south of North Sandy Cove, is used by vessels with local knowledge. Excellent anchorage can be had any place in the cove, including the bight at the southeast side of the head, in 5 to 8 fathoms, mud and sand bottom. This anchorage is open to winds from the southwest and swell from the north. In winter, strong southerly winds funneling along the mountain side can blow from the head of the cove. In entering, take care to pass south of the rock about 250 yards south of the small islet on the north side of the entrance and to avoid the boulders that fringe the southeast shore. During the summer, teh U.S. National Park Service maintains a ranger station at South Sandy Cove. The ranger station monitors VHF-FM channel 16. The station is not regularly staffed.

(183) **Muir Inlet** extends north then west for a distance of over 24 miles from the north side of Glacier Bay. At its entrance the shores are steep and timbered, but in the area of Wachusett Inlet the east shore is an area of terminal moraine with gently sloping beaches. North of Sealers Island the west shore is brushy and steep and continues as described to the head of the inlet. The east shore becomes barren and steep near Riggs Glacier and remains so to the terminus of Muir Glacier. Numerous shifting glacial streams line the moraines, and a number of glaciers empty into the inlet. Good depth is found in midchannel.

(184) **Muir Glacier**, at the head of Muir Inlet, is no longer a tidal glacier. Recent warming has caused the glacier to retreat out of the waters of Muir Inlet. The face of Muir Glacier is now blocked by a series of low moraines and a large delta. The flats in front of Muir Glacier rise suddenly from deep water, and move seaward each year. Extreme caution should be used when approaching glacial outwash fans. Ice rarely reaches the waters of the inlet.

(185) **Tlingit Point**, on the west side of the entrance, is rock outcrop. **Sebree Island**, close to the west shore, at the entrance to the inlet, is heavily wooded and is connected to the mainland by gravel and mud flats. Small vessels can anchor in **Sebree Cove**, between Tlingit Point and the south part of Sebree Island; the holding ground is good. The cove is exposed to south winds, but ice seldom drifts in. An unnamed islet is in the entrance to the cove, about 0.5 mile south of Tlingit Point.

(186) Heading up the East Arm, **Caroline Shoal**, on the west side of Muir Inlet 2 miles above Tlingit Point, is a gravelly spit that is awash at high water. The north side of the shoal is occasionally marked by grounded icebergs.

(187) **Garforth Island**, 110 feet high and densely wooded except at the north end, is on the east side of Muir Inlet, about 2.8 miles northeast of Sebree Island. The channel between the island and the east shore of the inlet has a controlling depth of 6 fathoms. The shoal part of the channel usually has a considerable amount of kelp. A good anchorage for vessels too large for most anchorages in the upper reaches of the bay is reported to be about 0.25 mile north of Garforth Island.

(188) **Adams Inlet**, on the lower east shore of Muir Inlet, is deep at the entrance. However, the remainder of the inlet is dangerous to enter without local knowledge. Strong tidal currents (especially in the entrance) and shoals exist throughout all branches leading to the bays of the inlet. A large rock marks the narrowest part of the entrance channel. It is north of the centerline of the entrance, about 2.7 miles from the mouth. Passage to the north of the shoal is preferred; give equal berth to the shoal and north shoreline of the entrance channel. Controlling depth is 3 fathoms.

(189) During periods of ebb and flood, the tidal velocity is greatly increased in the vicinity of this rock, because of the constriction in the channel. White water dashes about the rock, and large whirlpools are shed from its sides.

(190) No glaciers discharge ice into the inlet, and only occasionally will ice be found within the inlet. Casement Glacier outwash has caused significant infilling of Adams Inlet. What once was a large island is in the center of the inlet and now has braided glacial river discharging to the north and west sides of the island to large bays at the east and southwest sections of the inlet. The waters are very muddy, and submerged shoals cannot be seen except for those marked by turbulent currents. At this point, the eastern section of Adams Inlet is considered uncharted.

(191) **Hunter Cove** on the west side of Muir Inlet, 9 miles above the entrance, is a bight formed by the recession of **Plateau Glacier**; the cove is a good temporary anchorage. When using this bight, take care to avoid two rocks, which uncover 2 feet, close east of the bold point at the north entrance.

(192) **Wachusett Inlet** is on the west side of Muir Inlet about 6 miles northwest of Adams Inlet. A shoal (58°56.8'N., 136°08.0'W.) with a depth of 10 feet is near the middle of the entrance; large icebergs occasionally ground on this shoal. A berth of 0.25 mile should be given this shoal, because it slopes gently to the deeper depths. A reef, which uncovers 13 feet, is about 1 mile from the entrance of the inlet and about 500 yards from the south shore. Vessels should favor the north shore.

(193) Wachusett Inlet extends over 9 miles from its entrance, west to a large area of tidal flats in front of the moraine of the distant Carrol Glacier. The mouth and inward to the narrowest part of the inlet have depths ranging from 34 to 42 fathoms at midchannel. The next few miles deepen to over 100 fathoms then gently slope upward to the tidal flats at the end of the inlet and a depth of about 29 fathoms midchannel. The north shore of the inlet is mostly glacial moraine left by the recession of Burroughs and Plateau Glaciers. The south shore is more steep than the north shore; barren rock is interspersed with pebble beaches formed from alluvial fans. The head of the fjord has infilled; caution should be used when approaching the end.

(194) **Sealers Island**, a small rocky island with steep sides, is close to the east shore of Muir Inlet and about 7 miles north of Adams Inlet. **Goose Cove** is only accessible for very small vessels. The mouth of the cove dries at low water.

(195) The entrance to **McBride Inlet** is treacherous to navigate without local knowledge, including strong currents, dense icebergs, and shallow rocks through a narrow 0.25 mile long inlet. Entering and exiting near high slack water favoring the southern shore is the preferred route. Entering during a flood may mean the vessel cannot control its course or speed. Turning around in the channel is not recommended. After passing through the entrance channel, favor the northern shore until past the shallow spot 0.5 mile inside the inlet. Expect ever changing conditions near the face of the glacier.

(196) **Upper Muir Inlet** extends west of Riggs Glacier for 3.5 miles, then northwest for another 3 miles. This section of the inlet is steep-to on both sides and deep. The southern shore is steep and covered with dense alder brush. The north shore is sloping in places, with spare vegetation and a few large alluvial fans. There are no anchorages in Upper Muir Inlet. The inlet ends in a large area of tidal flats in front of Muir Glacier, which has receded far from tidewater. The flats rise suddenly from deep water and build seaward on a continual basis. Extreme care should be exercised when approaching glacial outwash fans.

(197) All glaciers in this area have now retreated onto land. Expect the continued sediments from these glaciers to cause infilling near them; caution advised.

(198) The northwest arm of Glacier Bay has a northwest direction, with a width of 2 to 5 miles, and a precipitous shoreline with depths greater than 20 fathoms within 200 yards of the shore. **Lone Island** has a rocky, precipitous shoreline and is in midchannel about 3.4 miles northwest of Drake Island. A rock is reported to be about 0.3 mile south of the island in about 58°43'00"N., 136°17'28"W. **Geikie Rock**, 6 feet high, is off **Geikie Inlet**, 1.8 miles south of Lone Island. The occasional grounding of ice in the vicinity indicates a shoal of some extent. A large rock, which uncovers 11 feet, is 900 yards 042° from Geikie Rock.

(199) Geikie Inlet extends 8 miles southwest from the south shore of Glacier Bay. Midchannel depths range from 40 to 80 fathoms with unobstructed depths greater than 10 fathoms that extend to within 200 yards of shore.

(200) **Shag Cove** is 1 mile within the entrance to Geikie Inlet on the south shore. Depths in the 2-mile-long cove range from 1½ to 6 fathoms to within 100 yards of the shore with the exception of two areas: 3 fathoms, 300 yards off the west shore, 0.8 mile within the entrance, and 7 fathoms, midchannel, 0.6 mile within the entrance. These shoals are not a hazard to navigation for any size vessel likely to operate in the cove; however, passage may be made in 10 to 40 fathoms by staying 250 yards off the east shore. An area foul with rocks extends 300 yards offshore from the point and small island at the southwest entrance to the cove. This foul area extends toward the large island 0.2 mile to the north-northeast. Passage may be made by small craft by staying within 100 yards of the large island. Protected anchorage may be had in 5 to 20 fathoms at the head of the cove, soft bottom.

(201) **Tyndall Cove** is 2 miles southwest of Shag Cove. Unobstructed midchannel depths range from 10 to 40 fathoms with depths greater than 10 fathoms within 100 yards of the shore. A gravel bar extends 400 yards offshore from the large stream on the west shore at the entrance to the cove. Anchorage may be made in 10 to 20 fathoms at the head of the cove, soft bottom.

(202) An island is 0.4 mile off the southeast shore of Geikie Inlet, midway between Tyndall Cove and Shag Cove. A shoal surrounds the island, which should not be passed closer than 500 yards. A wide berth should be given to a rock awash (58°38.1'N., 136°23.1'W.), 600 yards off the southeast shore, 0.6 mile south-southwest of the island, directly north of the east side of the entrance to Tyndall Cove.

(203) The head of Geikie Inlet continues to infill; caution is advised when approaching.

(204) A foul area (58°44.3'N., 136°24.2'W.), awash at low water, is 0.7 mile off the southwest shore of the west arm of Glacier Bay and 3.5 miles west-northwest of Lone Island. A 1½-fathom shoal (58°44.5'N., 136°25.9'W.) is 800 yards off the south shore and 1 mile west of the foul area. Safe passage may be had into **Hugh Miller Inlet** by staying 100 to 600 yards off the south shore, from the prominent point 3.5 miles northwest of Geikie Rock to a small cove called Sundew Cove (58°44.4'N., 136°29.8'W.). Unobstructed depths greater than 5 fathoms extend to within 100 yards of the shore; a gravel bar at the mouth of the stream near the middle of the cove extends 250 yards offshore from the apparent shoreline and should be avoided. Anchorage may be had in 5 to 35 fathoms in the cove, soft bottom. The western bight of the cove offers the best anchorage for small vessels.

(205) Two unnamed islands 5.6 miles northwest of Lone Island separate Hugh Miller Inlet from **Blue Mouse Cove** to the north. Passage should not be attempted from the southwest or southeast into Blue Mouse Cove. Midchannel depths in Hugh Miller Inlet range from 30 to 57 fathoms. **Division Island** (58°46.2'N., 136°32.5'W.) separates **Charpentier Inlet** and upper Hugh Miller Inlet. No attempt should be made to enter the head of Hugh Miller Inlet between Division Island and Gilbert Peninsula without local knowledge; numerous rocks and foul areas exist in this area. The southwest shore of Hugh Miller Inlet between the unnamed cove and Division Island should be kept at least 500 yards to port when passing from Sundew Cove (58°44.4'N., 136°29.8'W.) to the northwest part of Charpentier Inlet. A rock (58°45.4'N., 136°29.9'W.) is 250 yards offshore 0.7 miles northwest of the northwest entrance point of the unnamed cove. A 3-fathom shoal is 300 yards northeast of a low grassy island just off the prominent point 0.6 mile northwest of the northwest entrance point of the unnamed cove, and a 3½-fathom shoal is 450 yards north of the same island.

(206) To pass through Hugh Miller Inlet into Charpentier Inlet, follow a midchannel course until the north and westernmost low rocky island is abeam to port and then follow a southwest course so as to pass midchannel between the southeast end of Division Island and the rocky island about 500 yards south of the southeast point of Division Island. Take care to pass well clear of the islands, which are fringed by reefs and shoal areas. Midchannel depths are 4 to 30 fathoms between the rocky islands and Division Island. Rocks and foul areas extend south-southeast from the westernmost rocky island to shore, and the area should be avoided.

(207) **Charpentier Inlet** extends about 6 miles south-southeast from the south-southwest end of Division Island. Depths in the inlet are 40 to 83 fathoms with unobstructed depths greater than 10 fathoms 100 yards offshore. Two rocks (58°44.9'N., 136°31.4'W.) are 100 yards north of the prominent point on the east shore at the entrance to the southeast arm of the inlet. Anchorage may be had in soft bottom anywhere in the inlet. The southeast arm is navigable to its head where anchorage may be had in 10 to 20 fathoms.

(208) A small 0.5-mile-diameter tidal basin (cove), 1.3 miles west of Division Island, is separated from the north arm of Charpentier Inlet by a high flat gravel island. The cove is 15 fathoms deep at its center but is separated from the inlet by a bar at low water; passage may be made into the cove by skiff through a 0.7-mile-long northwest-trending channel originating near the center of the gravel bar at the northwest end of Charpentier Inlet and passing north of the flat gravel island.

(209) **Scidmore Bay** is southeast of **Scidmore Glacier**, northwest of Charpentier Inlet and west of **Gilbert Peninsula**. Depths are 20 to 46 fathoms with depths greater than 5 fathoms within 200 yards of the shore. Two unnamed islands are near the center of the bay. Two rocks (58°48.6'N., 136°37.2'W.) are 100 yards off the north shore of the east island, and a reef is 200 yards west of the northwest point of the east island. A rock (58°48.2'N., 136°37.5'W.) is 30 yards off the southwest shore of the west island. A rock awash (58°48.0'N., 136°37.6'W.) is 500 yards southwest of the south end of the west island. Strong northwest and southeast winds blow through the bay, and best anchorage is made in 10 to 20 fathoms in the lee of the islands, soft bottom. To enter Scidmore Bay, hold a midchannel course from Charpentier Inlet.

(210) **Blue Mouse Cove**, 3 miles southwest of Tidal Inlet, is at the southeast end of Gilbert Peninsula. Unobstructed depths greater than 5 fathoms extend to within 150 yards of the shore, with central depths of 15 to 30 fathoms. The holding ground here is reported to be fair, with the best anchorages reportedly on the west and east sides, well inside the cove.

(211) **Tidal Inlet**, about 3 miles east-northeast of Gilbert Peninsula, is 4 miles long, with central depths of 26 to 130 fathoms and unobstructed depths greater than 10 fathoms within 150 yards of the shore. A 3½-fathom shoal is 450 yards east-southeast of the prominent point on the west side of the entrance to the inlet. A prominent scarp can be found of the north side of the inlet 1.2 miles from the entrance. Extensive areas of loose rock on this steep shattered cliff present a continuing hazard of landslides, falling debris and potential avalanches. Destructive waves caused by massive rock falls can occur at any time. A giant wave could result from sudden failure of this scarp with little or no warning to mariners in or near the Tidal Inlet area. Anchorage is possible in 5 to 20 fathoms off the south shore, 2.6 miles from the entrance, and 100 yards northwest of a prominent reef 100 yards from the apparent shoreline; anchorage in other areas is difficult, because of excessive depths.

(212) **Composite Island** is 6 miles northwest of Tidal Inlet between Rendu Inlet and Queen Inlet. Clear passage may be made on all sides of the island in depths of 60 to 140 fathoms. Unobstructed depths greater than 10 fathoms extend to within 100 yards of the shore. Anchorage may be had 200 yards off the northwest shore in 20 fathoms.

(213) **Rendu Inlet**, 7 miles long, is northwest of Composite Island; central depths are 40 to 98 fathoms, with unobstructed depths greater than 20 fathoms within 100 yards of the shore.

(214) **Queen Inlet** is north of Composite Island; central depths are 30 to 80 fathoms, with unobstructed depths greater than 20 fathoms within 200 yards of the shore. **Triangle Island** is at the head of the inlet and is surrounded by outwash plain.

(215) Neither Rendu Inlet nor Queen Inlet offers safe anchorage, because of the steeply sloping bottom and excessive depths. Take care to avoid the rapidly building bars at the heads of these inlets. These shoals rise suddenly from deep water and build seaward on a continual basis.

(216) Glacier Bay continues northwest from the Gilbert Peninsula and Composite Island to Russell Island. The principal channel passes to the south of Russell Island with central depths of 120 to 220 fathoms.

(217) A group of small rocky islets are 1.8 miles east of the southeast point of Russell Island. The largest islet at the southeast end of the group has a prominent, dome-shaped peak that is about 36 feet above mean sea level. Reefs and foul ground extend for 900 yards northwest from the dome for an area 300 yards wide. The southeast end is steep-to.

(218) A single rocky islet is 1 mile north of the southeast point of Russell Island. A reef extends 500 yards from the southeast end of the islet. A 5-fathom shoal (58°55.6'N., 136°45.3'W.) is 0.6 mile east of the islet.

(219) The south, northeast and north slopes of **Russell Island** are rocky and steep at sea level. The southwest and west sides are gently sloping.

(220) Along the east side of Russell Island are several islets and rocks awash, all within 400 yards of the mean high-water line. Bare and submerged rocks extend out 400 yards from the southeast point of the island.

(221) The north shore of Glacier Bay from Rendu Inlet to Russell Island is steep with gravel and boulder beaches. A large glacial outwash area is north of Russell Island.

(222) Anchorage may also be found in 15 to 25 fathoms in an area 0.3 miles south of the basin. The anchorage is north of a line running from the northeast corner of Russell Island, southeast, through the islets and reefs to the domed islet 1.8 miles east of the southeast point of Russell Island. Approach is made by following the north shore, keeping midway between the shore and the line of islets and reefs. The offshore side of the channel should be favored to avoid the 4-fathom shoal. Anchorage is in mud with gravel and cobbles anywhere from the islet due north of the easternmost point of Russell Island up to the northeasternmost point of Russell Island.

(223) To continue through the passage around the north side of the island, stay midchannel, but favor the island side until abeam of the first rocky point on the northwest side of the outwash. Then favor the mainland side, passing about 250 yards off the second rocky point on the north shore. Then steer west-northwest into Tarr Inlet, avoiding the 2-fathom ridge (58°57.1'N., 136°51.4'W.), 650 yards northwest of the north point of Russell Island. This course will also avoid a rocky ridge (58°57.6'N., 136°52.4'W.) that extends 300 yards off the next rocky point on the mainland (third point from the outwash and 1 mile northwest of the north point of Russell Island). Passage is recommended only for vessels with draft sufficiently small to clear the charted shoals.

(224) Anchorage may be found on the northwest side of Russell Island between the northernmost and the westernmost points, about 0.4 mile offshore. Depths are 5 to 20 fathoms in mud bottom with gravel and cobbles. There is a 6-fathom shoal (58°56.9'N., 136°52.2'W.) 0.7 mile west of the northernmost point of Russell Island and a 2-fathom rock (58°56.5'N., 136°52.1'W.) 500 yards northwest of the westernmost point of the island. The 5-fathom depth curve is from 200 to 500 yards offshore from the north point around to midway along the southwest shore of Russell Island. Ice coming here from Tarr Inlet grounds, melts and deposits gravel, cobbles and occasional boulders on the bottom.

(225) The south shore of Glacier Bay from the Gilbert Peninsula to Johns Hopkins Inlet is steep and rocky with occasional outwash areas. A rocky reef (58°53.0'N., 136°50.3'W.), 1.4 miles west-northwest of Ibach Point, is 200 yards offshore. Numerous rocks are awash less than 100 yards offshore along the south shore.

(226) **Ibach Point**, 1.7 miles south of the southeast point of Russell Island, marks the east side of the entrance to **Reid Inlet**. The entrance, 0.5 miles southwest of Ibach Point, is partially blocked by gravel bars that extend 500 yards off the east shore and 200 yards off the west shore. The entrance controlling depth is 3 fathoms for a width of 200 yards. The inlet extends south for about 1.5 miles to the flats in front of Reid Glacier which is no longer tidewater. Anchorage may be had in 10 to 20 fathoms 500 yards past the entrance to either the northeast or southwest.

(227) To enter Reid Inlet, go west past the entrance; turn and steer **135°** parallel to and about 300 yards off the shoreline northwest of the entrance. Approach is best made at low tide when the channel is well marked by the bars on either side.

(228) **Johns Hopkins Inlet** leads west and then southwest from Russell Island for about 9 miles to the terminus of **Johns Hopkins Glacier**. **Lamplugh Glacier** is on the south side of the entrance to the inlet. Shoaling exists in front of Lamplugh Glacier. A lagoon in front of the glacier is not safely accessible to vessels.Several smaller glaciers feed into the inlet at various places. Depths range from 200 to 43 fathoms as one proceeds into the inlet. Both shores are steep-to with very few offshore rocks, all of which are within 50 yards of shore. Both shores are mountainous with extremely steep bare rock slopes. Rock and ice falls are very common along the southeast shore in the lower section of the inlet. The inlet has no anchorages.

(229) **Tarr Inlet** leads northwest from Russell Island for about 9 miles to **Ferris and Margerie Glaciers**.

The northeast shore has several alluvial fans of gravel, cobbles and boulders. The outwash fan at the northeast corner of the inlet rises suddenly from depth and builds seaward on a continual basis. Extreme caution is advised. The southwest shore is steep bare rocks except for one gently sloping valley leading south from a cove about 7 miles northwest of Russell Island. Depths in the cove slope gently offshore so that the 30-fathom line is 1,000 yards north of the high-water line at the head of the cove. Ice collects in the cove in sufficient quantity to interfere with small vessels attempting anchorage. Depths greater than 10 fathoms can be carried to within 200 yards of shore throughout Tarr Inlet. The exceptions to this are the cove described above and the northeast shore at the entrance to the inlet. Depths range from 186 fathoms at the entrance to 127 fathoms 0.5 mile from the face of the glacier.

(230)

## Port Frederick to South Bight

(231) **Port Frederick**, on the south side of Icy Strait between Crist Point and Point Sophia, has no known dangers other than those charted. It offers several very good anchorages with good holding ground and shelter.

(232) Small craft approaching from west use Gedney Channel. This channel is not recommended for large vessels because of the unmarked dangers. Large vessels use midchannel courses between Point Sophia and Cannery Point to east and Pinta Rock and Halibut Rock to west.

(233) If bound for Hoonah, give Cannery Point and the shore to east a berth of 200 yards or more. The approach is clear.

(234) **Crist Point**, the west point at the entrance, is marked by two islands about 0.7 mile off its north side. **Hoonah Island**, the northwest and larger one, is 270 feet high and wooded; a reef with 2 fathoms over it extends about 0.3 mile north off the northwest end of Hoonah Island. **Scraggy Island**, 40 feet high and sparsely wooded, is about 0.8 mile southeast of Hoonah Island; a rock awash is midway between Hoonah Island and Scraggy Island. **Pinta Rock**, awash and marked by kelp for about two-thirds of its length, is about 0.8 mile southeast of Scraggy Island. A lighted bell buoy marks the northeast side of Pinta Rock. A 4¾-fathom shoal is about 0.9 mile northeast of Pinta Rock.

