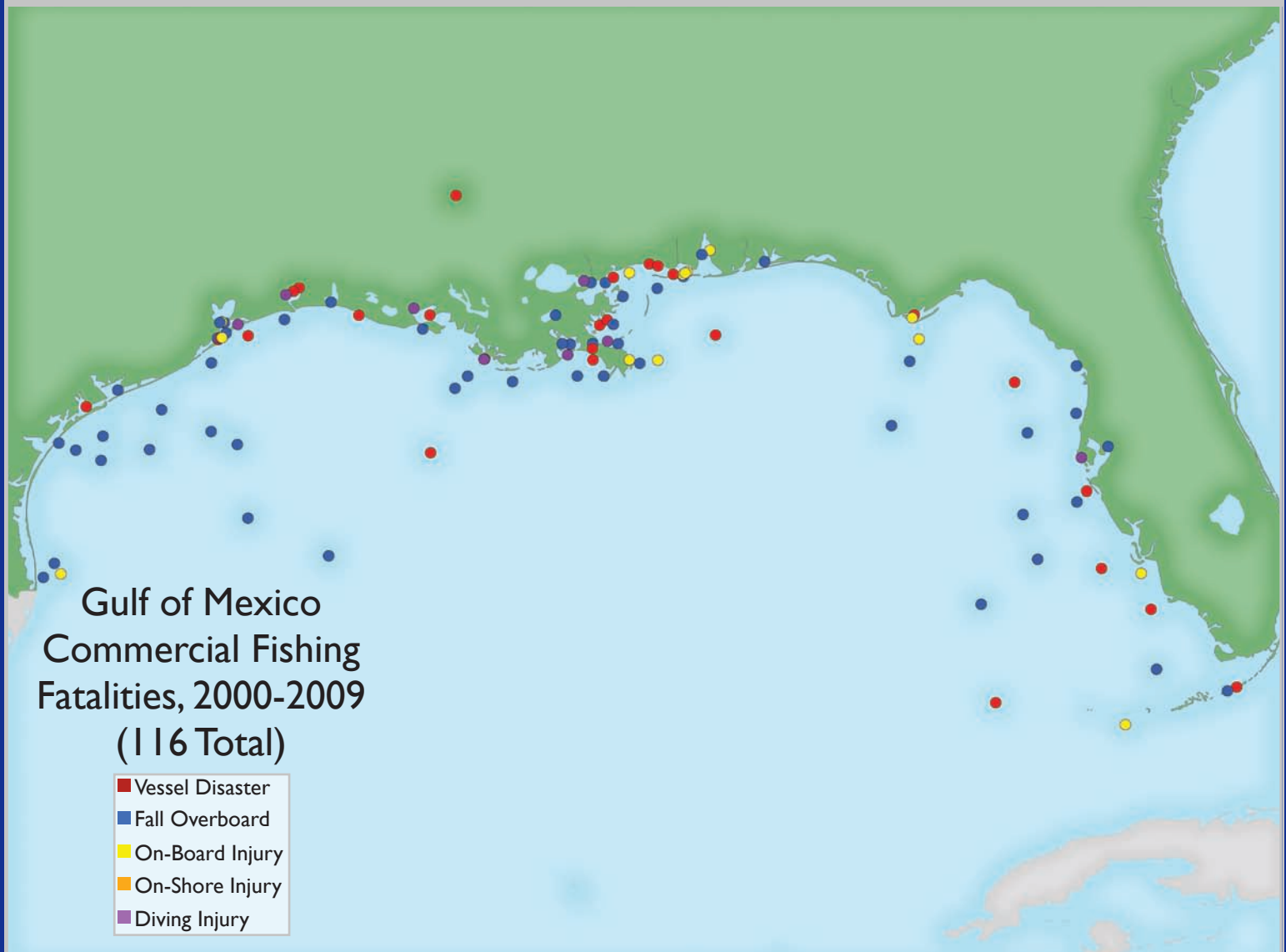


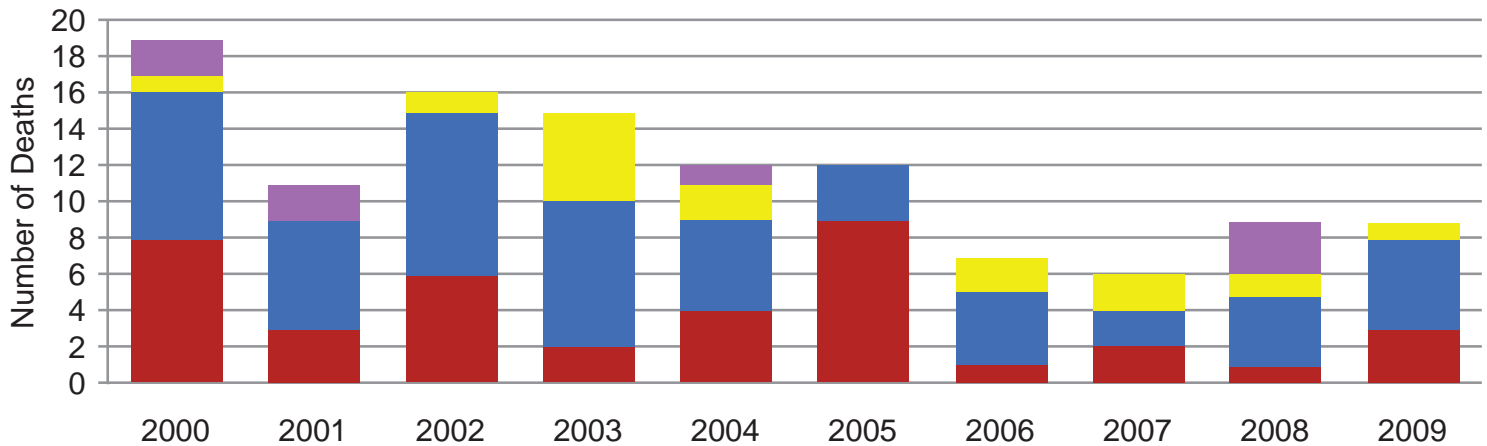
Fatal Occupational Injuries in the U.S. Commercial Fishing Industry: *Risk Factors and Recommendations* Gulf of Mexico Region



About This Report

The National Institute for Occupational Safety and Health (NIOSH) is the federal government agency responsible for conducting research and making recommendations for the prevention of work-related injury and illness. NIOSH recently completed an in-depth study of commercial fishing fatalities in the United States during 2000-2009. The purpose of the study was to identify the most hazardous fisheries around the country and to describe the unique safety issues in each. For this study the US was divided into four fishing regions: Alaska, West Coast, East Coast, and the Gulf of Mexico. This document is one in a set of four reports summarizing fatality data for US fishing regions.

