

NIOSH Update

April 2015

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Occupational Safety and Health Act



Department of
Labor



Department of
Health and Human Services

Occupational
Safety and Health
Administration
OSHA

Centers for Disease
Control and Prevention
CDC

National Institute for
Occupational
Safety and Health
NIOSH

Regulation/Enforcement

Research
Prevention Recommendations



NIOSH Commercial Fishing Safety Research and Design Program

- Provide scientific assessment of hazards
- Identify workers at risk & high priority problems
- Support the development of interventions
- Evaluate interventions





MOA with US Coast Guard

Agreement to share information:

- To identify patterns of hazards leading to deaths and injuries.
- Collaborate regionally on interventions.

March 2014 Signing to expand Memorandum of Agreement



Coast Guard Rear Adm. Joseph Servidio
and
NIOSH Director, Dr. John Howard



Marine
Casualty
Occurs

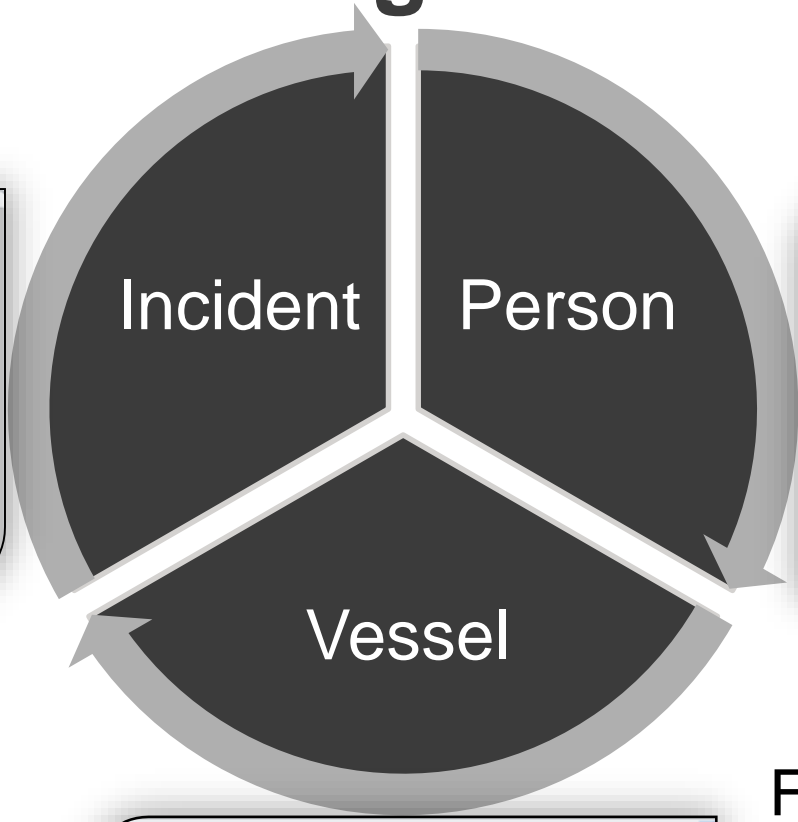
USCG
Investigates

NIOSH
collects
information
and enters
into CFID





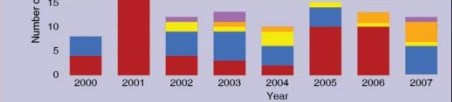
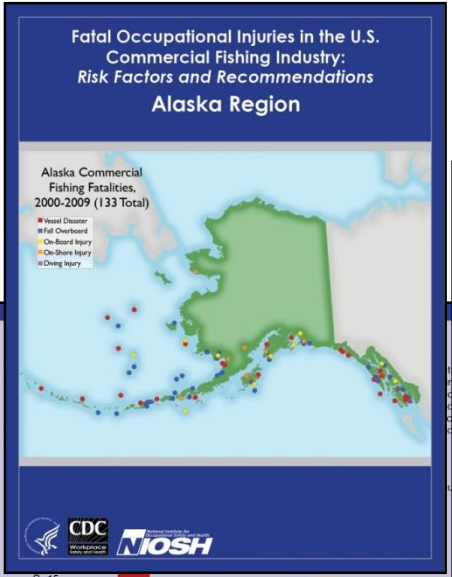
Commercial Fishing Incident Database