(235) **Gedney Channel** is southwest of Hoonah Island and Scraggy Island. Shoal spots are at the edge of the channel.

(236) **Halibut Island** on the west side, about 1 mile inside the entrance to the port, is wooded, and foul ground extends 0.3 mile east from it. **Halibut Rock**, which uncovers, is about 0.6 mile south of Halibut Island. There is kelp for a distance of about 100 yards northeast to west of the rock, but none on its southeast side. A ½-fathom rock is about midway between Halibut Island and the west shore.

(237) **Point Sophia** shows from east as a wooded hill, somewhat bluff at the water's edge; south of the hill is a V-shaped saddle, from which the hill rises to high land. From Point Sophia to Cannery Point, the shore is free of dangers.

(238) **Cannery Point**, on the southeast side of the entrance to Port Frederick, 2 miles southwest of Point Sophia, is similar in appearance to Point Sophia, but lower. **Port Frederick Light 3** (58°07'56"N., 135°27'55"W.), 26 feet above the water and shown from a skeleton tower with a green square daymark, marks the entrance to Port Frederick.

(239) **Hoonah Point**, 0.8 mile south of Cannery Point, is a rocky bluff, wooded on top, and appears detached from the hill nearby. About 0.6 mile south of Hoonah Point is **Pitt Island**, the northernmost of several islands near the east shore. The island is wooded.

(240) **Hoonah Harbor** is southeast of Hoonah Point and between Pitt Island and the northeast shore. The anchorage is between, or a little inside, the northwest end of Pitt Island and the west end of the city of Hoonah, in 11 to 14 fathoms, soft bottom. The anchorage is not well protected from southwest, but the holding ground is good. Broad gravel beaches extend from the north side of Pitt Island and off the village.

(241) **Hoonah**, a city on the northeast shore of Hoonah Harbor, has three general stores, a motel, two restaurants, a medical clinic, a crab processing plant, a cold storage company and a support and storage facility for fishing vessels.

(242)

### Wharves

(243) The wharves and floats at Hoonah are all on the northeast shore of Hoonah Harbor, except the facility inside Cannery Point.

(244) **Hoonah Cold Storage Dock** (58°06'35"N., 135°26'40"W.): about 0.7 mile southeast of Hoonah Point; 150-foot face; 20 feet alongside in 2002, water and electricity; two ¾-ton mast-and-boom derricks and three 1- to 2½-ton forklifts; receipt and shipment of seafood; icing fishing vessels; operated by Hoonah Cold Storage.

(245) **Hoonah Trading Co. Wharf** (58°06'48"N., 135°26'51"W.): about 0.2 mile northwest of the Hoonah Cold Storage Dock; 100-foot face; 20 feet reported alongside; water and electricity; one ¾-ton mast-and-boom derrick; receipt of petroleum products; fueling vessels; and mooring small vessels; owned and operated by Hoonah Trading Co.

(246) **City Warehouse Wharf** (58°06'54"N., 135°26'58"W.): about 0.4 mile northwest of the Hoonah Cold Storage Dock; 130-foot face, 130 feet of berthing space; 24 feet alongside in 2002; electricity; 3,800 square feet covered storage; handling supplies for fishing vessels; owned and operated by the City of Hoonah.

(247) **Alaska State Ferry Terminal** (58°07'00"N., 135°27'10"W.): about 0.5 mile northwest of the Hoonah Cold Storage Dock; 400 feet of berthing space with

dolphins; 25 feet alongside in 2002; steel transfer bridge; landing for passenger and vehicular ferry; owned and operated by the State of Alaska.

(248)

### Supplies

(249) Limited amounts of provisions and fishing supplies can be obtained at the general stores in town and at Hoonah Seafoods Pier. Gasoline, diesel fuel, distillates, lubricating oils, greases and water are available at the oil facilities. Ice for fishing vessels can be obtained at the Hoonah Cold Storage Dock.

(250)

### Repairs

(251) A grid that can handle vessels up to 100 feet is inside the Inner Harbor. Aluminum repairs, equipment storage and fishing supplies are available. No facilities are available for engine repairs; local mechanics may be found for hire.

(252)

### Small-craft facilities

(253) The city-operated small-craft floats, about 120 yards north-northwest of the Hoonah Cold Storage Dock, have berthing space for approximately 61 vessels; contact the harbormaster on VHF-FM channel 16 or telephone (907-945-3670). Depths alongside were reported at 17 feet in 2002. It is recommended that only small craft and skiffs moor on the inshore side of the float. A seaplane float extends from shore about 200 yards northwest of the city float approach pier. In the winter, southwest winds sometimes draw through with considerable force.

(254) A boat basin, known locally as the Inner Harbor, operated by the Hoonah **Harbormaster** is close south of Hoonah. The south and west boundaries are formed by a breakwater that connects the south end of Pitt Island to the shore. A second breakwater extends west 300 yards from Hoonah toward Pitt Island and is marked on its western extremity by a light. A short breakwater extends east from Pitt Island and is also marked by a light. The Inner Harbor is entered from the north by passing east of Pitt Island, close aboard the Hoonah Cold Storage Dock, and then turning southwest between the two lighted breakwaters. Floats in the basin provide berthing space for approximately 239 vessels.

(255) At the east end of the southernmost breakwater is a fish pass 60 feet wide. Riprap bottom and strong currents make navigation in the pass dangerous. The waters south of the Inner Harbor and Pitt Island are shallow and foul with rock debris. This area, as well as the fish pass, should only be transitted by skiffs and small vessels with local knowledge.

(256)

### Communications

(257) Hoonah maintains daily seaplane and airplane communications with Juneau. A paved landing strip is about 1.2 miles southeast of the city. Three ferries a week stop at Hoonah, connecting this port with Angoon, Kake, Tenakee Springs, Pelican, Sitka, Juneau and Haines. Telephone and radiotelephone communications are maintained with other cities in Alaska and with other states.

(258) Southeast of Hoonah is a small inlet, divided by a low wooded point. Mudflats, which uncover, and marsh grass fill the inlet. **False Point** is the low, wooded point south of **Pitt Island**. A rock, covered 5 feet, is 0.3 mile west-southwest of Pitt Island, and shoaling to 2 feet extends 0.2 mile southwest of Pitt Island. **Long Island**, 0.6 mile southwest of Pitt Island, is wooded and connected with the east shore of the bay by flats that have islets and rocks. A reef, awash, and a rock, covered 3 feet, are 0.1 mile northwest of Long Island. A small wooded island, with a reef that extends about 300 yards off its west end, is between Pitt Island and Long Island, 0.2 mile north-northeast of the latter. Local knowledge is required for safe navigation and anchorage between Pitt Island and Long Island. Strangers should stay well clear of this area.

(259) **Game Point**, about 2.8 miles south-southwest of Inner Point Sophia, is low and wooded. A narrow neck of land extends about 0.2 mile in a northeast direction from which flats stretch to Long Island. **Game Creek**, a large salmon creek, empties into the flats.

(260) **Humpback Creek** empties into the north end of a bight filled by flats on the west shore, about 2.3 miles west of Game Point.

(261) From Game Point the shore trends in a southwest direction for about 2.2 miles to a wooded point that extends about 0.4 mile in a north direction. In the small inlet, east of the point, are depths of 15 fathoms at the entrance, shoaling to 1 fathom near the head. Two submerged rocks are in the inlet.

(262) **Burnt Point**, 3.3 miles southwest of Game Point, is wooded and rises rapidly to higher ground to the southeast. **Grassy Rock**, a small grass-covered rock, is about 0.2 mile off Burnt Point. In the bight east of Grassy Rock are depths of 40 fathoms at the entrance to 13 fathoms near the head. Flats extend off the east side of the bight for 350 yards. **Seagull Creek**, about 1.8 miles south of Burnt Point, has flats that extend offshore about 0.5 mile from its mouth.

(263) **Chimney Rock**, about 2 miles southwest of Burnt Point and about 0.5 mile east of the south point of the entrance to Neka Bay, is a small wooded islet. A reef extends from Chichagof Island shore almost to Chimney Rock, leaving a channel about 100 yards wide with a depth of ¾ fathom. This reef has a small islet. Rocks, covered and uncovered, are about 0.2 mile north of Chimney Rock in 58°01'34"N., 135°36'43"W.

(264) **Midway Island** (57°59.8'N., 135°36.5'W.), small and wooded, is about 3.3 miles south-southwest of Burnt Point. **Midway Rocks**, 0.5 mile west-northwest of Midway Island, are two rocks, about 0.1 mile apart, that uncover 4 feet. A reef extends from the west shore, inside the rocks, for a distance of about 200 yards. A 1-fathom shoal is close north of the rocks in about 58°00'09"N., 135°37'25"W.

(265) Anchorage may be had in 5½ to 12 fathoms in **Eight Fathom Bight**, which indents the north shore about 3 miles west-northwest of **The Narrows**. A logging camp with a small pier is on the west side of Eight Fathom Bight. The camp monitors VHF-FM channel 16.

(266) The head of Port Frederick is divided into two inlets by a low, wooded peninsula with rocks awash off its northeast end that extend to **Bell Island**, which is low and wooded. Depths of 26 fathoms are found at the entrance to the north inlet, shoaling to 7½ fathoms near the head.

(267) The south inlet is long and narrow with several bends and has depths of 6 to 11 fathoms in the widest part, except near the shores. The channel to the two arms at the head of this inlet leads between the point and the rock and has depths of 5½ fathoms. Tide flats fill the northwest arm, which extends to a canoe portage 70 yards wide to Tenakee Inlet. Depths of ½ fathom are found at its entrance. The southwest arm has depths of 3 to 5 fathoms, sticky bottom.

(268) **Salt Lake Bay**, at the south end of Port Frederick, inside The Narrows, extends in a south direction, with depths of 43 fathoms at the entrance to 9 fathoms off the flats, which extend about 0.2 mile from the southeast corner. The bay then extends southwest to a lagoon, **Salt Chuck**, which is entered through an opening less than 150 yards wide and 0.2 mile long. The opening has depths of about 5 feet; a rock awash is on the east side. Salt Chuck has 8¼ fathoms in the middle. The opening to Salt Chuck has swift currents and riptides during maximum tides; local knowledge is advised.

(269) A logging camp with a small pier and a float is on the east side of the entrance to Salt Lake Bay.

(270) **Neka Bay**, on the west side of Port Frederick about 9 miles from the entrance, extends in a west direction. It is divided into three arms by two low, wooded peninsulas. **Neka Island** is 0.2 mile east from the extremity of the north peninsula. Two rocks, awash and unmarked, are in midchannel south of Neka Island. Rocks covered ¾ fathoms and 1½ fathoms are 0.2 mile southeast and 0.1 mile north of Neka Island, respectively.

(271) From Neka Island, the north arm follows a west-northwest direction, narrowing to less than 0.3 mile, thence the arm follows a west-southwest direction, terminating in a large basin. The greater part of the basin is navigable at high water for vessels of 2- or 3-foot draft; it dries at low water. About 0.4 mile inside the entrance to the north arm are private mooring buoys, used for barge transfer. Tugboats from Seattle and southwestern Alaska exchange barges at this site and at times use the buoys for weather layover. On the south side of the channel, 0.3 mile from the entrance to the narrow part, is a small wooded island with a bight to the south-southwest. A depth of 2¾ fathoms was found in the south channel leading to the bight; a rock is in the west channel.

(272) **North Bight**, the middle arm of Neka Bay, with the entrance south of Neka Island, has depths of 6 to 12 fathoms, sticky bottom. A rocky spot, covered ½ fathom, is about 0.9 mile above the entrance in about 58°02'01"N., 135°39'46"W. At the head it narrows to a small, irregularly shaped bight, shoal except for a very narrow channel with depths of 3 to 6 fathoms.

(273) The entrance to **South Bight** is constricted to a width of about 100 yards by a long narrow point that projects from the south shore. A rock awash is off the north entrance point in about 58°01'34"N., 135°39'05"W.

(274)

## The Sisters to Pulizzi Island

(275) **The Sisters**, near the middle of Icy Strait, about 5 miles east-northeast from Point Sophia, consist of two islands connected by a sand beach. The north island is heavily wooded. The south island is very narrow, with a clump of trees at each end, giving the group the appearance of three islands. There is a 1¼-fathom spot 0.4 mile south-southeast from the southeast end of the south island. **The Sisters Light** (58°10'17"N., 135°15'29"W.), 69 feet above the water, is shown from a radio tower at the south end of the north island. An aero radiobeacon is about 190 yards south-southwest of the light.

(276) **Sisters Reef**, 1.1 miles west of the north end of The Sisters, uncovers two heads and has no kelp. At times the tidal current has a velocity of 2 or 3 knots over the reef.

(277) **Spasski Island**, about 2.2 miles south of The Sisters, is marked on its north side by **Spasski Island Light 12** (58°07'58"N., 135°16'18"W.), 30 feet above the water, and shown from a small house with a red triangular daymark. The island is small and divided at high water; the larger part has several trees on it. A reef, showing well in places at low water, extends 0.4 mile south from it. A detached rock, bare at low water, is about 0.6 mile southeast of the island. Shoal spots exist on the following distances and bearings from the light: 0.2 mile 310°, 3½ fathoms; 0.7 mile 301°, 4¼ fathoms; 0.5 mile 277°, 1 fathom; 0.8 mile 134°, 5¼ fathoms.

(278) **Spasski Bay** is on the south shore to the southwest of Spasski Island. **Neck Point**, the north point at the entrance, is a high, rocky, wooded peninsula, connected with the main shore by a low narrow neck. Several submerged rocks are about 700 yards north of Neck Point; the least depth over the rocks is 1½ fathoms. Rocks, usually marked by kelp, extend east of Neck Point. A 1¾-fathom shoal is about 0.6 mile east-southeast of Neck Point. An opposing wind and current causes treacherous sea conditions in the entrance to the bay; exercise caution when entering the bay. In the southeast end of the bay are extensive sand flats, and behind the low point is a grassy flat covered at high water. **Pulizzi Island**, a small triangular wooded island, with rocks 0.1 mile off the northeast end, is off the east end of the bay. The shores of the bight at the west end of the bay are wide sand and gravel beaches.

(279) The anchorage, exposed to the northeast, is in 9 to 10 fathoms in the middle of the west end of the bay, with Neck Point bearing northeast.

(280) The shore east of Point Sophia and the reef northwest of Neck Point should be given a berth of 0.8 mile.

(281)

## Whitestone Harbor

(282) **Whitestone Harbor** (58°04'N., 135°04'W.), on the south side of Icy Strait about 7 miles east of Pulizzi Island, is an inlet about 1 mile long in a west direction. The southwest arm of the harbor is foul. The shores at the entrance are foul. Enter the harbor at midchannel, thence favor the north shore to avoid a reported boulder that bares just south of the center of the harbor. Anchorage for small craft is in the arm on the north side of the harbor, in sand and gravel bottom.

(283) Chatham Strait is described in chapter 10. Lynn Canal is described in chapter 11.

# Navigation Rules

(1) Following is an amalgamation of the **International (72 COLREGS) and Inland Navigation Rules**, their Annexes, and associated Federal rules and regulations.

(2) Text unique to Inland Rules is *italicized* and set apart in a text box or within *‹‹ double angle brackets ››*. International Rules are set apart in a text box or denoted with ‹ single angle brackets ›.

(3) Text within {curly brackets} denotes additions made by the U.S. Coast Guard Office of Navigation Systems. (30.004)

(4) Disparate paragraph or section numbering are shown side by side separated by a dagger, i.e. (a)ǂ(b).

(5) Instances of "…§§83.xx / in / with / of … this section / subpart / part of this Rule, etc." are redacted, and herein are shown as the enumerated rule(s) they referred to, i.e. 72 COLREGS Rule 18(e) states: "...with the Rules of this Part" and the same Inland Rule states: "...with the Rules of this Subpart (Rules 4-19) (§§83.04 through 83.19)", but, herein it is stated as "...with Rules 4-19.

(6) Instances of paragraph / section (x) are redacted, and herein are shown as §(x).

(7) Rules denoted with an asterisk also have an associated implementing or interpretative rule (i.e. 33 CFR 81-90), which can be found in chapter 2.

(8)

## Part A—General

(9)

### Rule 1—Application (International)

(a) These Rules shall apply to all vessels upon the high seas and in all waters connected therewith navigable by seagoing vessels.

(b) Nothing in these Rules shall interfere with the operation of special rules made by an appropriate authority for roadsteads, harbors, rivers, lakes, or inland waterways connected with the high seas and navigable by seagoing vessels. Such special rules shall conform as closely as possible to these Rules.

(c) Nothing in these Rules shall interfere with the operation of any special rules made by the Government of any State with respect to additional station or signal lights, shapes or whistle signals for ships of war and vessels proceeding under convoy, or with respect to additional station or signal lights or shapes for fishing vessels engaged in fishing as a fleet. These additional stations or signal lights, shapes or whistle signals shall, so far as possible, be such that they cannot be mistaken for any light, shape, or signal authorized elsewhere under these Rules.

### Rule 1—Application (International)

(d) Traffic separation schemes may be adopted by the Organization for the purpose of these Rules.

(e) Whenever the Government concerned shall have determined that a vessel of special construction or purpose cannot comply fully with the provisions of any of these Rules with respect to number, position, range or arc of visibility of lights or shapes, as well as to the disposition and characteristics of sound-signaling appliances, such vessel shall comply with such other provisions in regard to number, position, range or arc of visibility of lights or shapes, as well as to the disposition and characteristics of sound-signaling appliances, as the Government shall have determined to be the closest possible compliance with these Rules in respect to that vessel.

(10)

### Rule 1—Application (Inland)

*(a) These rules apply to all vessels upon the inland waters of the United States, and to vessels of the United States on the Canadian waters of the Great Lakes to the extent that there is no conflict with Canadian law. These Rules have preemptive effect over State or local regulation within the same field.*

*(b)(i)These rules constitute special rules made by an appropriate authority within the meaning of Rule 1(b) of the International Regulations for Preventing Collisions at Sea, 1972, including annexes currently in force for the United States ("International Regulations").*
*(ii) All vessels complying with the construction and equipment requirements of the International Regulations are considered to be in compliance with these Rules.*

*(c) Nothing in these Rules shall interfere with the operation of any special rules made by the Secretary of the Navy with respect to additional station or signal lights and shapes or whistle signals for ships of war and vessels proceeding under convoy, or by the Secretary with respect to additional station or signal lights and shapes for fishing vessels engaged in fishing as a fleet. These additional station or signal lights and shapes or whistle signals shall, so far as possible, be such that they cannot be mistaken for any light, shape or signal authorized elsewhere under these Rules. Notice of such special rules shall be published in the Federal Register and, after the effective date specified in such notice, they shall have effect as if they were a part of these Rules.*

*(d) Traffic separation schemes may be established for the purposes of these Rules. Vessel traffic service regulations may be in effect in certain areas.*

**Rule 1—Application (Inland)**

*(e) Whenever the Secretary determines that a vessel or class of vessels of special construction or purpose cannot comply fully with the provisions of any of these Rules with respect to the number, position, range, or arc of visibility of lights or shapes, as well as to the disposition and characteristics of sound-signaling appliances, the vessel shall comply with such other provisions in regard to the number, position, range, or arc of visibility of lights or shapes, as well as to the disposition and characteristics of sound-signaling appliances, as the Secretary shall have determined to be the closest possible compliance with these Rules. The Secretary may issue a certificate of alternative compliance for a vessel or class of vessels specifying the closest possible compliance with these Rules. The Secretary of the Navy shall make these determinations and issue certificates of alternative compliance for vessels of the Navy.*

*(f) The Secretary may accept a certificate of alternative compliance issued by a contracting party to the International Regulations if it determines that the alternative compliance standards of the contracting party are substantially the same as those of the United States.*

*(g) The operator of each self-propelled vessel 12 meters or more in length shall carry, on board and maintain for ready reference, a copy of these Rules.*

(11)

## Rule 2—Responsibility

(12) (a) Nothing in these Rules shall exonerate any vessel, or the owner, master, or crew thereof, from the consequences of any neglect to comply with these Rules or of the neglect of any precaution which may be required by the ordinary practice of seamen, or by the special circumstances of the case.

(13) (b) In construing and complying with these Rules due regard shall be had to all dangers of navigation and collision and to any special circumstances, including the limitations of the vessels involved, which may make a departure from these Rules necessary to avoid immediate danger.

(14)

## Rule 3—General Definitions

(15) For the purpose of these Rules, except where the context otherwise requires:

(16) (a) The word "vessel" includes every description of watercraft, including non-displacement craft, WIG craft, and seaplanes, used or capable of being used as a means of transportation on water.

(17) (b) The term "power-driven vessel" means any vessel propelled by machinery.

(18) (c) The term "sailing vessel" means any vessel under sail provided that propelling machinery, if fitted, is not being used.

(19) (d) The term "vessel engaged in fishing" means any vessel fishing with nets, lines, trawls, or other fishing apparatus which restrict maneuverability, but does not include a vessel fishing with trolling lines or other fishing apparatus which do not restrict maneuverability.

(20) (e) The term "seaplane" includes any aircraft designed to maneuver on the water.

(21) (f) The term "vessel not under command" means a vessel which through some exceptional circumstance is unable to maneuver as required by these Rules and is therefore unable to keep out of the way of another vessel.

(22) (g) The term "vessel restricted in her ability to maneuver" means a vessel which from the nature of her work is restricted in her ability to maneuver as required by these Rules and is therefore unable to keep out of the way of another vessel. The term "vessels restricted in their ability to maneuver" shall include but not be limited to: (i) A vessel engaged in laying, servicing, or picking up a navigational mark, submarine cable or pipeline; (ii) A vessel engaged in dredging, surveying or underwater operations; (iii) A vessel engaged in replenishment or transferring persons, provisions or cargo while underway; (iv) A vessel engaged in the launching or recovery of aircraft; (v) A vessel engaged in mine clearance operations; (vi) A vessel engaged in a towing operation such as severely restricts the towing vessel and her tow in their ability to deviate from their course.

(23)

**Rule 3h (International)**

(h) The term "vessel constrained by her draft" means a power-driven vessel which because of her draft in relation to the available depth and width of navigable water is severely restricted in her ability to deviate from the course she is following.

(24) (i) The word "underway" means that a vessel is not at anchor, or made fast to the shore, or aground.

(25) (j) The words "length" and "breadth" of a vessel mean her length overall and greatest breadth.