Gulf of Mexico Commercial Fishing Fatalities by Year and Incident Type (116 Total) *Figure 1*



During 2000-2009, 116 commercial fishing deaths occurred in the Gulf of Mexico, an average of 12 per year for the decade (Fig. 1). Each of the last four years of the decade had fewer deaths than the ten year average, although it is unclear if the decrease was a result of lower risk or simply fewer fishermen exposed.

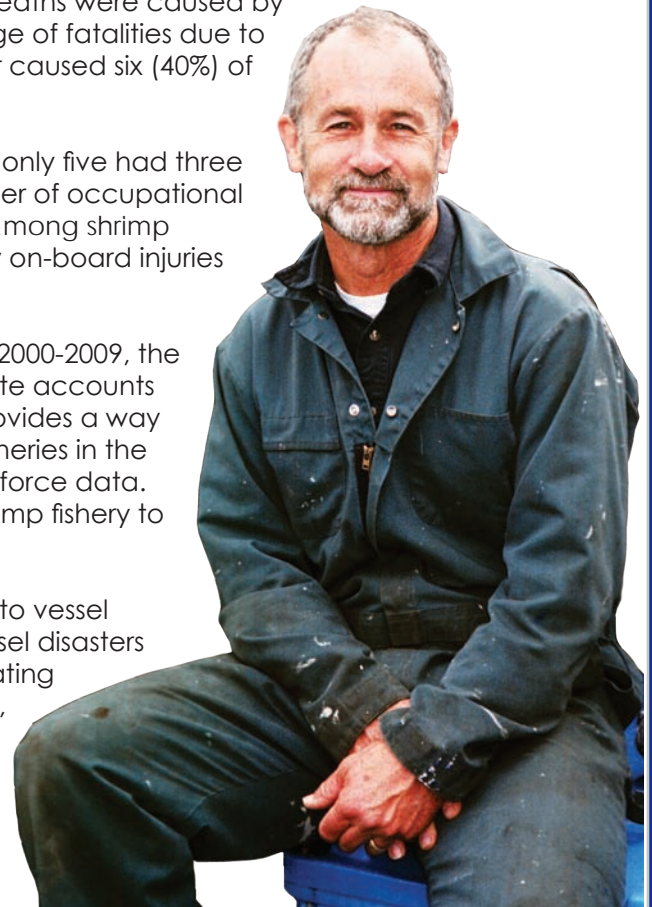
The Gulf of Mexico is the only fishing region of the US that had more fatalities caused by falls overboard than by vessel disasters. Almost half (46%) of the total deaths were caused by falls overboard. The Gulf of Mexico also had the highest percentage of fatalities due to traumatic injuries sustained on-board. Entanglement in fishing gear caused six (40%) of the on-board injuries, of which three involved deck winches.