Fatalities
Vessel Losses
Injuries
NS10 Tech guidance



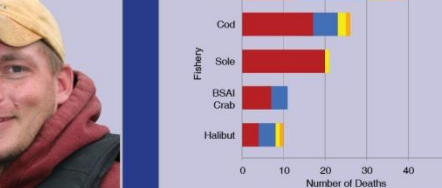
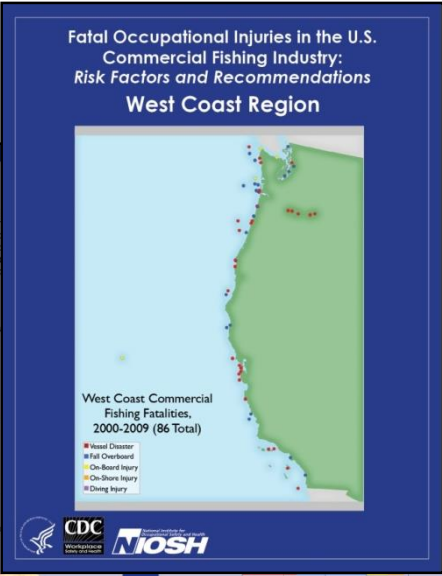
Regional Summaries of Fatality Data



During the decade of 2000-2009, 133 commercial fishermen died while working in Alaskan waters. Fatalities occurred in 2000 and 2009, with eight occupational deaths in each of those years. On average for the decade, 13 fishermen were killed per year. Half of the deaths were caused by drowning following vessel disasters (e.g. sinking, capsizing, fire, etc) in which the crew was forced to abandon ship (Fig. 2). Another 31% of fatalities were the result of falls overboard. The 12 fatal injuries sustained on-board were the result of being struck by gear (4, 33%), falling from height (3, 25%), getting caught in a deck winch (2, 17%), asphyxiation in a confined space (2, 17%), and a drug overdose (1, 8%).

Although vessel disasters contributed to the most fatalities during the decade as a whole, the incidents types varied from year to year. For example, in 2001 79% of fatalities resulted from vessel disasters, but in 2007 there were none related to a vessel disaster. In 2006 there were no fatal falls overboard, but in 2009 88% of deaths were caused by falls overboard.

Five fisheries contributed to 80% of fatalities in Alaska during 2000-2009 (Fig. 3). Fisheries with fewer than five deaths included black cod (Sablefish), sea cucumber, shrimp, herring, pollock, and others. The salmon fishery experienced the most occupational deaths with 39 fatalities. Falls overboard caused the most deaths among salmon fishermen (17, 44%). Almost all (13, 76%) occurred on drift-gillnet vessels and were usually the result of a tip or slip. Most (13, 76%) were not witnessed. Vessel disasters contributed to 33% of deaths in the salmon fishery. Most of these vessel disasters (8, 62%) occurred on set-net skiffs and were almost always (6, 75%) swamped and capsized in poor sea conditions. The cod and sole fisheries experienced the next highest number of fatalities during this time period (26 and 21 respectively). These fatalities occurred most often after a vessel disaster with multiple lives lost in each event.