(26) (k) Vessels shall be deemed to be in sight of one another only when one can be observed visually from the other.

(27) (l) The term "restricted visibility" means any condition in which visibility is restricted by fog, mist, falling snow, heavy rainstorms, sandstorms, or any other similar causes.

(28) (m) The term "Wing-In-Ground (WIG)" craft means a multimodal craft which, in its main operational mode, flies in close proximity to the surface by utilizing surfaceeffect action.

(29)

**Rules 3n–3s (Inland)**

*(n) "Western Rivers" means the Mississippi River, its tributaries, South Pass, and Southwest Pass, to the navigational demarcation lines {30 CFR 80} dividing the high seas from harbors, rivers and other inland waters of the United States, and the Port Allen-Morgan City Alternate Route, and that part of the Atchafalaya River above its junction with the Port Allen-Morgan City Alternate Route including the Old River and the Red River.*

**Rules 3n–3s (Inland)**

*(o) "Great Lakes" means the Great Lakes and their connecting tributary waters including the Calumet River as far as the Thomas J. O'Brien Lock and Controlling Waters (between mile 326 and 327), the Chicago River as far as the east side of the Ashland Avenue Bridge (between mile 321 and 322), and the Saint Lawrence River as far east as the lower exit of Saint Lambert Lock.*

*(p) "Secretary" means the Secretary of the Department in which the Coast Guard is operating.*

*(q) "Inland Waters" means the navigable waters of the United States shoreward of the navigational demarcation lines {30 CFR 80} dividing the high seas from harbors, rivers and other inland waters of the United States and the waters of the Great Lakes on the United States side of the International Boundary.*

*(r) "Inland Rules" or "Rules" means these Inland Navigational Rules and the annexes thereto, which govern the conduct of vessels and specify the lights, shapes, and sound signals that apply on inland waters.*

*(s) "International Regulations" means the International Regulations for Preventing Collisions at Sea, 1972, including annexes currently in force for the United States.*

(30) **Implementing Rule**—See **33 CFR 89.25**, chapter 2, for regulations.

(31)

## Part B—Steering and Sailing Rules

(32)

### I—Conduct of Vessels in Any Condition of Visibility

(33)

### Rule 4—Application

(34) Rules 4 through 10 apply in any condition of visibility.

(35)

### Rule 5—Lookout

(36) Every vessel shall at all times maintain a proper look-out by sight and hearing as well as by all available means appropriate in the prevailing circumstances and conditions so as to make a full appraisal of the situation and of the risk of collision.

(37)

### Rule 6—Safe Speed

(38) Every vessel shall at all times proceed at a safe speed so that she can take proper and effective action to avoid collision and be stopped within a distance appropriate to the prevailing circumstances and conditions. In determining a safe speed the following factors shall be among those taken into account:

(39) (a) By all vessels:

(40) (i) The state of visibility; (ii) The traffic density including concentrations of fishing vessels or any other vessels; (iii) The maneuverability of the vessel with special reference to stopping distance and turning ability in the prevailing conditions; (iv) At night, the presence of background light such as from shore lights or from back scatter from her own lights; (v) The state of wind, sea and current, and the proximity of navigational hazards; (vi) The draft in relation to the available depth of water.

(41) (b) Additionally, by vessels with operational radar:

(42) (i) The characteristics, efficiency and limitations of the radar equipment; (ii) Any constraints imposed by the radar range scale in use; (iii) The effect on radar detection of the sea state, weather and other sources of interference; (iv) The possibility that small vessels, ice and other floating objects may not be detected by radar at an adequate range; (v) The number, location and movement of vessels detected by radar; (vi) The more exact assessment of the visibility that may be possible when radar is used to determine the range of vessels or other objects in the vicinity.

(43)

### Rule 7—Risk of Collision

(44) (a) Every vessel shall use all available means appropriate to the prevailing circumstances and conditions to determine if risk of collision exists. If there is any doubt such risk shall be deemed to exist.

(45) (b) Proper use shall be made of radar equipment if fitted and operational, including long-range scanning to obtain early warning of risk of collision and radar plotting or equivalent systematic observation of detected objects.

(46) (c) Assumptions shall not be made on the basis of scanty information, especially scanty radar information.

(47) (d) In determining if risk of collision exists the following considerations shall be among those taken into account:

(48) (i) Such risk shall be deemed to exist if the compass bearing of an approaching vessel does not appreciably change.

(49) (ii) Such risk may sometimes exist even when an appreciable bearing change is evident, particularly when approaching a very large vessel or a tow or when approaching a vessel at close range.

(50)

### Rule 8—Action to Avoid Collision

(51) (a) Any action taken to avoid collision shall be taken in accordance with Rules 4 through 19 and shall if the circumstances of the case admit, be positive, made in ample time and with due regard to the observance of good seamanship.

(52) (b) Any alteration of course and/or speed to avoid collision shall, if the circumstances of the case admit, be large enough to be readily apparent to another vessel observing visually or by radar; a succession of small alterations of course and/or speed should be avoided.

(53) (c) If there is sufficient sea room, alteration of course alone may be the most effective action to avoid a closequarters situation provided that it is made in good time, is substantial and does not result in another closequarters situation.

(54) (d) Action taken to avoid collision with another vessel shall be such as to result in passing at a safe distance. The

effectiveness of the action shall be carefully checked until the other vessel is finally past and clear.

(55) (e) If necessary to avoid collision or allow more time to assess the situation, a vessel shall slacken her speed or take all way off by stopping or reversing her means of propulsion.

(56) (f)(i) A vessel which, by any of these Rules, is required not to impede the passage or safe passage of another vessel shall, when required by the circumstances of the case, take early action to allow sufficient sea room for the safe passage of the other vessel.

(57) (ii) A vessel required not to impede the passage or safe passage of another vessel is not relieved of this obligation if approaching the other vessel so as to involve risk of collision and shall, when taking action, have full regard to the action which may be required by Rules 4 through 19.

(58) (iii) A vessel, the passage of which is not to be impeded remains fully obliged to comply with Rules 4 through 19 when the two vessels are approaching one another so as to involve risk of collision.

(59)

## Rule 9—Narrow Channels

(60) (a) ‹‹(i)›› A vessel proceeding along the course of a narrow channel or fairway shall keep as near to the outer limit of the channel or fairway which lies on her starboard side as is safe and practicable.

(61)

**Rule 9a (Inland)**

*(ii) Notwithstanding Rule 9(a)(i) and Rule 14(a), a power-driven vessel operating in narrow channel or fairway on the Great Lakes, Western Rivers, or waters specified by the Secretary, and proceeding downbound with a following current shall have the right-of-way over an upbound vessel, shall propose the manner and place of passage, and shall initiate the maneuvering signals prescribed by Rule 34(a)(i), as appropriate. The vessel proceeding upbound against the current shall hold as necessary to permit safe passing.*

(62) (b) A vessel of less than 20 meters in length or a sailing vessel shall not impede the passage of a vessel ‹which ›‹‹that›› can safely navigate only within a narrow channel or fairway.

(63) (c) A vessel engaged in fishing shall not impede the passage of any other vessel navigating within a narrow channel or fairway.

(64) (d) A vessel ‹ shall ›‹‹must›› not cross a narrow channel or fairway if such crossing impedes the passage of a vessel which can safely navigate only within that channel or fairway. The latter vessel ‹ may ›‹‹must›› use the signal prescribed in Rule 34(d) if in doubt as to the intention of the crossing vessel.

(65)

**Rule 9e (International)**

(e)(i) In a narrow channel or fairway when overtaking can take place only if the vessel to be overtaken has to take action to permit safe passing, the vessel intending to overtake shall indicate her intention by sounding the appropriate signal prescribed in Rule 34(c)(ii). The vessel to be overtaken shall, if in agreement, sound the appropriate signal prescribed in Rule 34(c)(i) and take steps to permit safe passing. If in doubt she may sound the signals prescribed in Rule 34(d).

**Rule 9e (Inland)**

*(e)(i) In a narrow channel or fairway when overtaking, the power-driven vessel intending to overtake another power-driven vessel shall indicate her intention by sounding the appropriate signal prescribed in Rule 34(c) and take steps to permit safe passing. The power-driven vessel being overtaken, if in agreement, shall sound the same signal and may, if specifically agreed to, take steps to permit safe passing. If in doubt she shall sound the signal prescribed in Rule 34(d).*

(66) (e)(ii) This rule does not relieve the overtaking vessel of her obligation under Rule 13.

(67) (f) A vessel nearing a bend or an area of a narrow channel or fairway where other vessels may be obscured by an intervening obstruction shall navigate with particular alertness and caution and shall sound the appropriate signal prescribed in Rule 34(e).

(68) (g) Any vessel shall, if the circumstances of the case admit, avoid anchoring in a narrow channel.

(69)

## Rule 10—Traffic Separation Schemes

(70) (a) This Rule applies to traffic separation schemes ‹ adopted by the Organization › and does not relieve any vessel of her obligation under any other rule.

(71) (b) A vessel using a traffic separation scheme shall:

(72) (i) Proceed in the appropriate traffic lane in the general direction of traffic flow for that lane.

(73) (ii) So far as is practicable keep clear of a traffic separation line or separation zone.

(74) (iii) Normally join or leave a traffic lane at the termination of the lane, but when joining or leaving from either side shall do so at as small an angle to the general direction of traffic flow as practicable.

(75) (c) A vessel, shall so far as practicable, avoid crossing traffic lanes but if obliged to do so shall cross on a heading as nearly as practicable at right angles to the general direction of traffic flow.

(76) (d)(i) A vessel shall not use an inshore traffic zone when she can safely use the appropriate traffic lane within the adjacent traffic separation scheme. However, vessels of less than 20 meters in length, sailing vessels and vessels engaged in fishing may use the inshore traffic zone.

(77) (ii) Notwithstanding Rule 10(d)(i), a vessel may use an inshore traffic zone when en route to or from a port, offshore installation or structure, pilot station or any other place situated within the inshore traffic zone, or to avoid immediate danger.

(78) (e) A vessel, other than a crossing vessel or a vessel joining or leaving a lane shall not normally enter a separation zone or cross a separation line except:

(79) (i) in cases of emergency to avoid immediate danger;

(80) (ii) to engage in fishing within a separation zone.

(81) (f) A vessel navigating in areas near the terminations of traffic separation schemes shall do so with particular caution.

(82) (g) A vessel shall so far as practicable avoid anchoring in a traffic separation scheme or in areas near its terminations.

(83) (h) A vessel not using a traffic separating scheme shall avoid it by as wide a margin as is practicable.

(84) (i) A vessel engaged in fishing shall not impede the passage of any vessel following a traffic lane.

(85) (j) A vessel of less than 20 meters in length or a sailing vessel shall not impede the safe passage of a power-driven vessel following a traffic lane.

(86) (k) A vessel restricted in her ability to maneuver when engaged in an operation for the maintenance of safety of navigation in a traffic separation scheme is exempted from complying with this Rule to the extent necessary to carry out the operation.

(87) (l) A vessel restricted in her ability to maneuver when engaged in an operation for the laying, servicing or picking up of a submarine cable, within a traffic separation scheme, is exempted from complying with this Rule to the extent necessary to carry out the operation.

(88)

## II—Conduct of Vessels in Sight of One Another

(89)

### Rule 11—Application

(90) Rules 11 through 18 apply to vessels in sight of one another.

(91)

### Rule 12—Sailing Vessels

(92) (a) When two sailing vessels are approaching one another, so as to involve risk of collision, one of them shall keep out of the way of the other as follows:

(93) (i) when each has the wind on a different side, the vessel which has the wind on the port side shall keep out of the way of the other;

(94) (ii) when both have the wind on the same side, the vessel which is to windward shall keep out of the way of the vessel which is to leeward;

(95) (iii) if a vessel with the wind on the port side sees a vessel to windward and cannot determine with certainty whether the other vessel has the wind on the port or on the starboard side, she shall keep out of the way of the other.

(96) (b) For the purposes of this Rule, the windward side shall be deemed to be the side opposite that on which the mainsail is carried or, in the case of a square-rigged vessel, the side opposite to that on which the largest foreand-aft sail is carried.

(97)

### Rule 13—Overtaking

(98) (a) Notwithstanding anything contained in the Rules 4 through 18, any vessel overtaking any other shall keep out of the way of the vessel being overtaken.

(99) (b) A vessel shall be deemed to be overtaking when coming up with a another vessel from a direction more than 22.5 degrees abaft her beam, that is, in such a position with reference to the vessel she is overtaking, that at night she would be able to see only the sternlight of that vessel but neither of her sidelights.

(100) (c) When a vessel is in any doubt as to whether she is overtaking another, she shall assume that this is the case and act accordingly.

(101) (d) Any subsequent alteration of the bearing between the two vessels shall not make the overtaking vessel a crossing vessel within the meaning of these Rules or relieve her of the duty of keeping clear of the overtaken vessel until she is finally past and clear.

(102)

### Rule 14—Head-on Situation

(103) (a) *‹‹Unless otherwise agreed››* when two powerdriven vessels are meeting on reciprocal or nearly reciprocal courses so as to involve risk of collision each shall alter her course to starboard so that each shall pass on the port side of the other.

(104) (b) Such a situation shall be deemed to exist when a vessel sees the other ahead or nearly ahead and by night she could see the masthead lights of the other in a line or nearly in a line and/or both sidelights and by day she observes the corresponding aspect of the other vessel.

(105) (c) When a vessel is in any doubt as to whether such a situation exists she shall assume that it does exist and act accordingly.

(106)

**Rule 14d (Inland)**

*(d) Notwithstanding Rule 14(a), a power-driven vessel operating on the Great Lakes, Western Rivers, or waters specified by the Secretary, and proceeding downbound with a following current shall have the right-of-way over an upbound vessel, shall propose the manner of passage, and shall initiate the maneuvering signals prescribed by Rule 34(a)(i), as appropriate.*

(107)

### Rule 15—Crossing Situation

(108) (a) When two power-driven vessels are crossing so as to involve risk of collision, the vessel which has the other on her own starboard side shall keep out of the way and shall, if the circumstances of the case admit, avoid crossing ahead of the other vessel.

(109)

**Rule 15b (Inland)**

*(b) Notwithstanding Rule 15(a), on the Great Lakes, Western Rivers, or water specified by the Secretary, a power-driven vessel crossing a river shall keep out of the way of a power-driven vessel ascending or descending the river.*

(110)

### Rule 16—Action by Give-way Vessel

(111) Every vessel which is directed to keep out of the way of another vessel shall, so far as possible, take early and substantial action to keep well clear.

(112)

### Rule 17—Action by Stand-on Vessel

(113) (a)(i) Where one of two vessels is to keep out of the way, the other shall keep her course and speed.

(114) (ii) The latter vessel may, however, take action to avoid collision by her maneuver alone, as soon as it becomes apparent to her that the vessel required to keep out of the way is not taking appropriate action in compliance with these Rules.

(115) (b) When, from any cause, the vessel required to keep her course and speed finds herself so close that collision cannot be avoided by the action of the giveway vessel alone, she shall take such action as will best aid to avoid collision.

(116) (c) A power-driven vessel which takes action in a crossing situation in accordance with Rule 17(a)(ii) to avoid collision with another power-driven vessel shall, if the circumstances of the case admit, not alter course to port for a vessel on her own port side.

(117) (d) This Rule does not relieve the give-way vessel of her obligation to keep out of the way.

(118)

### Rule 18—Responsibilities Between Vessels

(119) Except where Rules 9, 10, and 13 otherwise require:

(120) (a) A power-driven vessel underway shall keep out of the way of: (i) a vessel not under command; (ii) a vessel restricted in her ability to maneuver; (iii) a vessel engaged in fishing; (iv) a sailing vessel.

(121) (b) A sailing vessel underway shall keep out of the way of: (i) a vessel not under command; (ii) a vessel restricted in her ability to maneuver; (iii) a vessel engaged in fishing.

(122) (c) A vessel engaged in fishing when underway shall, so far as possible, keep out of the way of: (i) a vessel not under command; (ii) a vessel restricted in her ability to maneuver.

(123)

**Rule 18d (International)**

(d)(i) Any vessel other than a vessel not under command or a vessel restricted in her ability to maneuver shall, if the circumstances of the case admit, avoid impeding the safe passage of a vessel constrained by her draft, exhibiting the signals in Rule 28.

(ii) A vessel constrained by her draft shall navigate with particular caution having full regard to her special condition.

(124) (e) A seaplane on the water shall, in general, keep well clear of all vessels and avoid impeding their navigation. In circumstances, however, where risk of collision exists, she shall comply with Rules 4 through 19.

(125) (f)(i) A WIG craft shall, when taking off, landing and in flight near the surface, keep well clear of all other vessels and avoid impeding their navigation;

(126) (ii) a WIG craft operating on the water surface shall comply with Rules 4 through 19 as a power-driven vessel.

(127)

## III—Conduct of Vessels in Restricted Visibility

(128)

### Rule 19—Conduct of Vessels in Restricted Visibility

(129) (a) This Rule applies to vessels not in sight of one another when navigating in or near an area of restricted visibility.

(130) (b) Every vessel shall proceed at a safe speed adapted to the prevailing circumstances and conditions of restricted visibility. A power-driven vessel shall have her engines ready for immediate maneuver.

(131) (c) Every vessel shall have due regard to the prevailing circumstances and conditions of restricted visibility when complying with Rules 4 through 10.

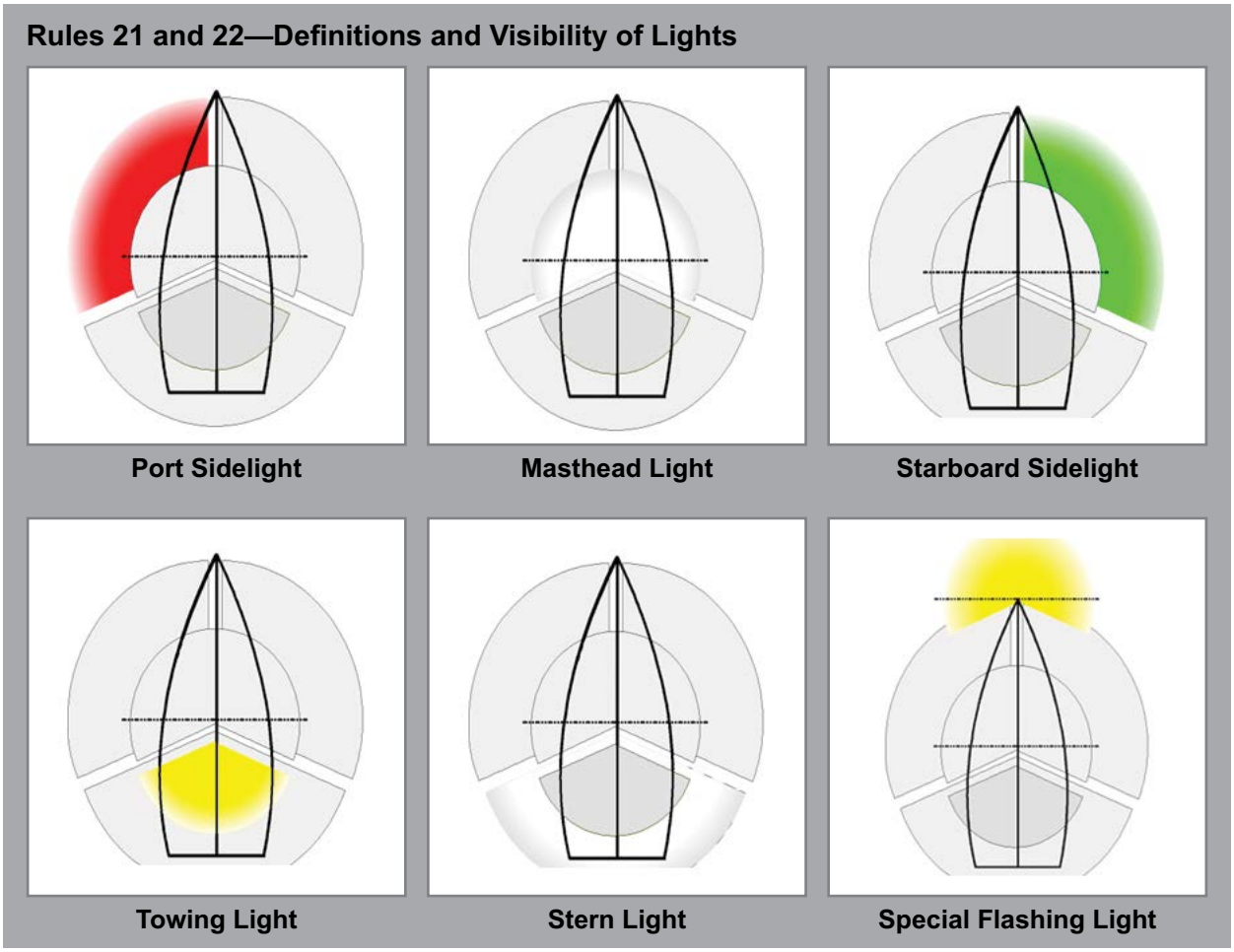
(132) (d) A vessel which detects by radar alone the presence of another vessel shall determine if a closequarters situation is developing and/or risk of collision exists. If so, she shall take avoiding action in ample time, provided that when such action consists of an alteration in course, so far as possible the following shall be avoided:

(133) (i) An alteration of course to port for a vessel forward of the beam, other than for a vessel being overtaken;

(134) (ii) An alteration of course toward a vessel abeam or abaft the beam.

(135) (e) Except where it has been determined that a risk of collision does not exist, every vessel which hears apparently forward of her beam the fog signal of another vessel, or which cannot avoid a close-quarters situation with another vessel forward of her beam, shall reduce her speed to be the minimum at which she can be kept on her course. She shall if necessary take all her way off and in any event navigate with extreme caution until danger of collision is over.

(158)




(136)

## Part C—Lights and Shapes

(137)

### Rule 20—Application

(138) (a) Rules 20 through 31 shall be complied with in all weathers.

(139) (b) The Rules concerning lights shall be complied with from sunset to sunrise, and during such times no other lights shall be exhibited, except such lights which cannot be mistaken for the lights specified in these Rules or do not impair their visibility or distinctive character, or interfere with the keeping of a proper look-out.

(140) (c) The lights prescribed by these Rules shall, if carried, also be exhibited from sunrise to sunset in restricted visibility and may be exhibited in all other circumstances when it is deemed necessary.