Fatalities occurred in 14 different fisheries in the Gulf of Mexico, but only five had three or more fatalities. The shrimp fishery experienced the highest number of occupational deaths with 55 fatalities. Falls overboard caused the most deaths among shrimp fishermen (29, 53%)(Fig. 2). The remaining fatalities were caused by on-board injuries (12, 22%), vessel disasters (10, 18%), and diving injuries (4, 7%).

While the shrimp fishery claimed the highest number of lives during 2000-2009, the fatality rate (a measure of risk) was unknown (Fig. 3). The fatality rate accounts for the number of workers and exposure time on the water, and provides a way to compare risk using a common denominator. Fatality rates for fisheries in the Gulf of Mexico were not able to be calculated due to missing workforce data. Without fatality rates, it is not possible to compare the risk of the shrimp fishery to other fisheries in the Gulf of Mexico and US.

Vessel disasters often result in multiple fatalities. The 39 deaths due to vessel disasters during 2000-2009 took place in 27 separate incidents. Vessel disasters were usually caused by a sequence of events, starting with an initiating event. The most common initiating events were: flooding, collisions, being struck by a large wave or wind gust, and vessel instability (Fig 4). Severe weather conditions contributed to 56% of vessel disasters.

Falls overboard accounted for 46% of all fatalities in the Gulf of



Mexico during 2000-2009. Falls overboard were caused most often by trips, slips, and losing balance (Fig. 5). Ten falls overboard fatalities were the result of intentionally entering the water, of which five were suicides. Two main factors that contributed to falls overboard were working alone on deck (44%) and using alcohol or drugs (28%). None of the victims of falls overboard were wearing a Personal Flotation Device (PFD).

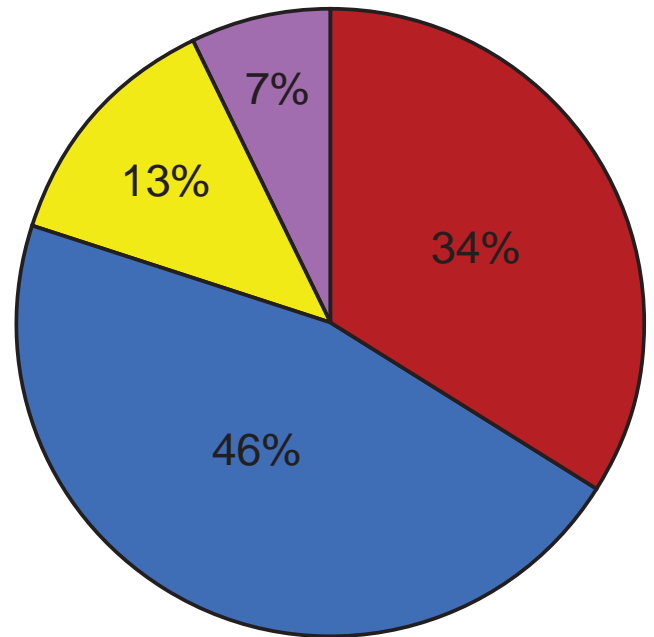
Conclusions

The Gulf of Mexico shrimp fishery needs special attention to reduce the high frequency of fatalities. Falls overboard and on-board injuries accounted for the majority of deaths during the decade 2000-2009. Focusing on these two incident types will result in the most benefit in terms of lives saved. Falls overboard were most often the result of trips, slips, and losing balance. These types of falls overboard may be prevented by raising rails or adding mesh guards, taking into consideration vessel stability and functionality of fishing gear. Many of the falls overboard were not witnessed, even though other crewmembers were onboard the vessel. Man-overboard alarms should be utilized to alert the crew when someone falls overboard unnoticed. PFDs should be worn on deck at all times and especially when climbing on outriggers.