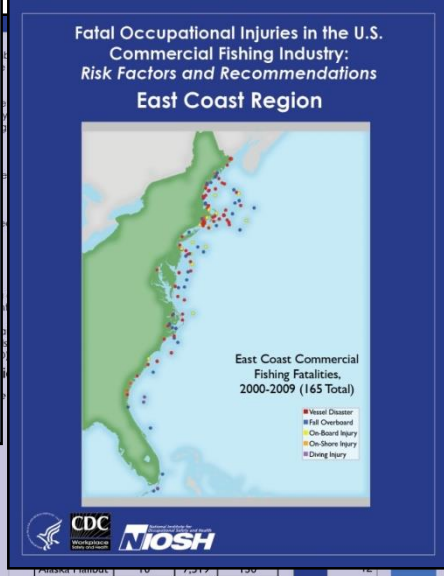


Data Key

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

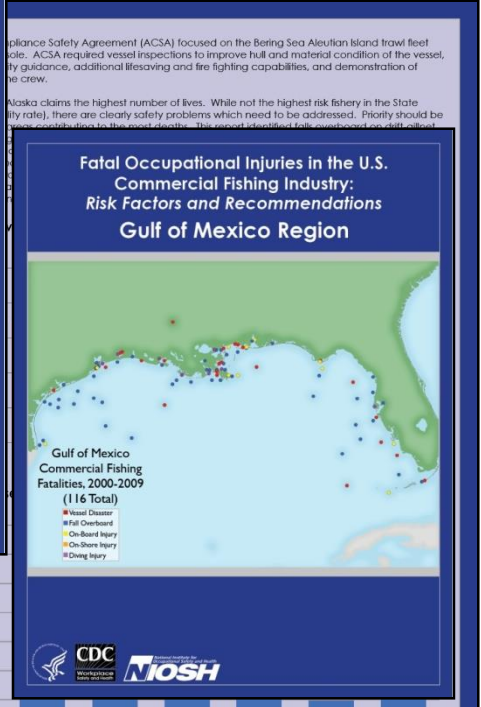
Conclusions

The Coast Guard has developed tailored prevention programs for specific fisheries in Alaska that mitigate hazards found in high risk fisheries such as the Bering Sea crab fleet, as well as the Bering Sea Aleutian Island trawl fleet that fishes for sole and cod. As a result of these efforts, the fatality rate in the Bering Sea crab fisheries declined by 60% during 1990-2009. This improvement was due to the implementation of a preseason dockside enforcement effort developed by the Coast Guard in concert with vessel operators. Additionally, in 2005 the largest crab fisheries underwent changes in the way they were executed. The previous "race to fish" was "rationalized" meaning that each vessel was awarded the rights to catch a certain amount of crab. This change resulted in a slower paced fishery and a consolidation of the fleet. A different Coast Guard program known



Fishery	2000-2009	2007	2009
Alaska Salmon	39	34,287	115

* Rates were calculated by dividing the total number of fatalities for the 10 year period by the total annual FTE.

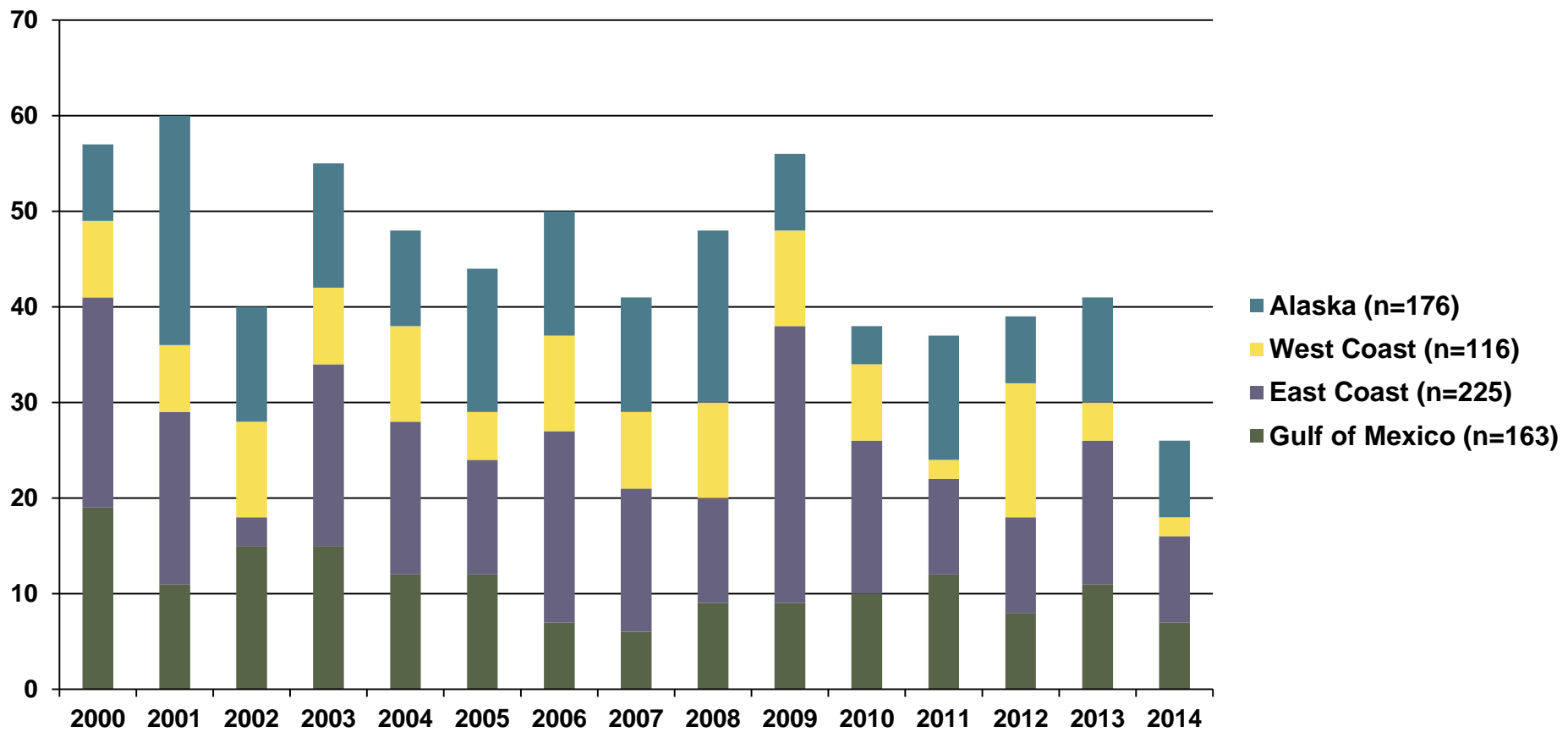


pliance Safety Agreement (ACSA) focused on the Bering Sea Aleutian Island trawl fleet. ACSA required vessel inspections to improve hull and material condition of the vessel, by guidance, additional lifesaving and fire fighting capabilities, and demonstration of crew.