(141) (d) The Rules concerning shapes shall be complied with by day.

(142) (e) The lights and shapes specified in these Rules shall comply with the provisions of Annex I of these Rules.

(143)

**Rule 20f (Inland)**

*(f) A vessel's navigation lights and shapes may be lowered if necessary to pass under a bridge.*

(144)

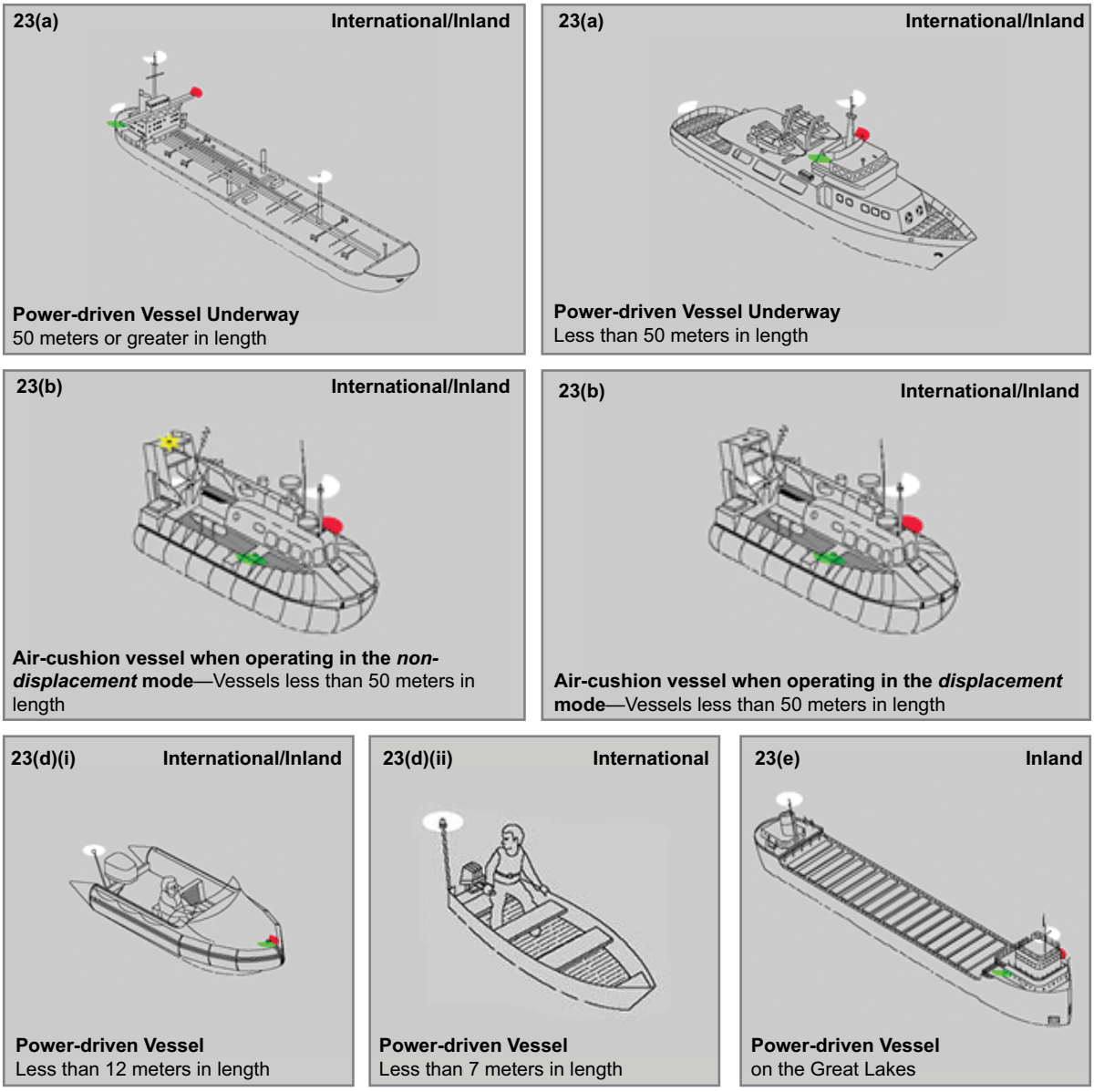
### Rule 21—Definitions

(145) (a) "Masthead light" means a white light placed over the fore and aft centerline of the vessel showing an unbroken light over an arc of the horizon of 225° and so fixed as to show the light from right ahead to 22.5° abaft the beam on either side of the vessel *‹‹except that on a vessel of less than 12 meters in length the masthead light shall be placed as nearly as practicable to the fore and aft centerline of the vessel››*.

(146) (b) "Sidelights" means a green light on the starboard side and a red light on the port side each showing an unbroken light over an arc of the horizon of 112.5° and so fixed as to show the light from right ahead to 22.5° abaft the beam on its respective side. In a vessel of less than 20 meters in length the sidelights may be combined in one lantern carried on the fore and aft centerline of the vessel *‹‹, except that on a vessel of less than 12 meters in length the sidelights when combined in one lantern*

(166)

## Rule 23—Power-driven Vessels Underway




*shall be placed as nearly as practicable to the fore and aft centerline of the vessel››.*

(147) (c) "Sternlight" means a white light placed as nearly as practicable at the stern showing an unbroken light over an arc of the horizon of 135° and so fixed as to show the light 67.5° from right aft on each side of the vessel.

(148) (d) "Towing light" means a yellow light having the same characteristics as the "sternlight" defined in Rule 21(c).

(149) (e) "All-round light" means a light showing an unbroken light over an arc of the horizon of 360°.

(150) (f) "Flashing light" means a light flashing at regular intervals at a frequency of 120 flashes or more per minute.

(151)

**Rule 21g (Inland)**

*(g) "Special flashing light" means a yellow light flashing at regular intervals at a frequency of 50 to 70 flashes per minute, placed as far forward and as nearly as practicable on the fore and aft centerline of the tow and showing an unbroken light over an arc of the horizon of not less than 180 degrees nor more than 225 degrees and so fixed as to show the light from right ahead to abeam and no more than 22.5 degrees abaft the beam on either side of the vessel.*

(152)

### Rule 22—Visibility of Lights

(153) The lights prescribed in these Rules (Subpart C) shall have an intensity as specified in Annex I to these

Rules (33 CFR part 84), so as to be visible at the following minimum ranges:

(154) (a) In a vessel of 50 meters or more in length: (i) a masthead light, 6 miles; (ii) a sidelight, 3 miles; (iii) a sternlight, 3 miles; (iv) a towing light, 3 miles; (v) a white, red, green or yellow all-round light, 3 miles; *«and (vi) a special flashing light, 2 miles. »*

(155) (b) In a vessel of 12 meters or more in length but less than 50 meters in length: (i) a masthead light, 5 miles; except that where the length of the vessel is less than 20 meters, 3 miles; (ii) a sidelight, 2 miles; (iii) a sternlight, 2 miles; (iv) a towing light, 2 miles; (v) a white, red, green or yellow all-round light, 2 miles; *«and (vi) a special flashing light, 2 miles. »*

(156) (c) In a vessel of less than 12 meters in length: (i) a masthead light, 2 miles; (ii) a sidelight, 1 mile; (iii) a sternlight, 2 miles; (iv) A towing light, 2 miles; (v) a white, red, green or yellow all-round light, 2 miles; *«and (vi) a special flashing light, 2 miles. »*

(157) (d) In an inconspicuous, partly submerged vessel or objects being towed: (i) A white all-round light, 3 miles. (ii) [Reserved]

(159)

### Rule 23—Power-driven Vessels Underway

(160) (a) A power-driven vessel underway shall exhibit: (i) a masthead light forward; (ii) a second masthead light abaft of and higher than the forward one; except that a vessel of less than 50 meters in length shall not be obliged to exhibit such a light but may do so; (iii) sidelights; and (iv) a sternlight.

(161) (b) An air-cushion vessel when operating in nondisplacement mode shall, in addition to the lights prescribed in Rule 23(a) Air Cushion Vessel in Displacement Mode, exhibit an all-round flashing yellow light *‹‹, where it can best be seen››*.

(162) (c) A WIG craft only when taking off, landing andin flight near the surface shall, in addition to the lights prescribed in Rule 23(a), exhibit a high intensity allround flashing red light.

(163) (d)(i) A power-driven vessel of less than 12 meters in length may in lieu of the lights prescribed in Rule 23(a) exhibit an all-round white light and sidelights.

(164)

**Rule 23d (International)**

(ii) a power-driven vessel of less than 7 meters in length whose maximum speed does not exceed 7 knots may in lieu of the lights prescribed in Rule 23(a) exhibit an all-round white light and shall, if practicable, also exhibit sidelights.

(iii) the masthead light or all-round white light on a power-driven vessel of less than 12 metres in length may be displaced from the fore and aft centre line of the vessel if centreline fitting is not practicable, provided that the sidelights are combined in one lantern which shall be carried on the fore and aft centre line of the vessel or located as nearly as practicable in the same fore and aft line as the masthead light or the all-round white light.

**Rule 23e (Inland)**

*(e) A power-driven vessel when operating on the Great Lakes may carry an all-round white light in lieu of the second masthead light and sternlight prescribed in Rule 23(a). The light shall be carried in the position of the second masthead light and be visible at the same minimum range.*

(165) Regulations containing specifics on Law Enforcement and Public Safety Vessel lighting are in Annex V–Pilot Rules, 33 CFR 88.05 and 33 CFR 88.07, chapter 2.

(167)

### Rule 24—Towing and Pushing

(168) (a) A power-driven vessel when towing astern shall exhibit: (i) instead of the light prescribed in Rule 23(a)(i) or 23(a)(ii), two masthead lights in a vertical line. When the length of the tow, measuring from the stern of the towing vessel to the after end of the tow, exceeds 200 meters, three such lights in a vertical line; (ii) sidelights; (iii) a sternlight; (iv) a towing light in a vertical line above the sternlight; and (v) when the length of the tow exceeds 200 meters, a diamond shape where it can best be seen.

(169) (b) When a pushing vessel and a vessel being pushed ahead are rigidly connected in a composite unit they shall be regarded as a power-driven vessel and exhibit the lights prescribed in Rule 23.

(170) Interpretive Rule—See 33 CFR 90.3 and 33 CFR 82.3, chapter 2, for regulations.

(171) (c) A power-driven vessel when pushing ahead or towing alongside, except ‹ in the case of a composite unit *›‹‹as required by Rules 24(b) and (i)››*, shall exhibit: (i) instead of the light prescribed in Rule 23(a)(i) or 23(a)(ii), two masthead lights in a vertical line; (ii) sidelights; and (iii) ‹ a sternlight *›‹‹two towing lights in a vertical line››*.

(172) (d) A power-driven vessel to which paragraphs (a) or (c) of this Rule applies shall also comply with Rule 23 *‹‹(a)(i) and››* (a)(ii).

(173) (e) A vessel or object being towed, other than those ‹ mentioned *›‹‹referred››* in Rule 24(g), shall exhibit: (i) sidelights; (ii) a sternlight; (iii) when the length of the tow exceeds 200 meters, a diamond shape where it can best be seen.

(174) (f) Provided that any number of vessels being towed alongside or pushed in a group shall be lighted as one vessel *‹‹except as provided in Rule 24(f)(iii)››*.

(175) (i) a vessel being pushed ahead, not being part of a composite unit, shall exhibit at the forward end, sidelights, and *‹‹a special flashing light››*;

(176) (ii) a vessel being towed alongside shall exhibit a sternlight and at the forward end, sidelights, and *‹‹a special flashing light››*;

(188)

## Rule 24—Towing and Pushing (International/Inland)

24a



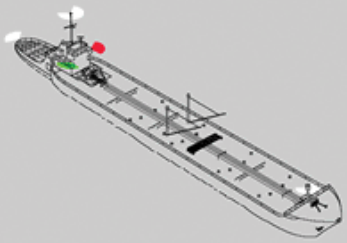
**Power-driven Vessel Towing Astern**
Towing vessel less than 50 meters in length; length of tow **exceeds 200 meters**

24a



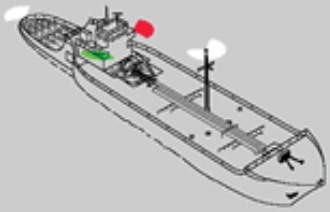
**Power-driven Vessel Towing Astern**
Towing vessel less than 50 meters in length; length of tow **200 meters or less**

24b



**Composite Unit Underway**
50 meters or greater

24b



**Composite Unit Underway**
Less than 50 meters in length

24d



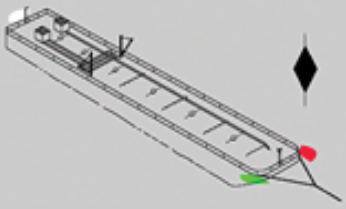
**Power-driven Vessel Towing Astern**
Length of tow 200 meters or less; the after masthead light is optional for vessels less than 50 meters in length

24d



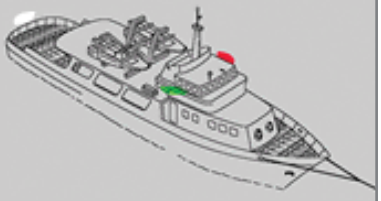
**Power-driven Vessel Towing Astern**
When masthead lights for towing are exhibited aft, a forward masthead light is required

24e



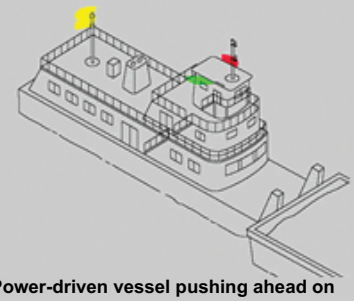
**Vessel or Object Being Towed**
Length of tow exceeds 200 meters

24e



**Vessel Being Towed**
Length of tow 200 meters or less

24h (Inland only)



**Power-driven vessel pushing ahead on Western Rivers** (Above the Huey P. Long Bridge on the Mississippi River)

(177)

**Rule 24f (Inland)**

*(iii) when vessels are towed alongside on both sides of the towing vessel a sternlight shall be exhibited on the stern of the outboard vessel on each side of the towing vessel, and a single set of sidelights as far forward and as far outboard as is practicable, and a single special flashing light;*

(178) (g) An inconspicuous, partly submerged vessel or object, or combination of such vessels or objects being towed, shall exhibit:

(179) (i) if it is less than 25 meters in breadth, one all-round white light at or near the forward end and one at or near the after end except that dracones need not exhibit a light at or near ‹ the forward ›‹‹each›› end.

(180)

**Rule 24g (International)**

(ii) if it is 25 meters or more in breadth, two additional all-round white lights at or near the extremities of its breadth;

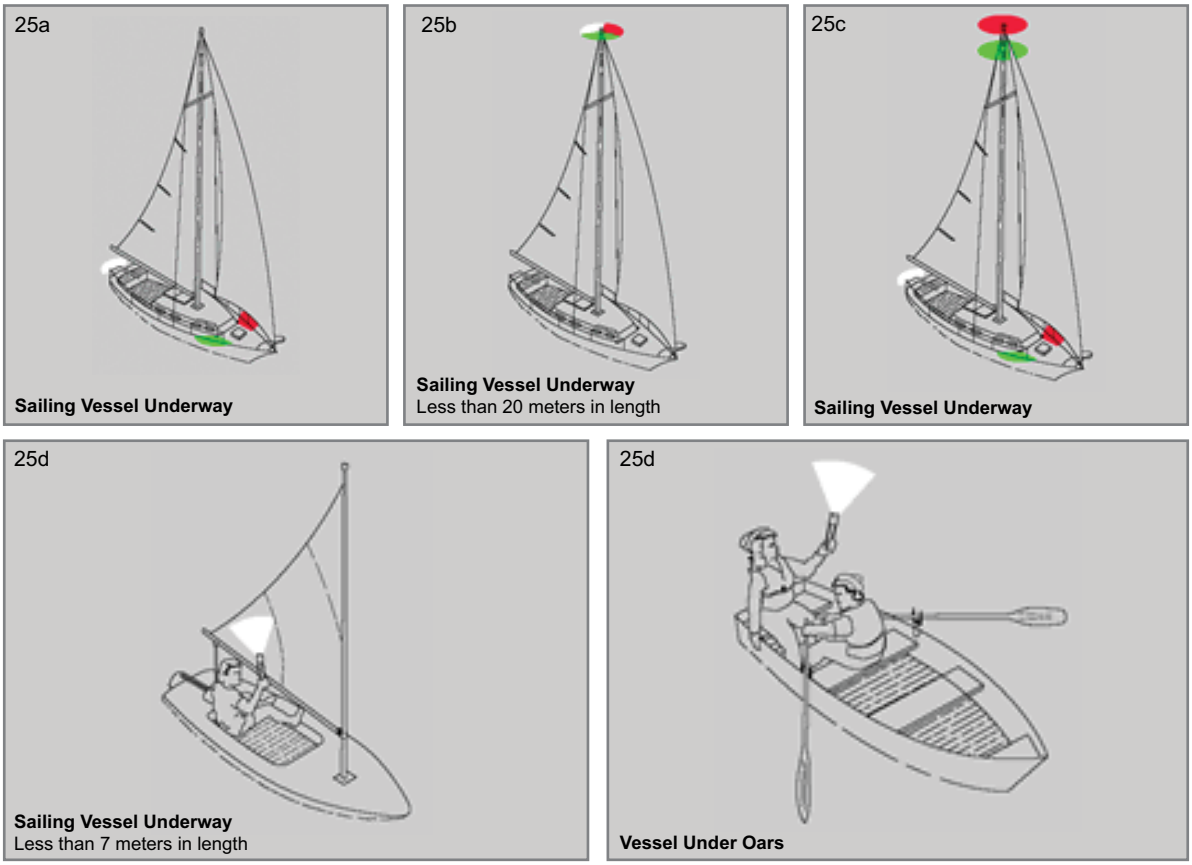
**Rule 24g (Inland)**

*(ii) if it is 25 meters or more in breadth, four all-round white lights to mark its length and breadth;*

(181) (iii) if it exceeds 100 meters in length, additional allround white lights between the lights prescribed in Rule 24(g)(i) ‹‹*and (ii)*›› and so that the distance between the lights shall not exceed 100 meters. ‹‹*Provided that any*

(196)

## Rule 25—Sailing Vessels Underway and Vessels Under Oars (International/Inland)




*vessels or objects being towed alongside each other shall be lighted as one vessel or object››.*

(182) (iv) a diamond shape at or near the aftermost extremity of the last vessel or object being towed; and ‹ if the length of the tow exceeds 200 meters an additional diamond shape where it can best be seen and located as far forward as is practicable. ›

(183)

**Rule 24g (Inland)**

*(v) the towing vessel may direct a searchlight in the direction of the tow to indicate its presence to an approaching vessel.*

(184) (h) Where from any sufficient cause it is impracticable for a vessel or object being towed to exhibit the lights or shapes prescribed in Rule 24(e) or (g), all possible measures shall be taken to light the vessel or object towed or at least to indicate the presence of ‹ such ›*‹‹the unlighted››* vessel or object.

(185) **Interpretive Rule**—See **33 CFR 90.7** and **33 CFR 82.7**, chapter 2, for regulations.

(186) (i) Where from any sufficient cause it is impracticable for a vessel not normally engaged in towing operations to display the lights prescribed by paragraph (a), (c), *«or (j)»* of this Rule, such vessel shall not be required to exhibit those lights when engaged in towing another vessel in distress or otherwise in need of assistance. All possible measures shall be taken to indicate the nature of the relationship between the towing vessel and the vessel being towed ‹ as authorized by Rule 36, in particular by illuminating the towline ›*«and the vessel being assisted. The searchlight authorized by Rule 36 may be used to illuminate the tow»*.

(187)

**Rule 24j (Inland)**

*(i) Notwithstanding paragraph (c) of this Rule, on the Western Rivers (except below the Huey P. Long Bridge at mile 106.1 Above Head of Passes on the Mississippi River) and on waters specified by the Secretary, a power-driven vessel when pushing ahead or towing alongside, except as paragraph (b) of this Rule applies, shall exhibit: (i) sidelights; and (ii) two towing lights in a vertical line.*

(189)

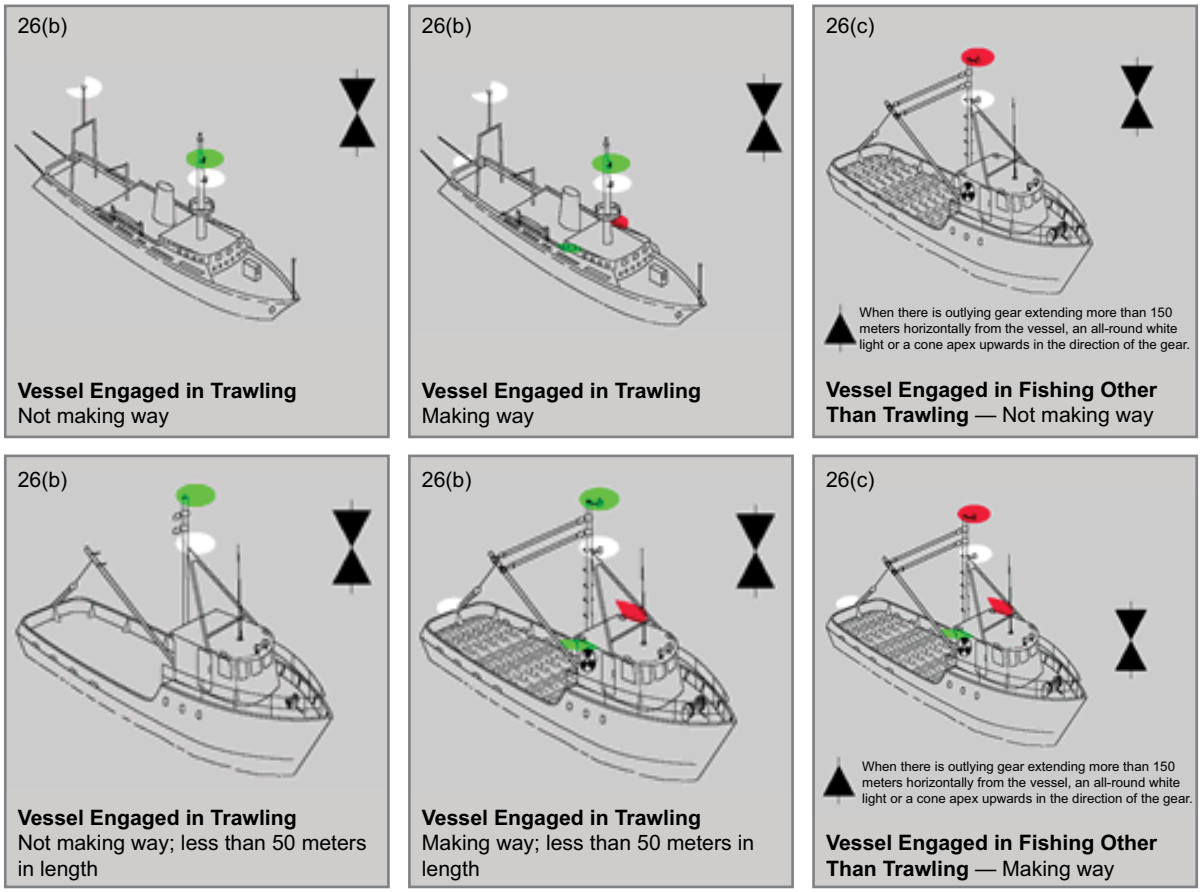
### Rule 25—Sailing Vessels Underway and Vessels Under Oars

(190) (a) A sailing vessel underway shall exhibit: (i) sidelights; (ii) a sternlight.