Fatal injuries on-board shrimp vessels may be reduced by installing emergency-stop devices on deck winches and other dangerous machinery. Danger zones should be clearly marked and crewmembers trained to recognize them.

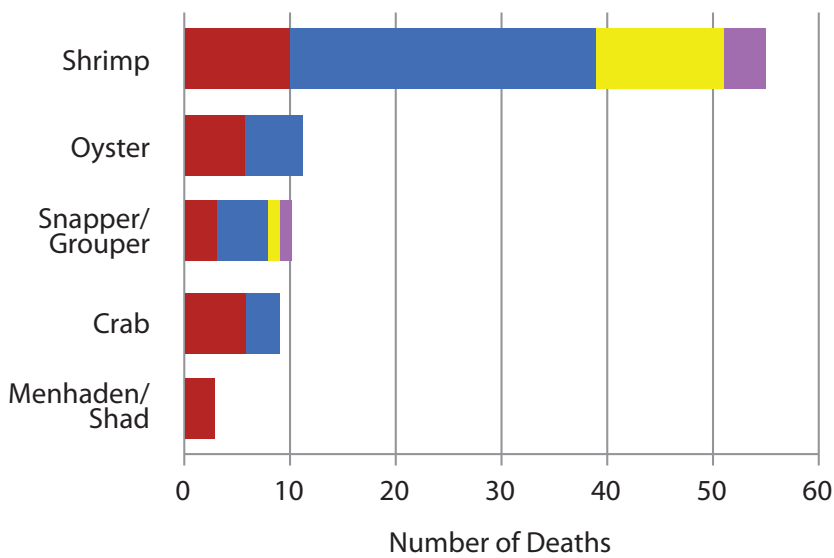
Gulf of Mexico Commercial Fishing Fatalities by Incident Type (116 Total)

Figure 2



Gulf of Mexico Fisheries with Three or More Fatalities During 2000-2009 (88 Total)