(191) (b) In a sailing vessel of less than 20 meters in length the lights prescribed in Rule 25(a) may be combined in one lantern carried at or near the top of the mast where it can best be seen.

(210)

## Rule 26—Fishing Vessels (International/Inland)




(192) (c) A sailing vessel underway may, in addition to the lights prescribed in Rule 25(a), exhibit at or near the top of the mast, where they can best be seen, two allround lights in a vertical line, the upper being red and the lower green, but these lights shall not be exhibited in conjunction with the combined lantern permitted by Rule 25(b).

(193) (d)(i) A sailing vessel of less than 7 meter in length shall, if practicable, exhibit the lights prescribed in Rule 25(a) or (b), but if she does not, she shall *«exhibit an all around white light or»* have ready at hand an electric torch or lighted lantern showing a white light which shall be exhibited in sufficient time to prevent collision.

(194) (ii) A vessel under oars may exhibit the lights prescribed in this rule for sailing vessels, but if she does not, she shall *«exhibit an all around white light or»* have ready at hand an electric torch or lighted lantern showing a white light which shall be exhibited in sufficient time to prevent collision.

(195) (e) A vessel proceeding under sail when also being propelled by machinery shall exhibit forward where it can best be seen a conical shape, apex downwards. *«A vessel of less than 12 meters in length is not required to exhibit this shape, but may do so.»*

(197)

### Rule 26—Fishing Vessels

(198) (a) A vessel engaged in fishing, whether underway or at anchor, shall exhibit only the lights and shapes prescribed in this Rule.

(199) (b) A vessel when engaged in trawling, by which is meant the dragging through the water of a dredge net or other apparatus used as a fishing appliance, shall exhibit: (i) two all-round lights in a vertical line, the upper being green and the lower white, or a shape consisting of two cones with their apexes together in a vertical line one above the other; (ii) a masthead light abaft of and higher than the all-round green light; a vessel of less than 50 meters in length shall not be obliged to exhibit such a light but may do so; (iii) when making way through the water, in addition to the lights prescribed in this paragraph, sidelights and a sternlight.

(200) (c) A vessel engaged in fishing, other than trawling, shall exhibit: (i) two all-round lights in a vertical line, the upper being red and the lower white, or a shape consisting of two cones with their apexes together in a vertical line one above the other; (ii) when there is outlying gear extending more than 150 meters horizontally from the vessel, an all-round white light or a cone apex upwards in

the direction of the gear; (iii) when making way through the water, in addition to the lights prescribed in this paragraph, sidelights and a sternlight.

(201)

**Rule 26d (International)**

(d) The additional signals described in Annex II to these Regulations apply to a vessel engaged in fishing in close proximity to other vessels engaged in fishing.

(202) (e) A vessel ‹ when › not engaged in fishing shall not exhibit the lights or shapes prescribed in this Rule, but only those prescribed for a vessel of her length.

(203) *« (f) Additional signals for fishing vessels in close proximity. »* {Same as International Rules Annex II}

(204) 1ǂ(i) The lights mentioned herein shall ‹,if exhibited in pursuance of Rule 26(d),› be placed where they can best be seen. They shall be at least 0.9 meters apart but at a lower level than lights prescribed in Rule 26. ‹(b)(i) and (c)(i)› The lights shall be visible all round the horizon at a distance of at least 1 mile but at a lesser distance from the lights prescribed by ‹these Rules›*«Rule 26(a)-(c)»* for fishing vessels.

(205) 2ǂ(ii) Signals for trawlers.

(206) (a)ǂ(1) Vessels ‹of 20 meters or more in length› when engaged in trawling, whether using demersal or pelagic gear, ‹shall›*«may»* exhibit: (i)ǂ(A) when shooting their nets—two white lights in a vertical line; (ii)ǂ(B) when hauling their nets—one white light over one red light in a vertical line; (iii)ǂ(C) when the net has come fast upon an obstruction—two red lights in a vertical line.

(207) (b)ǂ(2) ‹A›*«Each»* vessel ‹of 20 meters or more in length› engaged in pair trawling ‹shall›*«may»* exhibit: (i)ǂ(A) by night, a searchlight directed forward and in the direction of the other vessel of the pair; (ii)ǂ(B) when shooting or hauling their nets or when their nets have come fast upon an obstruction, the lights prescribed in Rule 26(f)(2)(a)ǂ(f)(ii)(1).

(208) 3ǂ(iii) Signals for purse seiners.

(209) (a)ǂ(1) Vessels engaged in fishing with purse seine gear may exhibit two yellow lights in a vertical line. These lights shall flash alternately every second and with equal light and occultation duration. These lights may be exhibited only when the vessel is hampered by its fishing gear.

(211)

## Rule 27—Vessels Not Under Command or Restricted in Their Ability to Maneuver

(212) (a) A vessel not under command shall exhibit: (i) two all-round red lights in a vertical line where they can best be seen; (ii) two balls or similar shapes in a vertical line where they can best be seen; (iii) when making way through the water, in addition to the lights prescribed in this paragraph, sidelights and a sternlight.

(213) (b) A vessel restricted in her ability to maneuver, except a vessel engaged in mineclearance operations, shall exhibit: (i) three all-round lights in a vertical line where they can best be seen. The highest and lowest of these lights shall be red and the middle light shall be white; (ii) three shapes in a vertical line where they can best be seen. The highest and lowest of these shapes shall be balls and the middle one a diamond; (iii) when makingway through the water, a masthead light(s), sidelights and a sternlight in addition to the lights prescribed in Rule 27(b)(i); (iv) when at anchor, in addition to the lights or shapes prescribed in Rule 27(b)(i) and (ii), the light, lights, or shapes prescribed in Rule 30.

(214) (c) A power-driven vessel engaged in a towing operation such as severely restricts the towing vessel and her tow in their ability to deviate from their course shall, in addition to the lights or shape prescribed in Rule 27(b)(i) and (ii), exhibit the lights or shape prescribed in Rule 24.

(215) (d) A vessel engaged in dredging or underwater operations, when restricted in her ability to maneuver, shall exhibit the lights and shapes prescribed in Rules 27(b)(i), (ii) and (iii) and shall in addition when an obstruction exists, exhibit: (i) two all-round red lights or two balls in a vertical line to indicate the side on which the obstruction exists; (ii) two all-round green lights or two diamonds in a vertical line to indicate the side on which another vessel may pass; and (iii) when at anchor, the lights or shapes prescribed in this paragraph instead of the lights or shapes prescribed in Rule 30.

(216)

**Rule 27d (Inland)**

*(iv) Dredge pipelines that are floating or supported on trestles shall display the following lights at night and in periods of restricted visibility.*

*(1) One row of yellow lights. The lights must be: (A) flashing 50 to 70 times per minute, (B) visible all round the horizon, (C) visible for at least 2 miles, (D) not less than 1 and not more than 3.5 meters above the water, (E) approximately equally spaced, and (F) not more than 10 meters apart where the pipeline crosses a navigable channel. Where the pipeline does not cross a navigable channel the lights must be sufficient in number to clearly show the pipeline's length and course.*

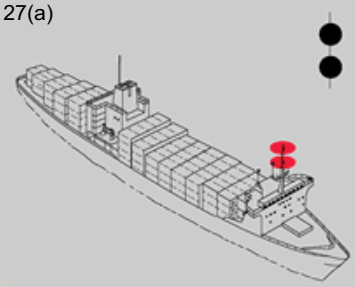
*(2) Two red lights at each end of the pipeline, including the ends in a channel where the pipeline is separated to allow vessels to pass (whether open or closed). The lights must be: (A) visible all round the horizon, and (B) visible for at least 2 miles, and (C) one meter apart in a vertical line with the lower light at the same height above the water as the flashing yellow light.*

(217) (e) Whenever the size of a vessel engaged in diving operations makes it impracticable to exhibit all lights and shapes prescribed in Rule 27(d), the following shall be exhibited: (i) Three all-round lights in a vertical line where they can best be seen. The highest and lowest of these lights shall be red and the middle light shall be white; (ii) a rigid replica of the International Code flag "A" not less than 1 meter in height. Measures shall be taken to ensure its all-round visibility.

(221)

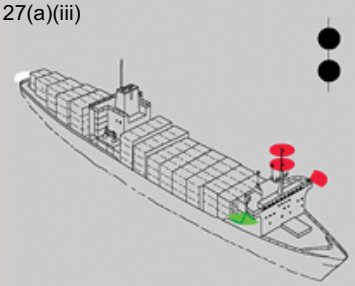
## Rule 27—Vessels Not Under Command or Restricted in Their Ability to Maneuver (International/Inland)

27(a)



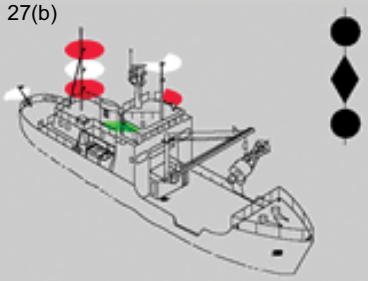
**Vessel Not Under Command**
Not making way

27(a)(iii)



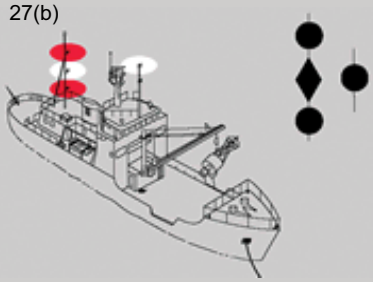
**Vessel Not Under Command**
Making way

27(b)



**Vessel Restricted in Her Ability to Maneuver**—Making way; less than 50 meters in length

27(b)



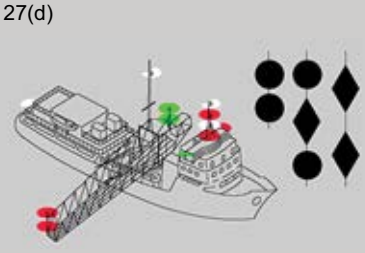
**Vessel Restricted in Her Ability to Maneuver**—At anchor; less than 50 meters in length

27(c)



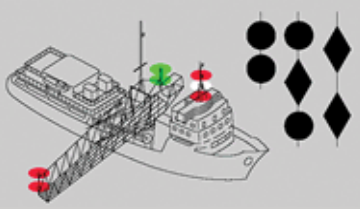
**Vessel engaged in towing operation which severely restricts towing vessel and her tow in their ability to deviate from their course**—Length of tow does not exceed 200 meters; towing vessel less than 50 meters in length.

27(d)



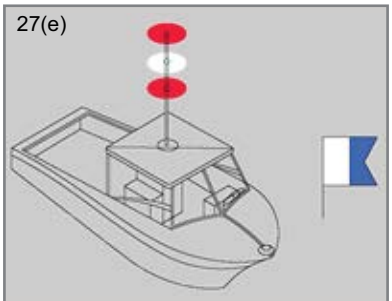
**Vessel engaged in dredging or underwater operations when restricted in ability to maneuver**—Making way with an obstruction on the starboard side.

27(d)



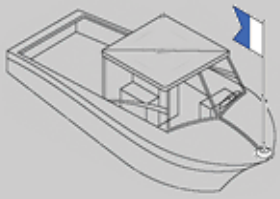
**Vessel engaged in dredging or underwater operations when restricted in ability to maneuver**—Not making way with an obstruction on the starboard side.

27(e)



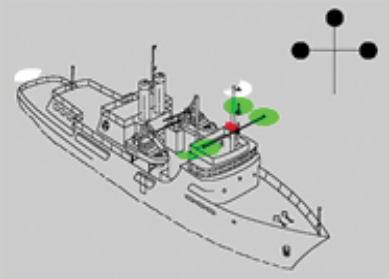
**Small vessel engaged in diving operations**

27(e)



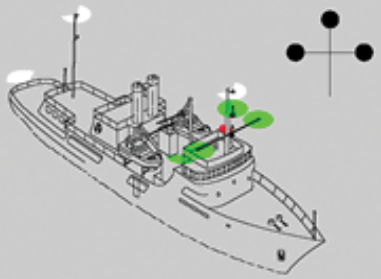
**Small vessel engaged in diving operations**

27(f)



**Vessel engaged in mineclearance operations**
Vessel less than 50 meters in length.

27(f)

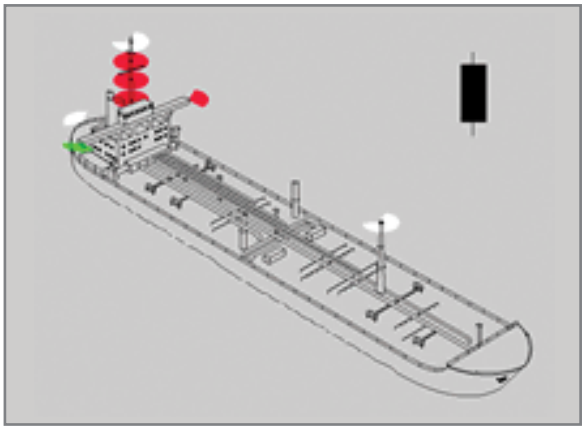


**Vessel engaged in mineclearance operations**
Vessel 50 meters or greater in length.

(224)

## Rule 28—Vessel Constrained by Their Draft (International)

A vessel constrained by her draft may, in addition to the lights prescribed for power-driven vessels in Rule 23, exhibit where they can best be seen three all-round red lights in a vertical line, or a cylinder.



(218) (f) A vessel engaged in mine clearance operations shall, in addition to the lights prescribed for a power-driven vessel in Rule 23 or to the lights or shape prescribed for a vessel at anchor in Rule 30 as appropriate, exhibit three all-round green lights or three balls. One of these lights or shapes shall be exhibited near the foremast head and one at each end of the fore yard. These lights or shapes indicate that it is dangerous for another vessel to approach within 1000 meters of the mineclearance vessel.

(219) (g) Vessels of less than 12 meters in length, except ‹ those ›*«when»* engaged in diving operations, ‹ shall not be ›*«is not»* required to exhibit the lights ‹ and ›*«or»* shapes prescribed in this Rule.

(220) (h) The signals prescribed in this Rule are not signals of vessels in distress and requiring assistance. Such signals are contained in Annex IV to these Rules.

(222)

### Rule 28—Vessels Constrained by Their Draft

(223) See graphic, **Rule 28—Vessels Constrained by Their Draft**.

(225)

### Rule 29—Pilot Vessels

(226) (a) A vessel engaged on pilotage duty shall exhibit: (i) at or near the masthead, two all-round lights in a vertical line, the upper being white and the lower red; (ii) when underway, in addition, sidelights and a sternlight; (iii) when at anchor, in addition to the lights prescribed in Rule 29(a)(i), the light, lights, or shape prescribed in Rule 30 for vessels at anchor.

(227) (b) A pilot vessel when not engaged on pilotage duty shall exhibit the lights or shapes prescribed for a similar vessel of her length.

(228)

### Rule 30—Anchored Vessels and Vessels Aground

(229) (a) A vessel at anchor shall exhibit where it can best be seen: (i) in the fore part, an all-round white light or one ball; (ii) at or near the stern and at a lower level than the light prescribed in Rule 30(a)(i), an all-round white light.

(230) **Interpretive Rule**—See **33 CFR 90.5** and **33 CFR 82.5**, chapter 2, for regulations on vessels at anchor.

(231) (b) A vessel of less than 50 meters in length may exhibit an all-round white light where it can best be seen instead of the lights prescribed in Rule 30(a).

(232) (c) A vessel at anchor may, and a vessel of 100 meters and more in length shall, also use the available working or equivalent lights to illuminate her decks.

(233) (d) A vessel aground shall exhibit the lights prescribed in Rule 30(a) or (b) and in addition, if practicable, where they can best be seen: (i) two all-round red lights in a vertical line; (ii) three balls in a vertical line.

(234) (e) A vessel of less than 7 meters in length, when at anchor not in or near a narrow channel, fairway or where other vessels normally navigate, shall not be required to exhibit the lights or shape prescribed in Rule 30(a) and (b).

(235) (f) A vessel of less than 12 meters in length, when aground, shall not be required to exhibit the lights or shapes prescribed in Rule 30(d)(i) and (ii).

(236)

**Rule 30 (Inland)**

*(g) A vessel of less than 20 meters in length, when at anchor in a special anchorage area designated by the Coast Guard, shall not be required to exhibit the anchor lights and shapes required by this Rule.*

*(h) The following barges shall display at night and if practicable in periods of restricted visibility the lights described in Rule 30(i):*
*(i) Every barge projecting into a buoyed or restricted channel.*
*(ii) Every barge so moored that it reduces the available navigable width of any channel to less than 80 meters.*
*(iii) Barges moored in groups more than two barges wide or to a maximum width of over 25 meters.*
*(iv) Every barge not moored parallel to the bank or dock.*

*(i) Barges described in Rule 30(h) shall carry two unobstructed all-round white lights of an intensity to be visible for at least 1 nautical mile and meeting the technical requirements as prescribed in Annex I.*

**Rule 30 (Inland)**

*(j) A barge or a group of barges at anchor or made fast to one or more mooring buoys or other similar device, in lieu of the provisions of Rule 30, may carry unobstructed all-round white lights of an intensity to be visible for at least 1 nautical mile that meet the requirements of Annex I and shall be arranged as follows:*
*(i) Any barge that projects from a group formation, shall be lighted on its outboard corners.*
*(ii) On a single barge moored in water where other vessels normally navigate on both sides of the barge, lights shall be placed to mark the corner extremities of the barge.*
*(iii) On barges moored in group formation, moored in water where other vessels normally navigate on both sides of the group, lights shall be placed to mark the corner extremities of the group.*

*(k) The following are exempt from the requirements of Rule 30:*
*(i) A barge or group of barges moored in a slip or slough used primarily for mooring purposes.*
*(ii) A barge or group of barges moored behind a pierhead.*
*(iii) A barge less than 20 meters in length when moored in a special anchorage area designated in accordance with 33 CFR 109.10.*

*(l) Barges moored in well-illuminated areas are exempt from the lighting requirements of Rule 30. These areas are as follows:*

***CHICAGO SANITARY SHIP CANAL***

| | |
|---|---|
| *(1) Mile 293.2 to 293.9* | *(15) Mile 314.6* |
| *(2) Mile 295.2 to 296.1* | *(16) Mile 314.8 to 315.3* |
| *(3) Mile 297.5 to 297.8* | *(17) Mile 315.7 to 316* |
| *(4) Mile 298 to 298.2* | *(18) Mile 316.8* |
| *(5) Mile 298.6 to 298.8* | *(19) Mile 316.85 to 317.05* |
| *(6) Mile 299.3 to 299.4* | *(20) Mile 317.5* |
| *(7) Mile 299.8 to 300.5* | *(21) Mile 318.4 to 318.9* |
| *(8) Mile 303 to 303.2* | *(22) Mile 318.7 to 318.8* |
| *(9) Mile 303.7 to 303.9* | *(23) Mile 320 to 320.3* |
| *(10) Mile 305.7 to 305.8* | *(24) Mile 320.6* |
| *(11) Mile 310.7 to 310.9* | *(25) Mile 322.3 to 322.4* |
| *(12) Mile 311 to 311.2* | *(26) Mile 322.8* |
| *(13) Mile 312.5 to 312.6* | *(27) Mile 322.9 to 327.2* |
| *(14) Mile 313.8 to 314.2* | |

***CALUMET SAG CHANNEL***

*(28) Mile 316.5*

***LITTLE CALUMET RIVER***

| | |
|---|---|
| *(29) Mile 321.2* | *(30) Mile 322.3* |

***CALUMET RIVER***

| | |
|---|---|
| *(31) Mile 328.5 to 328.7* | *(34) Mile 331.4 to 331.6* |
| *(32) Mile 329.2 to 329.4* | *(35) Mile 332.2 to 332.4* |
| *(33) Mile 330 west bank to 330.2* | *(36) Mile 332.6 to 332.8* |

***CUMBERLAND RIVER***

| | |
|---|---|
| *(37) Mile 126.8* | *(38) Mile 191* |

(237)

### Rule 31—Seaplanes

(238) Where it is impracticable for a seaplane or a WIG craft to exhibit lights or shapes of the characteristics or in the positions prescribed in Rules 20 through 31 she shall exhibit lights and shapes as closely similar in characteristics and position as is possible.

(239)

## Part D—Sound and Light Signals

(240)

### Rule 32—Definitions

(241) (a) The word "whistle" means any sound signaling appliance capable of producing the prescribed blasts and which complies with the specifications in Annex III to these Rules.

(242) (b) The term "short blast" means a blast of about one seconds duration.

(243) (c) The term "prolonged blast" means a blast of from four to six seconds duration.

(244)

### Rule 33—Equipment for Sound Signals

(245) (a) A vessel of 12 meters or more in length shall be provided with a whistle, a vessel of 20 meters or more in length shall be provided with a bell in addition to a whistle, and a vessel of 100 meters or more in length shall, in addition be provided with a gong, the tone and sound of which cannot be confused with that of the bell. The whistle, bell and gong shall comply with the specifications in Annex III to these Regulations. The bell or gong or both may be replaced by other equipment having the same respective sound characteristics, provided that manual sounding of the prescribed signals shall always be possible.

(246) (b) A vessel of less than 12 meters in length shall not be obliged to carry the sound signaling appliances prescribed in Rule 33(a) but if she does not, she shall be provided with some other means of making an efficient signal.