Figure 3

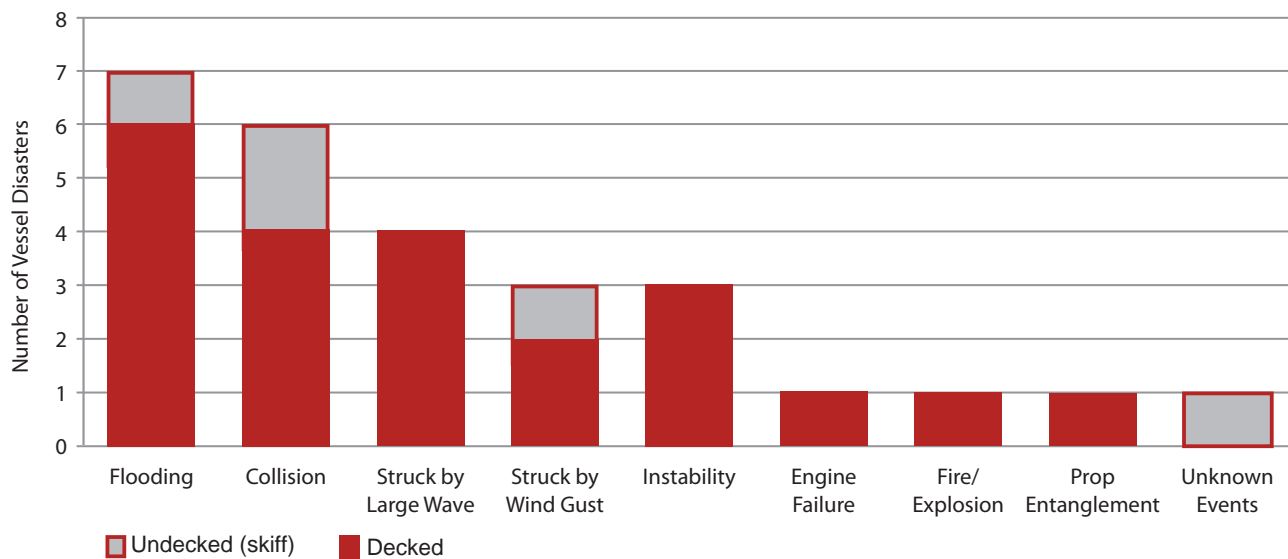


Data Key

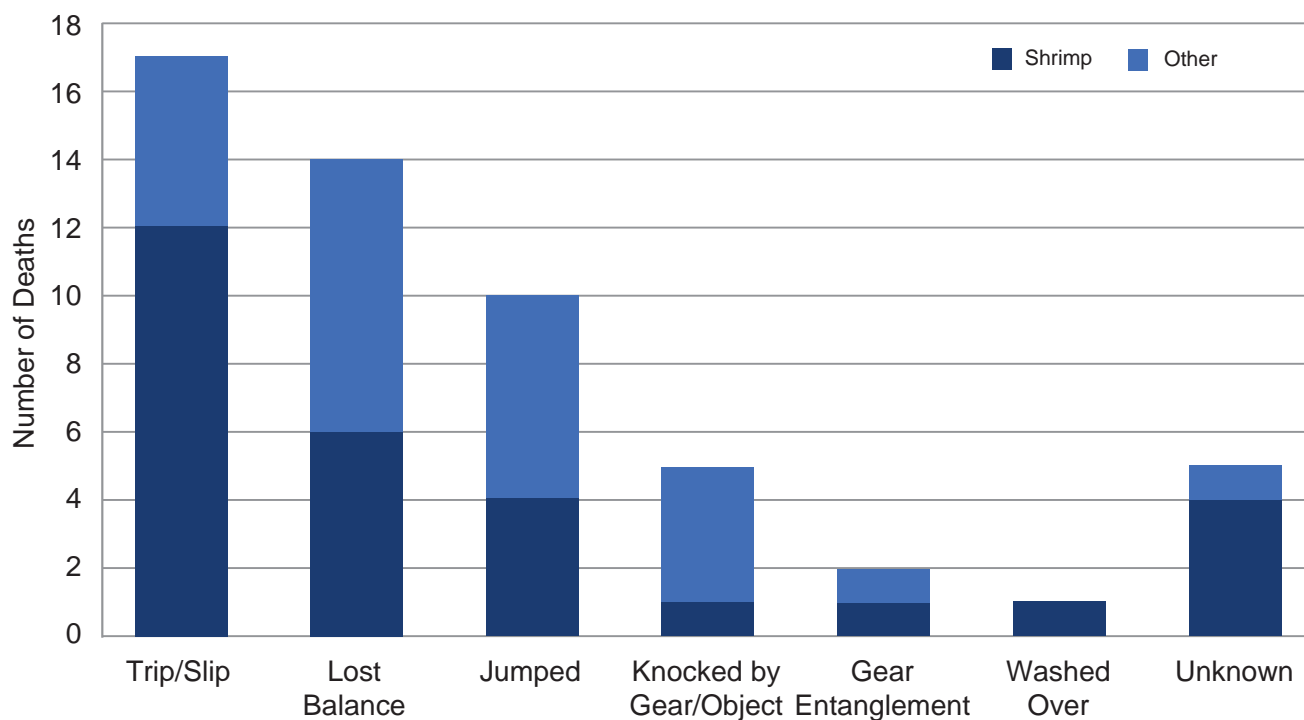
- Vessel Disaster
- Fall Overboard
- Diving Injury
- On-Board Injury
- On-Shore Injury



Initiating Events Contributing to Fatal Vessel Disasters, Gulf of Mexico, 2000-2009 (27 Disasters with 39 Deaths) *Figure 4*



Causes of Fatal Falls Overboard, Gulf of Mexico, 2000-2009 (54 Total) *Figure 5*



RECOMMENDATIONS

Vessel Disasters

Take a marine safety class at least once every 5 years - Safety training for fishermen is available, affordable, and saves lives. All fishermen should learn and know how to use basic lifesaving equipment like immersion suits, life rafts, EPIRBs, and fire extinguishers.

Do monthly drills: Abandon ship, Flooding, Fire - Safety training equips fishermen with survival skills and knowledge. Monthly drills give fishermen an opportunity to practice and re-enforce those skills.

Heed weather forecasts and avoid fishing in severe sea conditions - Make the decision to stay in port when the seas are too rough for your vessel to operate in. Keep track of forecasts and seek shelter before the storm arrives or intensifies beyond the safe operating limits of your vessel.

Maintain watertight integrity - Inspect and maintain the hull of your vessel and all through-hull fittings. When seas are rough, ensure that watertight doors and hatches are sealed. Inspect and test high water alarms regularly.