(247)

**Rule 34—Maneuvering and Warning Signs (International)**

(a) When vessels are in sight of one, a power-driven vessel underway, when maneuvering as authorized or required by these Rules, shall indicate that manoeuvre by the following signals on her whistle:
–One short blasts to mean “I am altering my course to starboard”
–Two short blasts to mean “I am altering my course to port”
–Three short blasts to mean “I am operating astern propulsion”

(b) Any vessel may supplement the whistle signals prescribed in Rule 34(a) by light signals, repeated as appropriate, while the maneuver is being carried out:
(i) these signals shall have the following significance:
(ii) the duration of each flash shall be about one second, the interval between flashes shall be about one second, and the interval between successive signals shall not be less than ten seconds.
(iii) the light used for this signal shall, if fitted, be an all-round white, visible at a minimum range of 5 miles, and shall comply with the provisions of Annex I to these Regulations.
–One flash to mean “I am altering my course to starboard”
–Two flashes to mean I am altering my course to port”
–Three flashes to mean “I am operating astern propulsion”.

**Rule 34—Maneuvering and Warning Signs (International)**

(c) When in sight of one another in a narrow channel or fairway:
(i) a vessel intending to overtake another shall in compliance with Rule 9(e)(i) indicate her intention by the following signals on her whistle:
–Two prolonged blasts followed by one short blast to mean "I intend to overtake you on your starboard side"
–Two prolonged blasts followed by two short blasts to mean "I intend to overtake you on your port side".
(ii) the vessel about to be overtaken when acting in accordance with Rule 9(e)(i) shall indicate her agreement by the following signal on her whistle:
–one prolonged, one short, one prolonged and one short blast, in that order.

(d) When vessels in sight of one another are approaching each other and from any cause either vessel fails to understand the intentions or actions of the other, or is in doubt whether sufficient action is being taken by the other to avoid collision, the vessel in doubt shall immediately indicate such doubt by giving at least five short and rapid blasts on the whistle. Such signal may be supplemented by at least five short and rapid flashes.

(e) A vessel nearing a bend or an area of a channel or fairway where other vessels may be obscured by an intervening obstruction shall sound one prolonged blast. This signal shall be answered with a prolonged blast by any approaching vessel that may be within hearing around the bend or behind the intervening obstruction.

(f) If whistles are fitted on a vessel at a distance apart of more than 100 meters, one whistle only shall be used for giving maneuvering and warning signals.

(248)

**Rule 34—Maneuvering and Warning Signs (Inland)**

*(a) When power-driven vessels are in sight of one another and meeting or crossing at a distance within half a mile of each other, each vessel underway, when maneuvering as authorized or required by these Rules,*
*(i) shall indicate that maneuver by the following signals on her whistle:*
*–One short blasts to mean "I intend to leave you on my port side"*
*–Two short blasts to mean "I intend to leave you on my starboard side"*
*–Three short blasts to mean "I am operating astern propulsion"*
*(ii) upon hearing the one or two blast signal of the other shall, if in agreement, sound the same whistle signal and take the steps necessary to effect a safe passing. If, however, from any cause, the vessel doubts the safety of the proposed maneuver, she shall sound the signal specified in Rule 34(d) and each vessel shall take appropriate precautionary action until a safe passing agreement is made*

*(b) Any vessel may supplement the whistle signals prescribed in Rule 34(a) by light signals:*
*(i) these signals shall have the following significance:*
*(ii) the duration of each flash shall be about one second.*
*(iii) the light used for this signal shall, if fitted, be an all-round white or yellow, visible at a minimum range of 2 miles, synchronized with the whistle and shall comply with the provisions of Annex I to these Regulations.*
*–One flash to mean "I intend to leave you on my port side"*
*–Two flashes to mean "I intend to leave you on my starboard side"*
*–Three flashes to mean "I am operating astern propulsion"*

**Rule 34—Maneuvering and Warning Signs (Inland)**

*(c) When in sight of one another:*
*(i) a power-driven vessel intending to overtake another power-driven vessel shall indicate her intention by the following signals on her whistle:*
*–One short blast to mean "I intend to overtake you on your starboard side"*
*–Two short blasts to mean "I intend to overtake you on your port side"*
*(ii) the power-driven vessel about to be overtaken shall, if in agreement, sound a similar sound signal. If in doubt she shall sound the signal prescribed in Rule 34(d).*

*(d) When vessels in sight of one another are approaching each other and from any cause either vessel fails to understand the intentions or actions of the other, or is in doubt whether sufficient action is being taken by the other to avoid collision, the vessel in doubt shall immediately indicate such doubt by giving at least five short and rapid blasts on the whistle. Such signal may be supplemented by at least five short and rapid flashes.*

*(e) A vessel nearing a bend or an area of a channel or fairway where other vessels may be obscured by an intervening obstruction shall sound one prolonged blast. This signal shall be answered with a prolonged blast by any approaching vessel that may be within hearing around the bend or behind the intervening obstruction.*

*(f) If whistles are fitted on a vessel at a distance apart of more than 100 meters, one whistle only shall be used for giving maneuvering and warning signals.*

*(g) When a power-driven vessel is leaving a dock or berth, she shall sound one prolonged blast.*

*(h) A vessel that reaches agreement with another vessel in a head-on, crossing, or overtaking situation, as for example, by using the radiotelephone as prescribed by the Vessel Bridge-to-Bridge Radiotelephone Act (85 Stat. 164; 33 U.S.C. 1201 et seq.), is not obliged to sound the whistle signals prescribed by this Rule, but may do so. If agreement is not reached, then whistle signals shall be exchanged in a timely manner and shall prevail.*

(249)

**Rule 35—Sound Signals in Restricted Visibility**

(250) In or near an area of restricted visibility, whether by day or night the signals prescribed in this Rule shall be used as follows:

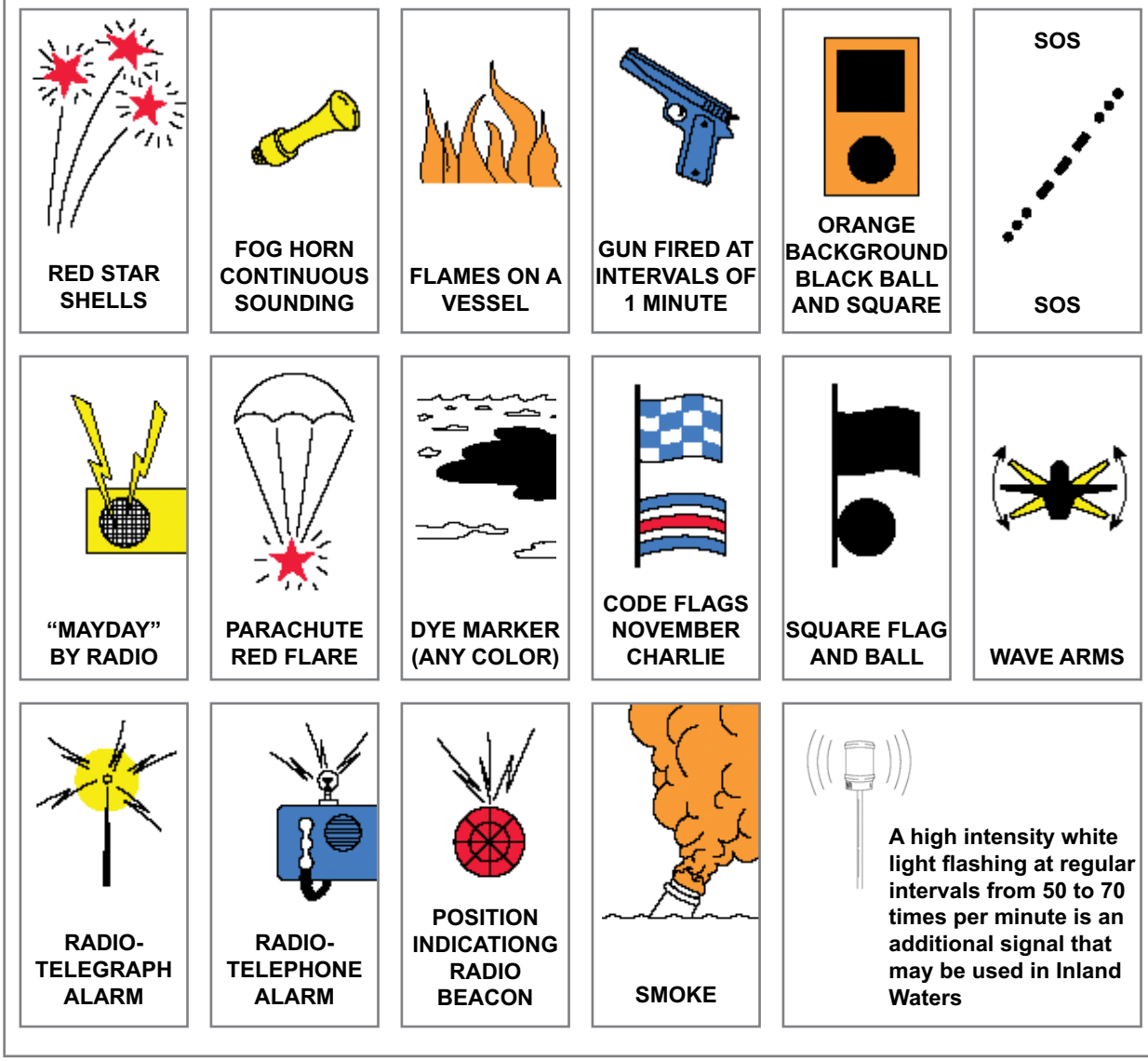
(251) (a) A power-driven vessel making way through the water shall sound at intervals of not more than 2 minutes one prolonged blast.

(252) (b) A power-driven vessel underway but stopped and making no way through the water shall sound at intervals of no more than 2 minutes two prolonged blasts in succession with an interval of about 2 seconds between them.

(253) (c) A vessel not under command, a vessel restricted in her ability to maneuver *«whether underway or at anchor»*, ‹ a vessel constrained by her draft › , a sailing vessel, a vessel engaged in fishing and a vessel engaged in towing or pushing another vessel shall, instead of the signals prescribed in Rule 35(a) or (b), sound at intervals of not more than 2 minutes three blasts in succession, namely one prolonged followed by two short blasts.

(268)

## Rule 37—Distress Signals (International/Inland)




(254)

**Rule 35d (International)**

(d) A vessel engaged in fishing, when at anchor, and a vessel restricted in her ability to maneuver when carrying out her work at anchor, shall instead of the signals prescribed in Rule 35(g) sound the signal prescribed in Rule 35(c).

(255) (e) A vessel towed or if more than one vessel is towed the last vessel of the tow, if manned, shall at intervals of not more than 2 minutes sound four blasts in succession, namely one prolonged followed by three short blasts. When practicable, this signal shall be made immediately after the signal made by the towing vessel.

(256) (f) When a pushing vessel and a vessel being pushed ahead are rigidly connected in a composite unit they shall 418 ¢ U.S. Coast Pilot 1, Appendix C 16 SEP 2018 be regarded as a power-driven vessel and shall give the signals prescribed in Rule 35(a) or (b).

(257) (g) A vessel at anchor shall at intervals of not more than 1 minute ring the bell rapidly for about 5 seconds. In a vessel 100 meters or more in length the bell shall be sounded in the forepart of the vessel and immediately after the ringing of the bell the gong shall be sounded rapidly for about 5 seconds in the after part of the vessel. A vessel at anchor may in addition sound three blasts in succession, namely one short, one prolonged and one short blast, to give warning of her position and of the possibility of collision to an approaching vessel.

(258) (h) A vessel aground shall give the bell signal and if required the gong signal prescribed in Rule 35(g) and shall, in addition, give three separate and distinct strokes on the bell immediately before and after the rapid ringing of the bell. A vessel aground may in addition sound an appropriate whistle signal.

(259) (i) A vessel of 12 meters or more but less than 20 meters in length shall not be obliged to give the bell signals prescribed in Rule 35(g) and (h). However, if she does not, she shall make some other efficient sound signal at intervals of not more than 2 minutes.

(260) (j) A vessel of less than 12 meters in length shall not be obliged to give the above mentioned signals but, if she does not, shall make some other efficient sound signal at intervals of not more than 2 minutes.

(261) (k) A pilot vessel when engaged on pilotage duty may, in addition to the signals prescribed in Rule 35(a), (b) or (g), sound an identity signal consisting of four short blasts.

(262)

| Rule 35 (Inland) |
|---|
| *(l) The following vessels shall not be required to sound signals as prescribed in Rule 35(g) when anchored in a special anchorage area designated by the Coast Guard:* |
| *(i) a vessel of less than 20 meters in length; and* |
| *(ii) a barge, canal boat, scow, or other nondescript craft.* |

(263)

### Rule 36—Signals to Attract Attention

(264) If necessary to attract the attention of another vessel, any vessel may make light or sound signals that cannot be mistaken for any signal authorized elsewhere in these Rules, or may direct the beam of her searchlight in the direction of the danger, in such a way as not to embarrass any vessel.

(265)

| Rule 36 (International) |
|---|
| Any light to attract the attention of another vessel shall be such that it cannot be mistaken for any aid to navigation. For the purpose of this Rule the use of high intensity intermittent or revolving lights, such as strobe lights, shall be avoided. |

(266)

### Rule 37—Distress Signals

(267) When a vessel is in distress and requires assistance she shall use or exhibit the signals described in Annex IV to these Rules. (See graphic, **Rule 37—Distress Signals**).

(269)

## Part E—Exemptions

(270)

| Rule 38—Exemptions (International) |
|---|
| Any vessel (or class of vessel) provided that she complies with the requirements of — the International Regulations for the Preventing of Collisions at Sea, 1960, the keel of which is laid or is at a corresponding stage of construction before the entry into force of these Regulations may be exempted from compliance therewith as follows: |
| (a) The installation of lights with ranges prescribed in Rule 22, until 4 years after the date of entry into force of these Regulations. |
| (b) The installation of lights with color specifications as prescribed in §7 of Annex I to these Regulations, until 4 years after the entry into force of these Regulations. |
| (c) The repositioning of lights as a result of conversion from Imperial to metric units and rounding off measurement figures, permanent exemption. |
| (d)(i) The repositioning of masthead lights on vessels of less than 150 meters in length, resulting from the prescriptions of §3 (a) of Annex I to these Regulations, permanent exemption. (ii) The repositioning of masthead lights on vessels of 150 meters or more in length, resulting from the prescriptions of §3 (a) of Annex I to these Regulations, until 9 years after the date of entry into force of these Regulations. |
| (e) The repositioning of masthead lights resulting from the prescriptions of §2(b) of Annex I to these Regulations, until 9 years after the date of entry into force of these Regulations. |
| (f) The repositioning of sidelights resulting from the prescriptions of §2(g) and 3(b) of Annex I to these Regulations, until 9 years after the date of entry into force of these Regulations. |
| (g) The requirements for sound signal appliances prescribed in Annex II to these Regulations, until 9 years after the date of entry into force of these Regulations. |
| (h) The repositioning of all-round lights resulting from the prescription of §9(b) of Annex I to these Regulations, permanent exemption. |

(271)

| Rule 38—Exemptions (Inland) |
|---|
| *Any vessel or class of vessels, the keel of which was laid or which is at a corresponding stage of construction before December 24, 1980, provided that she complies with the requirements of —* |
| *(a) The Act of June 7, 1897 (30 Stat. 96), as amended (33 U.S.C. 154-232) for vessels navigating the waters subject to that statute;* |
| *(b) §4233 of the Revised Statutes (33 U.S.C. 301-356) for vessels navigating the waters subject to that statute;* |
| *(c) The Act of February 8, 1895 (28 Stat. 645), as amended (33 U.S.C. 241-295) for vessels navigating the waters subject to that statute; or* |

**Rule 38—Exemptions (Inland)**

*(d) §§3, 4, and 5 of the Act of April 25, 1940 (54 Stat. 163), as amended (46 U.S.C. 526 b, c, and d) for motorboats navigating the waters subject to that statute; shall be exempted from compliance with the technical Annexes to these Rules as follows:*
*(i) The installation of lights with ranges prescribed in Rule 22, vessels of less than 20 meters in length are permanently exempt;*
*(ii) The installation of lights with color specifications as prescribed in §7 of Annex I to these Rules, until 4 years after the effective date of the Inland Navigational Rules Act of 1980 (Pub. L. 96-591), except that vessels of less than 20 meters in length are permanently exempt;*
*(iii) The repositioning of lights as a result of a conversion to metric units and rounding off of measurement figures, are permanently exempt.*
*(iv) The horizontal repositioning of masthead lights prescribed by Annex I to these Rules, vessels of less than 150 meters in length are permanently exempted.*
*(v) Power-driven vessels of 12 meters or more but less than 20 meters in length are permanently exempt from the provisions of Rule 23(a)(i) and 23(a)(iv) provided that, in place of these lights, the vessel exhibits a white light aft visible all-around the horizon.*

(272) **Implementing Rule**—See **33 CFR 81.20**, chapter 2, for regulations.

(273)

## Part F—Verification of Compliance with the Provisions of the Convention

(274)

### Rule 39—Definitions

(275)

**Rule 39 (International)**

(a) "Audit" means a systematic, independent and documented process for obtaining audit evidence and evaluating it objectively to determine the extent to which audit criteria are fulfilled.

(b) "Audit Scheme" means the IMO Member State Audit Scheme established by the Organization and taking into account the guidelines developed by the Organization*.

(c) "Code for Implementation" means the IMO Instruments Implementation Code (III Code) adopted by the Organization by resolution A.1070(28).

(d) "Audit Standard" means the Code for Implementation.

(276)

### Rule 40—Application

(277)

**Rule 40 (International)**

Contracting Parties shall use the provisions of the Code for Implementation in the execution of their obligations and responsibilities contained in the present Convention.

(278)

### Rule 41—Verification of Compliance

(279)

**Rule 41 (International)**

(a) Every Contracting Party shall be subject to periodic audits by the Organization in accordance with the audit standard to verify compliance with and implementation of the present Convention.

(b) The Secretary-General of the Organization shall have responsibility for administering the Audit Scheme, based on the guidelines developed by the Organization*.

(c) Every Contracting Party shall have responsibility for facilitating the conduct of the audit and implementation of a programme of actions to address the findings, based on the guidelines developed by the Organization*.

(d) Audit of all Contracting Parties shall be:

(i) based on an overall schedule developed by the Secretary-General of the Organization, taking into account the guidelines developed by the Organization*; and

(ii) conducted at periodic intervals, taking into account the guidelines developed by the Organization*.

* Refer to the Framework and Procedures for the IMO Member State Audit Scheme, adopted by the Organization by resolution A.1067(28).

(280)

## Annex I—Positioning and Technical Details of Lights and Shapes

(281)

### Definitions

(282) (a) The term "height above the hull" means height above the uppermost continuous deck. This height shall be measured from the position vertically beneath the location of the light.

(283)

**Annex I (Inland)**

*(b) High-speed craft means a craft capable of maximum speed in meters per second (m/s) equal to or exceeding: $3.7\nabla^{0.1667}$; where $\nabla$ = displacement corresponding to the design waterline (cubic meters).*

*Note: The same formula expressed in pounds and knots is maximum speed in knots (kts) equal to exceeding 1.98(lbs) $3.7\nabla^{0.1667}$; where $\nabla$=displacement corresponding to design waterline in pounds.*

*(c) The term "practical cut-off" means, for vessels 20 meters or more in length, 12.5 percent of the minimum luminous intensity (Table 14(b)) corresponding to the greatest range of visibility for which the requirements of Annex I are met.*

*(d) The term "Rule" or "Rules" has the same meaning as in Rule 3(r).*

(284)

### Vertical Positioning and Spacing of Lights

(285) (a) On a power-driven vessel of 20 meters or more in length the masthead light shall be placed as follows: (i) The forward masthead light, or if only one masthead light is carried, then that light, at a height above the hull of not less than ‹ 6 ›«5» meters, and, if the breadth of the vessel exceeds ‹ 6 ›«5» meters, then at a height above the hull not less than such breadth, so however that the light need not be placed at a greater height above the hull than ‹ 12 ›*«8»* meters; (ii) when two masthead lights are carried the after one shall be at least ‹ 4.5 ›*«2»* meters vertically higher than the forward one.

(286) (b) The vertical separation of the masthead lights of power-driven vessels shall be such that in all normal conditions of trim the after light will be seen over and separate from the forward light at a distance of 1000 meters from the stem when viewed from ‹ sea ›*«water»* level.

(287) (c) The masthead light of a power-driven vessel of 12 meters but less than 20 meters in length shall be placed at a height above the gunwale of not less than 2.5 meters.

(288)

**Annex I (International)**

(d) A power-driven vessel of less than 12 meters in length may carry the uppermost light at a height of less than 2.5 meters above the gunwale. When, however, a masthead light is carried in addition to sidelights and a sternlight or the all-round light prescribed in Rule 23(d)(i) is carried in addition to sidelights, then such masthead light or all-round light shall be carried at least 1 meter higher than the sidelights.

**Annex I (Inland)**

*(d) The masthead light, or the all-round light described in Rule 23(d), of a power-driven vessel of less than 12 meters in length shall be carried at least 1 meter higher than the sidelights.*

(289) (e) One of the two or three masthead lights prescribed for a power-driven vessel when engaged in towing or pushing another vessel shall be placed in the same position as either the forward masthead light or the after masthead light, provided that ‹ , if carried on the after mast, › the lowest after masthead light shall be at least ‹ 4.5 ›*«2»* meters vertically higher than the *«highest»* forward masthead light.

(290) (f)(i) The masthead lights or lights prescribed in Rule 23(a) shall be so placed as to be above and clear of all other lights and obstructions except as described in §(f)(ii).

(291) (ii) When it is impracticable to carry the all-round lights prescribed by Rule 27(b)(i) ‹ or Rule 28 › below the masthead lights, they may be carried above the after masthead light(s) or vertically in between the forward masthead light(s) and after masthead light(s), provided that in the latter case the requirement of §3(c) shall be complied with.

(292) (g) The sidelights of a power-driven vessel shall be placed at ‹ a height above the hull not greater than three quarters of that ›«least 1 meter lower» of ‹ the ›*« than »* forward masthead light. They shall not be so low as to be interfered with by deck lights.

(293)

**Annex I (International)**

(h) The sidelights, if in a combined lantern and carried on a power-driven vessel of less than 20 meters in length, shall be placed not less than 1 meter below the masthead light.