Falls Overboard

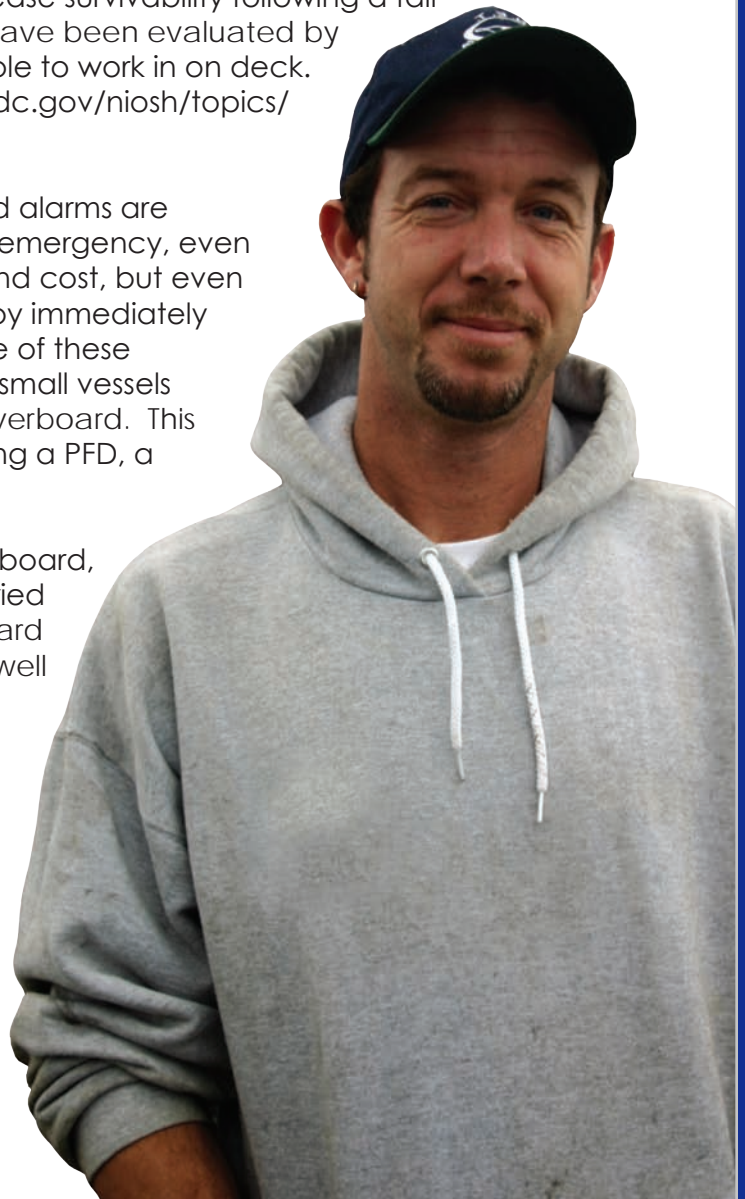
Wear a PFD on deck - Falls overboard occur without warning or time to prepare. A PFD stowed away onboard will not help float a fisherman who has fallen overboard. Wearing a PFD on deck is the single most important thing a fisherman can do to increase survivability following a fall overboard. There are many new styles of PFDs which have been evaluated by fishermen in real working conditions and are comfortable to work in on deck. Results of the NIOSH PFD study are available at www.cdc.gov/niosh/topics/fishing.

Utilize a man overboard alarm system - Man overboard alarms are devices which alert others instantly to a fall overboard emergency, even if the fall was not witnessed. Systems vary in features and cost, but even the most inexpensive and basic system can save lives by immediately sounding an alarm if a fisherman falls overboard. Some of these systems can also benefit fishermen who work alone on small vessels by shutting down the engine if the sole operator falls overboard. This gives the fisherman, especially one prepared by wearing a PFD, a chance to get back to the vessel and re-board it.

Conduct monthly man-overboard drills - If you fell overboard, would you want it to be the first time your crewmates tried to recover a man-overboard? Practicing man-overboard recovery procedures is essential for a crew to perform well in an actual emergency.

On-Board Injuries

Install emergency stop (e-stop) devices on deck machinery - Deck machinery, especially deck winches, are particularly hazardous and result in many fatal and non-fatal injuries. Emergency-stop buttons have been developed specifically for deck machinery on fishing vessels and can be adapted and retrofitted onto any winch or other machinery. More information about e-stops for fishing vessels can be found at www.cdc.gov/niosh/topics/fishing.



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Department of Health and Human Services
Centers for Disease Control and Prevention
National Institute for Occupational Safety and Health
DHHS (NIOSH) Publication Number: 2011-106
November 2010