(294) (i) When the Rules prescribe two or three lights to be carried in a vertical line, they shall be spaced as follows: (i) On a vessel of 20 meters in length or more such lights shall be spaced not less than ‹ 2 ›*«1»* meter apart, and the lowest of these lights shall, except where a towing light is required, be placed at a height of not less than 4 meters above the hull. (ii) On a vessel of less than 20 meters in length such lights shall be spaced not less than 1 meter apart and the lowest of these lights shall, except where a towing light is required, be placed at a height of not less than 2 meters above the gunwale. (iii) When three lights are carried they shall be equally spaced.

(295) (j) The lower of the two all-round lights prescribed for a vessel when engaged in fishing shall be at a height above the sidelights not less than twice the distance between the two vertical lights.

(296) (k) The forward anchor light prescribed in Rule 30(a)(i), when two are carried, shall not be less than 4.5 meters above the after one. On a vessel of 50 meters or more in length this forward anchor light shall be placed at a height or not less than 6 meters above the hull.

(297)

### Horizontal Positioning and Spacing of Lights

(298) (a)*«Except as specified in §1(e), »* when two masthead lights are prescribed for a power-driven vessel, the horizontal distance between them must not be less than one- ‹ quarter ›*«half»* of the length of the vessel but need not be more than ‹ 100 ›*«50»* meters. The forward light must be placed not more than one- ‹ quarter ›*«half»* of the length of the vessel from the stem.

(299) (b) On a power-driven vessel of 20 meters or more in length the sidelights shall not be placed in front of the forward masthead lights. They shall be placed at or near the side of the vessel.

(300) (c) When the lights prescribed in Rule 27(b)(i) ‹or Rule 28 › are placed vertically between the forward masthead light(s) and the after masthead light(s), these all-round lights shall be placed at a horizontal distance of not less than 2 meters from the fore and aft centerline of the vessel in the athwartship direction.

(301) (d) When only one masthead light is prescribed for a power-driven vessel, this light must be exhibited forward of amidships. For a vessel of less than 20 meters in length, the vessel shall exhibit one masthead light as far forward as is practicable.

(302)

**Annex I (Inland)**

*(e) On power-driven vessels 50 meters but less than 60 meters in length operated on the Western Rivers, and those { waters specified by the Secretary }, the horizontal distance between masthead lights shall not be less than 10 meters.*

(303)

### Details of Location of Direction-Indicating Lights for Fishing Vessels, Dredgers and Vessels Engaged in Underwater Operations

(304) (a) The light indicating the direction of the outlying gear from a vessel engaged in fishing as prescribed in Rule 26(c)(ii) shall be placed at a horizontal distance of not less than 2 meters and not more than 6 meters away from the two all-round red and white lights. This light shall be placed not higher than the all-round white light prescribed in Rule 26(c)(i) and not lower than the sidelights.

(305) (b) The lights and shapes on a vessel engaged in dredging or underwater operations to indicate the obstructed side and/or the side on which it is safe to pass, as prescribed in Rule 27(d)(i) and (ii), shall be placed at the maximum practical horizontal distance, but in no case less than 2 meters, from the lights or shapes prescribed in Rule 27(b)(i) and (ii). In no case shall the upper of these lights or shapes be at a greater height than the lower of the three lights or shapes prescribed in Rule 27(b)(i) and (ii).

(306)

### Screens ‹ For Sidelights ›

(307) (a) The sidelights of vessels of 20 meters or more in length shall be fitted with ‹inboard screens painted› matt black,*«inboard screens»* and meet ‹ ing › the requirements of §‹9›*«15»*. On vessels of less than 20 meters in length, the sidelights, if necessary to meet the requirements of §‹9›*«15»*, shall be fitted with ‹inboard› matt black «inboard» screens. With a combined lantern, using a single vertical filament and a very narrow division between the green and red sections, external screens need not be fitted.

(308)

**Annex I (Inland)**

*(b) On power-driven vessels less than 12 meters in length constructed after July 31, 1983, the masthead light, or the all-round light described in Rule 23(d) shall be screened to prevent direct illumination of the vessel forward of the operator's position.*

(309)

### Shapes

(310) (a) Shapes shall be black and of the following sizes: (i) A ball shall have a diameter of not less than 0.6 meter; (ii) a cone shall have a base diameter of not less than 0.6 meter‹s› and a height equal to its diameter; ‹ (iii) a cylinder shall have a diameter of at least 0.6 meter and a height of twice its diameter; › (iv)ǂ(iii) a diamond shape shall consist of two cones as defined in §(a)(ii) having a common base.

(311) (b) The vertical distance between shapes shall be at least 1.5 meter ‹ s ›.

(312) (c) In a vessel of less than 20 meters in length shapes of lesser dimensions but commensurate with the size of the vessel may be used and the distance apart may be correspondingly reduced.

(313)

### Color Specification of Lights

(314) (a) The chromaticity of all navigation lights shall conform to the following standards, which lie within the boundaries of the area of the diagram specified for each color by the International Commission on Illumination (CIE). ‹ , in the "Colors of Light Signals", which is incorporated by reference. It is Publication CIE No. 2.2. (TC-1.6), 1975, and is available from the Illumination Engineering Society, 345 East 47th Street, New York, NY 10017 and is available for inspection at the Coast Guard, Shore Infrastructure Logistics Center, Aids to Navigation and Marine Environmental Response Product Line (CGSILC-ATON/MER), 2703 Martin Luther King, Jr. Ave SE, Mailstop 7714, Washington, DC 20593-7714. It is also available for inspection at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202–741–6030, or go to: *http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html*. This incorporation by reference was approved by the Director of the Federal Register. ›

(315) (b) The boundaries of the area for each color are given by indicating the corner coordinates, which are as follows:

(316)

| | | | | | | |
|---|---|---|---|---|---|---|
| (i) White | | | | | | |
| x | 0.525 | 0.525 | 0.452 | 0.310 | 0.310 | 0.443 |
| y | 0.382 | 0.440 | 0.440 | 0.348 | 0.283 | 0.382 |
| (ii) Green | | | | | | |
| x | 0.028 | 0.009 | 0.300 | 0.203 | | |
| y | 0.385 | 0.723 | 0.511 | 0.356 | | |
| (iii) Red | | | | | | |
| x | 0.680 | 0.660 | 0.735 | 0.721 | | |
| y | 0.320 | 0.320 | 0.265 | 0.259 | | |
| (iv) Yellow | | | | | | |
| x | 0.612 | 0.618 | 0.575 | 0.575 | | |
| y | 0.382 | 0.382 | 0.425 | 0.406 | | |

(317)

### Intensity of Lights

(318) (a) The minimum luminous intensity of lights shall be calculated by using the formula:

(319)

$I = 3.43 \times 10^6 \times T \times D^2 \times K^{-D}$

**I** is luminous intensity in candelas under service conditions.

| |
|---|
| **T** is threshold factor 2 x $10^{-7}$ lux. |
| **D** is range of visibility (luminous range) of the light in nautical miles. |
| **K** is atmospheric transmissivity. For prescribed lights the value of K shall be 0.8, corresponding to a meteorological visibility of approximately 13 miles. |

(320) (b) A selection of figures derived from the formula is given in the following table:

(321)

| Range of visibility (luminous range) of light in nautical miles D | Minimum luminous intensity of light in candelas for K = 0.8 I |
|---|---|
| 1 | 0.9 |
| 2 | 4.3 |
| 3 | 12 |
| 4 | 27 |
| 5 | 52 |
| 6 | 94 |

(322) ‹ Note: The maximum luminous intensity of navigation lights should be limited to avoid undue glare. This shall not be achieved by a variable control of the luminous intensity. ›

(323)

### Horizontal Sectors

(324) (a)(i) In the forward direction, sidelights as fitted on the vessel shall show the minimum required intensities. The intensities shall decrease to reach practical cut-off between 1 and one degrees outside the prescribed sectors.

(325) (ii) For sternlights and masthead lights and at 22.5 degrees abaft the beam for sidelights, the minimum required intensities shall be maintained over the arc of the horizon up to 5 degrees within the limits of the sectors prescribed in Rule 21. From 5 degrees within the prescribed sectors the intensity may decrease by 50 percent up to the prescribed limits; it shall decrease steadily to reach practical cut-off at not more than 5 degrees outside the prescribed sectors.

(326) (b)(i) All-round lights shall be so located as not to be obscured by masts, topmasts or structures within angular sectors of more than 6 degrees, except anchor lights prescribed in Rule 30, which need not be placed at an impracticable height above the hull *« , and the allround white light described in Rule 23(e), which may not be obscured at all»*.

(327) (ii) If it is impracticable to comply with §(b)(i) by exhibiting only one all-round light, two all-round lights shall be used suitably positioned or screened so that they *«to»* appear, as far as practicable, as one light at a *«minimum»* distance of 1 *«nautical»* mile.

(328) *«Note: Two unscreened all-round lights that are 1.28 meters apart or less will appear as one light to the naked eye at a distance of 1 nautical mile.»*

(329)

### Vertical Sectors

(330) (a) The vertical sectors of electric lights as fitted, with the exception of lights on sailing vessels underway *«and on unmanned barges»*, shall ensure that: (i) At least the required minimum intensity is maintained at all angles from 5 degrees above to 5 degrees below the horizontal; (ii) at least 60 percent of the required minimum intensity is maintained from 7.5 degrees above to 7.5 degrees below the horizontal.

(331) (b) In the case of sailing vessels underway the vertical sectors of electric lights as fitted shall ensure that: (i) At least the required minimum intensity is maintained at all angles from 5 degrees above to 5 degrees below the horizontal; (ii) at least 50 percent of the required minimum intensity is maintained from 25 degrees above to 25 degrees below the horizontal.

(332)

| Annex I (Inland) |
|---|
| *(c) In the case of unmanned barges the minimum required intensity of electric lights as fitted shall be maintained on the horizontal.* |

(333) (c)~~:~~(d) In the case of lights other than electric lights these specifications shall be met as closely as possible.

(334)

### Intensity of Non-electric Lights

(335) Non-electric lights shall so far as practicable comply with the minimum intensities, as specified in the *« Intensity of Lights »* Table.

(336)

### Maneuvering Light

(337) *«Notwithstanding the provisions of §2(f)»*, the maneuvering light described in Rule 34(b) shall be placed *«approximately»* in the same fore and aft vertical plane as the masthead light or lights and, where practicable, at a minimum height of ‹ 2 ›*«1.5»* meter vertically above the forward masthead light, provided that it shall be carried not less than ‹ 2 ›*«1.5»* meter vertically above or below the after masthead light. On a vessel where only one masthead light is carried, the maneuvering light, if fitted, shall be carried where it can best be seen, not less than ‹2 ›*«1.5»* meters vertically apart from the masthead light.

(338)

### High-speed Craft

(339) (a) The masthead light of high-speed craft may be placed at a height related to the breadth*«of the craft»* lower than that prescribed in §2(a)(i), provided that the base angle of the isosceles triangle formed by the sidelights and masthead light when seen in end elevation is not less than 27 degrees.

(340) (b) On high-speed craft of 50 meters or more in length, the vertical separation between foremast and mainmast light of 4.5 meters required by §‹ 2(a)(ii) ›*«2(k)»* may be modified provided that such distance shall not be less than the value determined by the following formula:

(341)

$$y = \frac{y = (a+17\Psi)\ C}{1000} + 2$$

**y** the height of the mainmast light above the foremast light in meters.

**a** is the height of the foremast light above the water surface in service condition in meters

**Y** is the trim in service condition in degrees.

**C** is the horizontal separation of masthead lights in meters.

Note: Refer to the International Code of Safety for High-Speed Craft, 1994 and the International Code of Safety for High-Speed Craft, 2000.

(342)

**Approval**

(343) The construction of lights and shapes and the installation of lights on board the vessel ‹ shall be to the satisfaction of the appropriate authority of the State whose flag the vessel is entitled to fly ›*«must satisfy the Commandant, U. S. Coast Guard»*.

(344)

## Annex II—Additional Signals for Fishing Vessels Fishing in Close Proximity

(345) See Rule 26(f).

(346)

## Annex III—Technical Details of Sound Signal Appliances

(347) (a) Frequencies and range of audibility. The fundamental frequency of the signal shall lie within the range 70-700 Hz. The range of audibility of the signal from a whistle shall be determined by those frequencies, which may include the fundamental and/or one or more higher frequencies, which lie within the range 180-700 Hz (+/- 1 percent) for a vessel of 20 meters or more in length, or 180-2100 Hz (+/- 1 percent) for a vessel of less than 20 meters in length and which provide the sound pressure levels specified in §1(c).

(348) (b) Limits of fundamental frequencies. To ensure a wide variety of whistle characteristics, the fundamental frequency of a whistle shall be between the following limits: (i) 70-200 Hz, for a vessel 200 meters or more in length; (ii) 130-350 Hz, for a vessel 75 meters but less than 200 meters in length; (iii) 250-700 Hz, for a vessel less than 75 meters in length.

(349) (c) Sound signal intensity and range of audibility. A whistle fitted in a vessel shall provide, in the direction of maximum intensity of the whistle and at a distance of 1 meter from it, a sound pressure level in at least one onethird octave band within the range of frequencies 180-700 Hz (+/- 1 percent) for a vessel of 20 meters ‹ or more in length, or 180-2100 Hz (+/- 1 percent) for a vessel of less than 20 meters in length ›, of not less than the appropriate figure given in the table below.

(350)

| Length of vessel in meters | One-third octave band level at 1 meter in dB referred to 2 x $10^{-5}$N/$m^2$ | Audible range in nautical miles |
|---|---|---|
| 200 or more | 143 | 2 |
| 75 but less than 200 | 138 | 1.5 |
| 20 but less than 75 | 130 | 1 |
| Less than 20 | 120*<br>115**<br>111*** | 0.5 |

* When the measured frequencies lie within the range 180-450 Hz
** When the measured frequencies lie within the range 450-800 Hz
*** When the measured frequencies lie within the range 800-2100 Hz

(351) The range of audibility in the table is for information and is approximately the range at which a whistle may be heard on its forward axis with 90 percent probability in conditions of still air on board a vessel having average background noise level at the listening posts (taken to be 68 dB in the octave band centered on 250 Hz and 63 dB in the octave band centered on 500 Hz). *«It is shown for informational purposes only.»* In practice, the range at which a whistle may be heard is extremely variable and depends critically on weather conditions; the values given can be regarded as typical but under conditions of strong wind or high ambient noise level at the listening post the range may be reduced.

(352) (d) Directional properties. The sound pressure level of a directional whistle shall be not more than 4 dB below the ‹prescribed› sound pressure level ‹on the axis at›, *«specified in §(c)»* any direction in the horizontal plane within +/- 45 degrees of the axis. The sound pressure level at «of the whistle in» any other direction in the horizontal plane shall be not more than 10 dB ‹below the prescribed›*«less than the»* sound pressure level ‹on the›*«specified for the forward»* axis, so that the range *«audibility»* in any direction will be at least half the range *«required»* on the forward axis. The sound pressure level shall be measured in that one-third octave band which determines the audibility range.

(353) (e) Positioning of whistles.

(354) (i) When a directional whistle is to be used as the only whistle on ‹ a vessel, it shall be installed with its maximum intensity directed straight ahead ›*«the vessel and is permanently installed, it shall be installed with its forward axis directed forward»*.

(355) (ii) A whistle shall be placed as high as practicable on a vessel, in order to reduce interception of the emitted sound by obstructions and also to minimize hearing damage risk to personnel. The sound pressure level of the vessel's own signal at listening posts shall not exceed 110 dB(A) and so far as practicable should not exceed 100 dB(A).

(356) (f) Fitting of more than one whistle. If whistles are fitted at a distance apart of more than 100 meters, ‹it shall be so arranged that they are›*«they shall»* not *«be»* sounded simultaneously.

(357)

**Annex IIIg (International)**

(g) Combined whistle systems.

If due to the presence of obstructions the sound field of a single whistle or of one of the whistles referred to in §(f) is likely to have a zone of greatly reduced signal level, it is recommended that a combined whistle system be fitted so as to overcome this reduction. The whistles of a combined system shall be located at a distance apart of not more than 100 meters and arranged to be sounded simultaneously. The frequency of any one whistle shall differ from those of the others by at least 10 Hz.

**Annex IIIg (Inland)**

*(g) Combined whistle systems.*

*(i) A combined whistle system is a number of whistles (sound emitting sources) operated together. For the purposes of the Rules a combined whistle system is to be regarded as a single whistle.*

*(ii) The whistles of a combined system shall:*

*(1) Be located at a distance apart of not more than 100 meters;*

*(2) Be sounded simultaneously;*

*(3) Each have a fundamental frequency different from those of the others by at least 10 Hz; and*

*(4) Have a tonal characteristic appropriate for the length of vessel which shall be evidenced by at least 2-thirds of the whistles in the combined system having fundamental frequencies falling within the limits prescribed in §(b) of this section, or if there are only two whistles in the combined system, by the higher fundamental frequency falling within the limits prescribed in paragraph (b) of this section.*

*Note: If, due to the presence of obstructions, the sound field of a single whistle or of one of the whistles referred to in §(f) of this section is likely to have a zone of greatly reduced signal level, a combined whistle system should be fitted so as to overcome this reduction.*

(358) For the purposes of the Rules a combined whistle system is to be regarded as a single whistle. ‹ (ii) › The whistles of a combined system shall:

(359) (1) Be located at a distance apart of not more than 100 meters;

(360)

**Annex III(h) (Inland)**

*(h) Towing vessel whistles*

*A power-driven vessel normally engaged in pushing ahead or towing alongside may, at all times, use a whistle whose characteristic falls within the limits prescribed by §1(b) for the longest customary composite length of the vessel and its tow.*

(361)

### Bell or Gong

(362) (a) Intensity of signal. A bell or gong, or other device having similar sound characteristics shall produce a sound pressure level of not less than 110 dB at ‹ a distance of › 1 meter ‹ from it ›.

(363) (b) Construction. Bells and gongs shall be made of corrosion-resistant material and designed to give clear tone. The diameter of the mouth of the bell shall be not less than 300 mm for vessels of 20 meters or more in length. Where practicable, a power-driven bell striker is recommended to ensure constant force but manual operation shall be possible. The mass of the striker shall be not less than 3 percent of the mass of the bell.

(364)

### Approval

(365)

**Annex III (International)**

The construction of sound signal appliances, their performance and their installation on board the vessel shall be to the satisfaction of the appropriate authority of the State whose flag the vessel is entitled to fly.

(366)

## Annex IV—Distress Signals

(367)

«*Need of Assistance*»

(368) The following signals, used or exhibited either together or separately, indicate distress and need of assistance:

(369) (a) a gun or other explosive signal fired at intervals of about a minute;

(370) (b) a continuous sounding with any fog-signaling apparatus;

(371) (c) rockets or shells, throwing red stars fired one at a time at short intervals;

(372) (d) a signal made by any signaling method consisting of the group . . . - - - . . . (SOS) in the Morse Code;

(373) (e) a signal sent by radiotelephony consisting of the spoken word “Mayday”;

(374) (f) the International Code Signal of distress indicated by N.C.;

(375) (g) a signal consisting of a square flag having above or below it a ball or anything resembling a ball;

(376) (h) flames on the vessel (as from a burning tar barrel, oil barrel, etc.);

(377) (i) a rocket parachute flare or a hand flare showing a red light;

(378) (j) a smoke signal giving off orange-colored smoke;

(379) (k) slowly and repeatedly raising and lowering arms outstretched to each side;

(380) (l) a distress alert by means of digital selective calling (DSC) transmitted on: (i) VHF channel 70, or (ii) MF/HF on the frequencies 2187.5 kHz, 8414.5 kHz, 4207.5 kHz, 6312 kHz, 12577 kHz or 16804.5 kHz;

(381) (m) a ship-to-shore distress alert transmitted by the ship’s Inmarsat or other mobile satellite service provider ship earth station;

(382) (n) signals transmitted by emergency position-indicating radio beacons;

(383) (o) approved signals transmitted by radiocommunication systems, including survival craft radar transponders *«meeting the requirements of 47 CFR 80.109»*.

(384) *«(p) A high intensity white light flashing at regular intervals from 50 to 70 times per minute.»*

(385)

«*Exclusive Use*»

(386) The use or exhibition of any of the foregoing signals except for the purpose of indicating distress and need of assistance and the use of other signals which may be confused with any of the above signals is prohibited.

(387)

«*Supplemental Signals*»

(388) Attention is drawn to the relevant sections of the International Code of Signals, the International Aeronautical and Maritime Search and Rescue Manual, Volume III, ‹ the International Telecommunication Union Radio Regulations, › and the following signals:

(389) (a) A piece of orange-colored canvas with either a black square and circle or other appropriate symbol (for identification from the air);

(390) (b) A dye marker.

(391)

## Annex V—Pilot Rules

(392)

### §88.01 Purpose and applicability.

(393) This part applies to all vessels operating on United States inland waters and to United States vessels operating on the Canadian waters of the Great Lakes to the extent there is no conflict with Canadian law.

(394)

### §88.03 Definitions.

(395) The terms used in this part have the same meaning as the terms defined in part 83 of this subchapter.

(396)

### §88.05 Law enforcement vessels.

(397) (a) Law enforcement vessels may display a flashing blue light when engaged in direct law enforcement or public safety activities. This light must be located so that it does not interfere with the visibility of the vessel's navigation lights.

(398) (b) The blue light described in this section may be displayed by law enforcement vessels of the United States and the States and their political subdivisions.

(399)

### §88.07 Public safety activities.

(400) (a) Vessels engaged in government sanctioned public safety activities, and commercial vessels performing similar functions, may display an alternately flashing red and yellow light signal. This identification light signal must be located so that it does not interfere with the visibility of the vessel's navigation lights. The identification light signal may be used only as an identification signal and conveys no special privilege. Vessels using the identification light signal during public safety activities must abide by the Inland Navigation Rules, and must not presume that the light or the exigency gives them precedence or right of way.

(401) (b) Public safety activities include but are not limited to patrolling marine parades, regattas, or special water celebrations; traffic control; salvage; firefighting; medical assistance; assisting disabled vessels; and search and rescue.

(402)

## Implementing Rules

(403) **Alternative Compliance**—see **33 CFR 81** and **33 CFR 89**, chapter 2, for regulations.

(404) **Vessel Bridge-to-Bridge Radiotelephone Regulations**—see **33 CFR 26**, chapter 2, for regulations.

# Appendix A

(1)

## Sales Information

(2) NOAA publications, nautical charts and unclassified National Geospatial-Intelligence Agency (NGA) nautical charts are sold by authorized sales agents in many U.S. ports and in some foreign ports. Information on obtaining charting products and a listing of authorized agents can be found at *www.nauticalcharts.noaa.gov*.

(3)

## Products and Services-NOAA

(4)

### Reporting corrections to Nautical Charts and Coast Pilots

(5) Users are requested to report all significant discrepancies or additions to NOAA charts and Coast Pilots, including depth information in privately maintained channels and basins; obstructions, wrecks, and other dangers; new, relocated, or demolished landmarks; uncharted fixed private aids to navigation; deletions or additions of small-craft facilities and any other information pertinent to safe navigation. This information may be submitted using the NOAA Office of Coast Survey website https://www.nauticalcharts.noaa.gov/customer-service/assist/

(6)

Department of Commerce, NOAA
Nautical Data Branch
N/CS26, Station 7505
1315 East-West Highway
Silver Spring, Maryland 20910
*ocs.ndb@noaa.gov*

(7)

### Nautical Charts

(8) NOAA maintains the nautical charts and publications for the coast of the United States and the Great Lakes. Over a thousand charts cover 95,000 miles of shoreline and 3.4 million square nautical miles of water. Access to charts, publications and chart catalogs are available through *www.nauticalcharts.noaa.gov*.

(9)

### Dates of Latest Editions

(10) Information concerning the dates of latest editions for the full suite of NOAA's nautical charts and U.S. Coast Pilot volumes can be found at: *www.nauticalcharts.noaa.gov/mcd/dole.htm*

(11)

### Coast Pilot

(12)

| |
|---|
| U.S. Coast Pilot 1—Atlantic Coast: Eastport to Cape Cod |
| U.S. Coast Pilot 2—Atlantic Coast: Cape Cod to Sandy Hook |
| U.S. Coast Pilot 3—Atlantic Coast: Sandy Hook to Cape Henry |
| U.S. Coast Pilot 4—Atlantic Coast: Cape Henry to Key West |
| U.S. Coast Pilot 5—Gulf Coast, Puerto Rico and Virgin Islands |
| U.S. Coast Pilot 6—Great Lakes and connecting waterways |
| U.S. Coast Pilot 7—Pacific Coast: California |
| U.S. Coast Pilot 8—Alaska: Dixon Entrance to Cape Spencer |
| U.S. Coast Pilot 9—Alaska: Cape Spencer to Beaufort Sea |
| U.S. Coast Pilot 10—Pacific Coast: Oregon, Washington, Hawaii, and Pacific Islands |

(13)

### Distance Tables

(14) Distances between United States Ports is available at *https://nauticalcharts.noaa.gov/publications/docs/distances.pdf*

(15)

### Center for Operational Oceanographic Products and Services

(16)

1305 East-West Highway
Silver Spring, Maryland 20910
301–713–2815 (phone)
301–713–4500 (fax)
*www.tidesandcurrents.noaa.gov*

(17)

### National Weather Service Offices

(18)

| Alaska |
|---|
| NWS Forecast Office Juneau – *www.weather.gov/ajk*<br>8500 Mendenhall Loop Road, Juneau, AK. 99801<br>907–790–6800 |
| NWS Forecast Office Anchorage – *www.weather.gov/afc*<br>6930 Sand Lake Road, Anchorage, AK. 99502<br>907–266–5105 |
| NWS Forecast Office Fairbanks – *www.weather.gov/afg*<br>UAF-IARC Building<br>Post Office Box 757345, Fairbanks, AK 99775-7345<br>907–458–3700 |

(19)

### NOAA Weather Radio

(20) National Weather Service VHF-FM radio stations provide mariners with continuous FM broadcasts of

weather warnings, forecasts, radar reports, and selected weather observations. Reception range is typically 20 to 40 nautical miles from the antenna site, but can be as much as 100 nautical miles depending on elevation, terrain, type of receiver, and antenna used. The following VHF-FM radio stations with location of antenna are in or near the area covered by this Coast Pilot:

(21)

| Call Sign | Station | Frequency (MHz) |
|---|---|---|
| KZZ89 | Sukkwan Island | 162.425 |
| KZZ92 | Duke Island | 162.450 |
| KZZ96 | Gravina Island | 162.525 |
| WXJ26 | Ketchikan | 162.550 |
| KXI80 | Craig | 162.475 |
| KZZ95 | Mt. McArthur | 162.525 |
| KZZ91 | Zarembo Island | 162.450 |
| WXJ83 | Wrangell | 162.400 |
| WXJ80 | Sitka | 162.550 |
| KAD96 | Manleyville | 162.500 |
| KZZ88 | Cape Fanshaw | 162.425 |
| KZZ86 | Althorp Peak | 162.425 |
| WXJ25 | Juneau | 162.550 |
| KZZ87 | Mt. Robert Barron | 162.450 |
| WXM97 | Haines | 162.400 |

(22) The National Weather Service provides **Radiofacsimile Weather Information** for Alaskan waters through Coast Guard Communications Station Kodiak (NOJ). Broadcasts are made on the following frequencies: 2054 (10z, 18z), 4298, 8459 and 12412.5 (4z, 22z) kHz. For carrier frequency, subtract 1.9 kHz. Fax schedules are transmitted at 1727 GMT and provide area coverage and descriptions of services. For further information on **Marine Radiofax Charts**, visit: *https://www.weather.gov/marine/radiofax_charts*

(23)

### Marine Weather Forecasts

(24) **Coastal Marine Forecasts** are issued four times daily by National Weather Service Offices. For further information on coastal marine forecasts as well as additional types of forecasts, visit: *https://weather.gov/marine/forecast* -and- *https://nowcoast.noaa.gov/*

(25)

### Space Weather Prediction Center (SWPC)

(26) The Space Weather Prediction Center provides real-time monitoring and forecasting of solar and geophysical events that impact satellites, power grids, communications, navigation and many other technological systems.

(27)

NOAA, National Weather Service
National Centers for Environmental Predictions
Space Weather Prediction Center, W/NP9
325 Broadway
Boulder, Colorado 80305
*www.swpc.noaa.gov*

(28)

## Products and Services–Other U.S. Government Agencies

(29) A partial list of publications and charts considered of navigational value is included for ready reference of the mariner. In addition to the agents located in the principal seaports handling publication sales, certain libraries have been designated by the Congress of the United States to receive the publications as issued for public review.

(30)

### Government Publishing Office

(31)

U.S. Government Publishing Office
710 North Capitol Street, NW
Washington, DC 20401-0001
202-512-1800
866-512-1800
*www.gpo.gov/*
ContactCenter@gpo.gov

(32)

### Hydrographic Surveys

(33) U.S. Army Corps of Engineers hydrographic survey activity is available at: *https://www.mvr.usace.army.mil/Missions/Navigation/Hydrographic-Surveys/HydrographicSurveysMap/*

(34)

### Nautical Charts

(35) **Apalachicola, Chattahoochee and Flint Rivers Navigation Charts**, **Alabama River Charts** and **Black Warrior-Tombigbee Rivers River Charts**—available from the U.S. Army Corps of Engineers Mobile District for purchase in bound hard copy or as a free download in PDF at *www.sam.usace.army.mil*.

(36) **Flood Control and Navigation Maps of the Mississippi River, Cairo, Illinois, to the Gulf of America**—available from the U.S. Army Corps of Engineers Memphis District as a free download in PDF at *www.mvm.usace.army.mil*.

(37) **Upper Mississippi River Navigation Charts (Mississippi River, Cairo, Illinois, to Minneapolis, Minnesota) and Charts of the Illinois Waterway, from Mississippi River at Grafton, Illinois, to Lake Michigan at Chicago and Calumet Harbors**—available from the U.S. Army Corps of Engineers Rock Island District for purchase in hard copy format or as a free download in PDF at *www.mvr.usace.army.mil*.

(38)

### Publications and Services

(39) **Local Notices to Mariners** are posted weekly by the U.S. Coast Guard Navigation Center at *www.navcen.uscg.gov*. The National Geospatial-Intelligence Agency, U.S. Notice to Mariners are available at *msi.nga.mil/NGAPortal/MSI.portal*.

(40) **Special Notice to Mariners** are issued annually in National Geospatial-Intelligence Agency Notice to Mariners 1. These notices contain important information

of considerable interest to all mariners. Interested parties are advised to read these notices.

(41) **Light List**—maintained by United States Coast Guard and available online at *www.navcen.uscg.gov*. Also see Light List, chapter 1, for additional information.

(42) List of Lights, Sailing Directions, Radio Navigational Aids (Pub. 117), American Practical Navigator (Pub. 9) and International Code of Signals (Pub. 102)—issued by the National Geospatial-Intelligence Agency and available at msi.nga.mil/NGAPortal/MSI.portal.

(43) **The Nautical Almanac**, the **Air Almanac** and **Astronomical Almanac**—available through the United States Naval Observatory —*https://www.public.navy.mil/fltfor/cnmoc/Pages/usno_test_page.aspx* -and- *https://bookstore.gpo.gov/agency/united-states-naval-observatory-usno*

(44) **Dissemination of Marine Weather Information**, maintained by National Weather Service on the internet at *https://www.weather.gov/marine/nws_dissemination* -and- **NWS Marine Weather Services** at *https://www.weather.gov/marine/*

(45) **Navigation Rules and Regulations Handbook**—publication produced by the United States Coast Guard Navigation Standards Branch, which contains International and Inland Rules of the Road and Navigation Regulations. Available for download or viewing at *www.navcen.uscg.gov.* Navigation Rules are also found near the end of each individual Coast Pilot volume.

(46)

## Offices and Services-Other U.S. Government Agencies

(47)

### U.S. Army Corps of Engineers Offices

(48)

| District/Division Office | Contact Information |
|---|---|
| Alaska District Office<br>P.O. Box 6896<br>JBER, Alaska 99506-0898 | *www.poa.usace.army.mil*<br>907–753–2504 |

(49)

### Environmental Protection Agency Offices

(50)

| Regional Areas, States and Information |
|---|
| **Region 1**<br>New Hampshire, Vermont, Maine, Massachusetts, Connecticut, Rhode Island<br>*www.epa.gov/aboutepa/epa-region-1-new-england* |
| **Region 2**<br>New Jersey, New York, Puerto Rico, Virgin Islands<br>*www.epa.gov/aboutepa/epa-region-2* |
| **Region 3**<br>Delaware, Maryland, Virginia, District of Columbia, Pennsylvania<br>*www.epa.gov/aboutepa/epa-region-3-mid-atlantic* |
| **Region 4**<br>Alabama, Florida, Georgia, Mississippi, South Carolina, North Carolina<br>*https://www.epa.gov/aboutepa/about-epa-region-4-southeast* |
| **Region 5**<br>Illinois, Indiana, Michigan, Minnesota, Ohio, Wisconsin<br>*www.epa.gov/aboutepa/epa-region-5* |
| **Region 6**<br>Louisiana, Texas<br>*www.epa.gov/aboutepa/epa-region-6-south-central* |
| **Region 9**<br>California, Hawaii, Guam<br>*www.epa.gov/aboutepa/epa-region-9-pacific-southwest* |
| **Region 10**<br>Alaska, Oregon, Washington<br>*www.epa.gov/aboutepa/epa-region-10-pacific-northwest* |

(51)

### U.S. Coast Guard Navigation Center (NAVCEN)

(52) The Coast Guard Navigation Center provides cutting-edge services for safe, secure and efficient maritime transportation. The center operates the Navigation Information Service (NIS), the Maritime Differential GPS (DGPS) and the developing Nationwide Differential Global Positioning System (NDGPS). In addition, NAVCEN serves as the civilian interface for the Global Positioning System and manages other navigation-related projects.

(53) For further information and/or operational questions regarding GPS and DGPS, visit *www.navcen.uscg.gov* or contact:

(54)

Commanding Officer
U.S. Coast Guard Navigation Center
NAVCEN MS 7310
7323 Telegraph Road
Alexandria, VA 20598-7310

(55)

### Coast Guard District Offices

(56)

| Districts, Boundary Description and Contact Information |
|---|
| **Seventeenth Coast Guard District**<br>Alaska; the ocean area that is bounded by a line from the Canadian coast at 54°40'N, due west to 140°W; thence southwesterly to 40°N., 150°W; thence due west to 40°N., 165°E; thence due north to 43°N; thence northwesterly to 51°N., 158°E; thence north and east along the coastline of the continent of Asia to the easternmost point of East Cape; thence north to the Arctic Ocean.<br><br>P.O. Box 25517<br>Juneau, AK 99802-5517<br>907–463–2269 (day)<br>907–463–2004 (night) |

(57)

### Coast Guard Sector Offices

(58) Note: A Sector Office combines the functions of the Captain of the Port and a Marine Inspection Office.

(59)

| Sectors | Contact Information |
|---|---|
| Sector Anchorage | U.S. Coast Guard Sector Anchorage<br>P.O. Box 5800<br>JBER, AK 99505-0800<br>907–428–4200 |

| Sectors | Contact Information |
|---|---|
| Sector Juneau | 709 W 9th Street<br>Suite 223B<br>Juneau, AK 99802<br>907–463–2980 |

(60)

## Coast Guard Stations

(61) The stations listed are in the area covered by this Coast Pilot. They have search and rescue capabilities and may provide lookout, communication and/or patrol functions to assist vessels in distress. The National VHF-FM Distress System provides continuous coastal radio coverage outwards to 20 miles on channel 16. After contact on channel 16, communications with the Coast Guard should be on channel 1022 (previously channel 22A). If channel 1022 is not available to the mariner, communications may be made on channel 12. Selected stations guard the International Radiotelephone Distress, Safety and Calling Frequencies.

(62)

| Alaska | |
|---|---|
| Station Juneau | Northwest side of the harbor at the Government Wharf. (58°17'54"N., 134°24'24"W.) |
| Station Ketchikan (base support unit) | Northeast side of Tongass Narrows about 0.6 mile southeast of Ketchikan. (55°19'54"N., 131°37'30"W.) |
| Station Kodiak/ Kodiak Air Station (base support unit) | North side of Womens Bay about 4.5 miles southwest of Kodiak. (57°44'18"N., 152°30'24"W.) |
| Sitka Air Station | On Japonski Island. (57°03'12"N., 135°21'54"W.) |
| Station Valdez | East side of the small-boat harbor entrance. (61°07'30"N., 146°21'06"W.) |

(63)

## Coast Guard Radio Broadcasts

(64) Urgent, safety and scheduled marine information broadcasts are made by Coast Guard stations. In general, these broadcasts provide information vital to vessels operating in the approaches and coastal waters of the United States including the Great Lakes, Puerto Rico and U.S. Virgin Islands. Types of broadcasts are as follows:

(65) **Scheduled broadcasts**–U.S. Coast Guard stations make scheduled broadcasts on a prepublished schedule of 12-hour intervals. After the preliminary announcements on VHF-FM channel 16, the station advises shifting to working frequency VHF-FM channel 1022 (previously channel 22A).

(66) **Safety broadcasts**–U.S. Coast Guard stations that make scheduled broadcasts issue safety broadcasts upon receipt and on the next scheduled broadcast. Safety broadcasts are preceded by the safety signal SECURITY. After the preliminary signal on VHF-FM channel 16, the station may announce shifting to working frequency VHF-FM channel 1022 (previously channel 22A).

(67) **Urgent broadcasts**–U.S. Coast Guard stations that make scheduled broadcasts issue urgent broadcasts upon receipt and on schedule until canceled. Urgent broadcasts are preceded by the urgent signal, PAN-PAN. Both the urgent signal and message may be transmitted on VHF-FM channel 16.

(68)

## U.S. NAVTEX Transmitting Stations

(69) NAVTEX coverage is reasonably continuous to 200 NM off the U.S. East, Gulf and West Coasts; Puerto Rico; Southwest Alaska; Hawaii; and 100 NM off Guam. U.S. Coast Guard NAVTEX broadcast stations and message content content for the West Coast are as follows:

(70)

| Station | Range (NM) | Broadcast Schedule (UTC) |
|---|---|---|
| Kodiak (NOJ)<br>*Areas east of Kodiak* | 200 | 0100, 0500, 0900, 1300, 1700, 2130 |
| Kodiak (NOX)<br>*Areas west of Kodiak* | 200 | 0300, 0700, 1100, 1500, 1900, 2350 |
| Astoria (NMW) | 216 | 0300, 0700, 1100, 1500, 1900, 2340 |
| San Francisco (NMC) | 350 | 0000, 0400, 0800, 1200, 1600, 2020 |
| Cambria (NMQ) | 350 | 0200, 0600, 1000, 1400, 1800, 2240 |
| Guam (NRV) | 100 | 0300, 0700, 1100, 1500, 1900, 2330 |
| Honolulu (NMO) | 350 | 0200, 0600, 1000, 1400, 1800, 2220 |

(71)

## Rescue Coordination Centers

(72) Listed below are the locations of the centers in Alaska.

(73) **Juneau, Alaska:** Seventeenth Coast Guard District Headquarters

(74) 907–463–2000

(75) jrccjuneau@uscg.mil

(76)

## Customs Ports of Entry

(77) Vessels arriving in the United States from a foreign port or place are required to report their arrival to Customs and Border Protection immediately. Field Operations Offices and contact information is listed below.

(78)

| Field Operations Office | Contact Information |
|---|---|
| Portland | 33 New Montgomery Street<br>Suite 1600<br>San Francisco, CA 94105<br>415–744–1530 ext. 221 |

(79)

## Public Health Service Quarantine Stations

(80)

| Quarantine Stations and Addresses |
|---|
| **CDC Anchorage Quarantine Station**<br>Ted Stevens Anchorage International Airport<br>4600 Postmark Drive, Suite NA 212<br>North Terminal<br>Anchorage, AK 99502 |

(81) At other ports, quarantine and/or medical examinations are usually performed by Public Health Service contract personnel or by quarantine inspectors from the nearest quarantine station. Inquiries concerning quarantine matters should be directed to the nearest quarantine station.

(82)

## Food and Drug Administration (FDA) Regional Offices

(83)

| | |
|---|---|
| Northeast Region | 158-15 Liberty Avenue<br>Jamaica, New York 11433<br>718–340–7000 |
| Central Region | 20 North Michigan Avenue<br>Suite 510<br>Chicago, Illinois 60602<br>215–597–4390 |
| Pacific Region | 1301 Clay Street<br>Room 1180N<br>Oakland, California 94612<br>510–287–2700 |
| Southeast Region | 60 Eighth Street NE<br>Atlanta, Georgia 30309<br>404–253–1171 |
| Southwest Region | 4040 North Central Expressway<br>Suite 900<br>Dallas, Texas 75204<br>214–253–4901 |

(84)

## Department of Agriculture, Animal and Plant Health Inspection Service (APHIS)

(85) Information on the importation of plants, animals and plant and animal products is available from APHIS, Department of Agriculture, 4700 River Road, Riverdale, MD 20737. Go to *aphis.usda.gov* for more information.

(86)

**USDA Animal and Plant Inspection Service**
Animal Import Centers:

**Los Angeles Animal Import Center (LAAIC)**
222 Kansas Street
El Segundo, CA 90245
310-955-3311

**Miami Animal Import Center (MAIC)**
6300 NW 36th Street
Miami, FL 33122
305-876-2200

**New York Animal Import Center (NYAIC)**
474 Animal Import Center
Newburg, NY 12550
845-838-5500

**USDA Animal and Plant Inspection Service**
Animal Import Centers:

**John F. Kennedy Airport Office**
230-59 Rockaway Blvd.
Suite 100, Room 101
Jamaica, NY 11413
718-553-3570

**Agriculture Select Service Agents**
4700 River Road, Unit 2
Riverdale, MD 20737
AgSAS@aphis.usda.gov
301-851-3300 (select option 3)

(87)

## U.S. Citizenship and Immigration Service Offices

(88)

| **Alaska** | |
|---|---|
| Anchorage Field Office | 620 East 10th Avenue<br>Suite 102<br>Anchorage, AK 99501 |

(89)

## Federal Communications Commission Offices

(90) **District Field Office:**

(91) San Francisco, CA: 5653 Stoneridge Drive, Suite 105, Pleasanton, CA 94588-8543.

(92) Telephone toll-free: 1-888-225-5322; (1-888-CALL-FCC) to report radio communications interference issues.

(93)

## Stations Transmitting Medical Advice

(94) To obtain radio medical advice by reliable voice radio communications urgent calls for assistance may be broadcast using the normal Urgency prowords *PAN PAN* as follows:

(95)

| Broadcast Language | Details |
|---|---|
| *PAN-PAN* | (3 times) |
| *All Stations* | (3 times or specific station if known) |
| *This is ship name* | (3 times) |
| *Call sign* | (call sign) |
| *In Position* | (give position) |
| *I require medical advice* | |
| *Over* | |

# Weekly Record of Updates

| Week of | Action | Chapter | Paragraph(s) | User notes |
|---|---|---|---|---|
| 21 JUL 2026 | | | | U.S. Coast Pilot 8, 48th Edition has been issued. |
| 26 JUL 2026 | **No Correction** | | | |
| 02 AUG 2026 | **No Correction** | | | |
| 09 AUG 2026 | **No Correction** | | | |
| 16 AUG 2026 | **No Correction** | | | |
| 23 AUG 2026 | **No Correction** | | | |
| 30 AUG 2026 | **No Correction** | | | |
| 06 SEP 2026 | **No Correction** | | | |
| 13 SEP 2026 | **No Correction** | | | |
| 20 SEP 2026 | **No Correction** | | | |
| 27 SEP 2026 | **No Correction** | | | |
| 04 OCT 2026 | **No Correction** | | | |
| 11 OCT 2026 | **No Correction** | | | |
| 18 OCT 2026 | **No Correction** | | | |
| 25 OCT 2026 | **No Correction** | | | |
| 01 NOV 2026 | **No Correction** | | | |
| 08 NOV 2026 | **No Correction** | | | |

This record is intended as a log for critical updates applied to this volume. For online versions or Print on Demand (POD) copies, all weekly critical updates issued and applied to this edition at time of download or purchase are listed.
Affected paragraphs within the chapters are indicated by a gray highlight for ease of identification; e.g. (215)

Updates are available from NOAA at http://nauticalcharts.noaa.gov/nsd/cpdownload.htm.

| Week of | Action | Chapter | Paragraph(s) | User notes |
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| Week of | Action | Chapter | Paragraph(s) | User notes |
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