Alaska claims the highest number of lives. While not the highest risk fishery in the State (by rate), there are clearly safety problems which need to be addressed. Priority should be given to those fisheries with the most deaths. This report identifies fall-overboard as the most



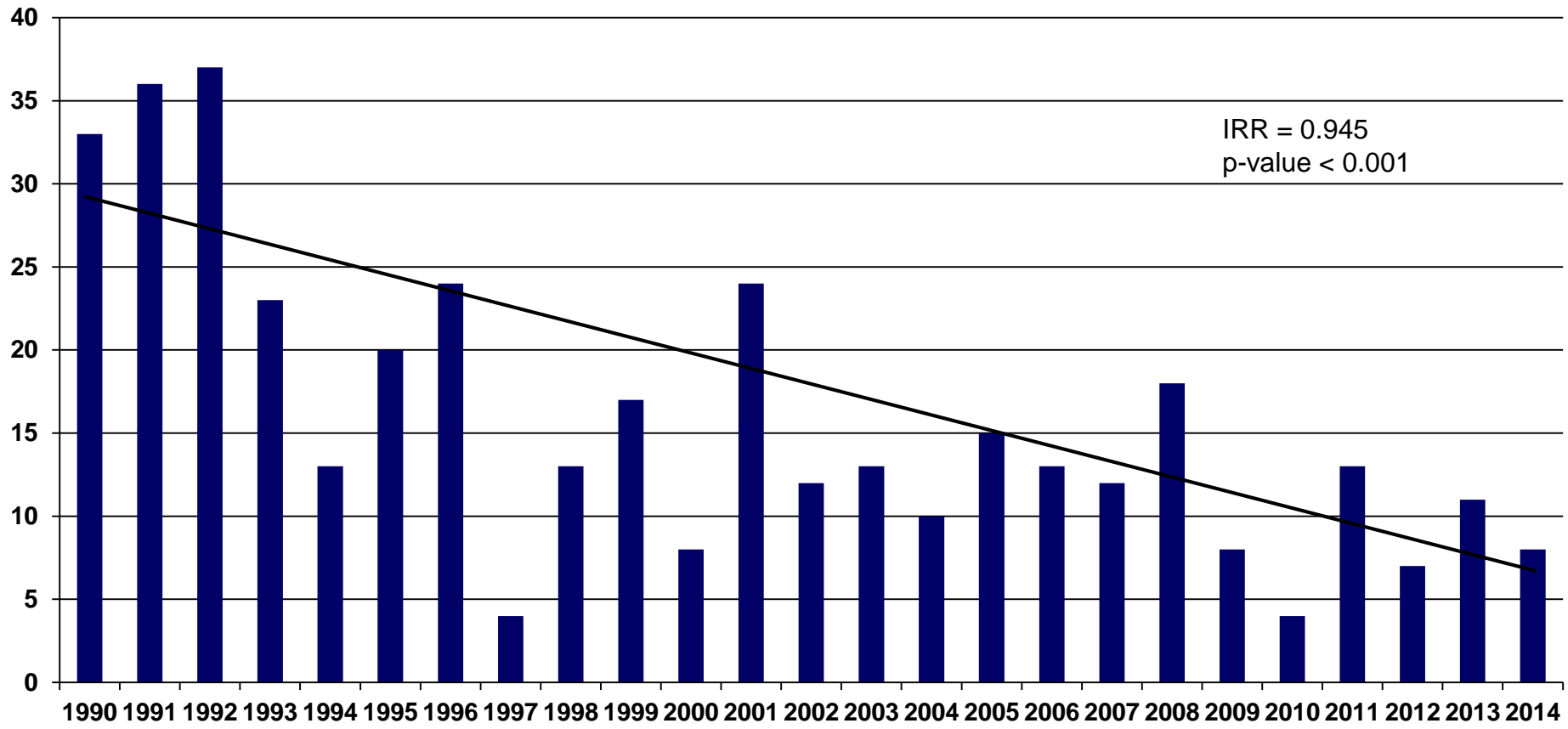
U.S. Commercial Fishing Fatalities by Year and Region, 2000-2014 (n=693*)



*Chart excludes 10 deaths in Hawaii, 2 in Canadian waters during transit to AK, 1 in Great Lakes region



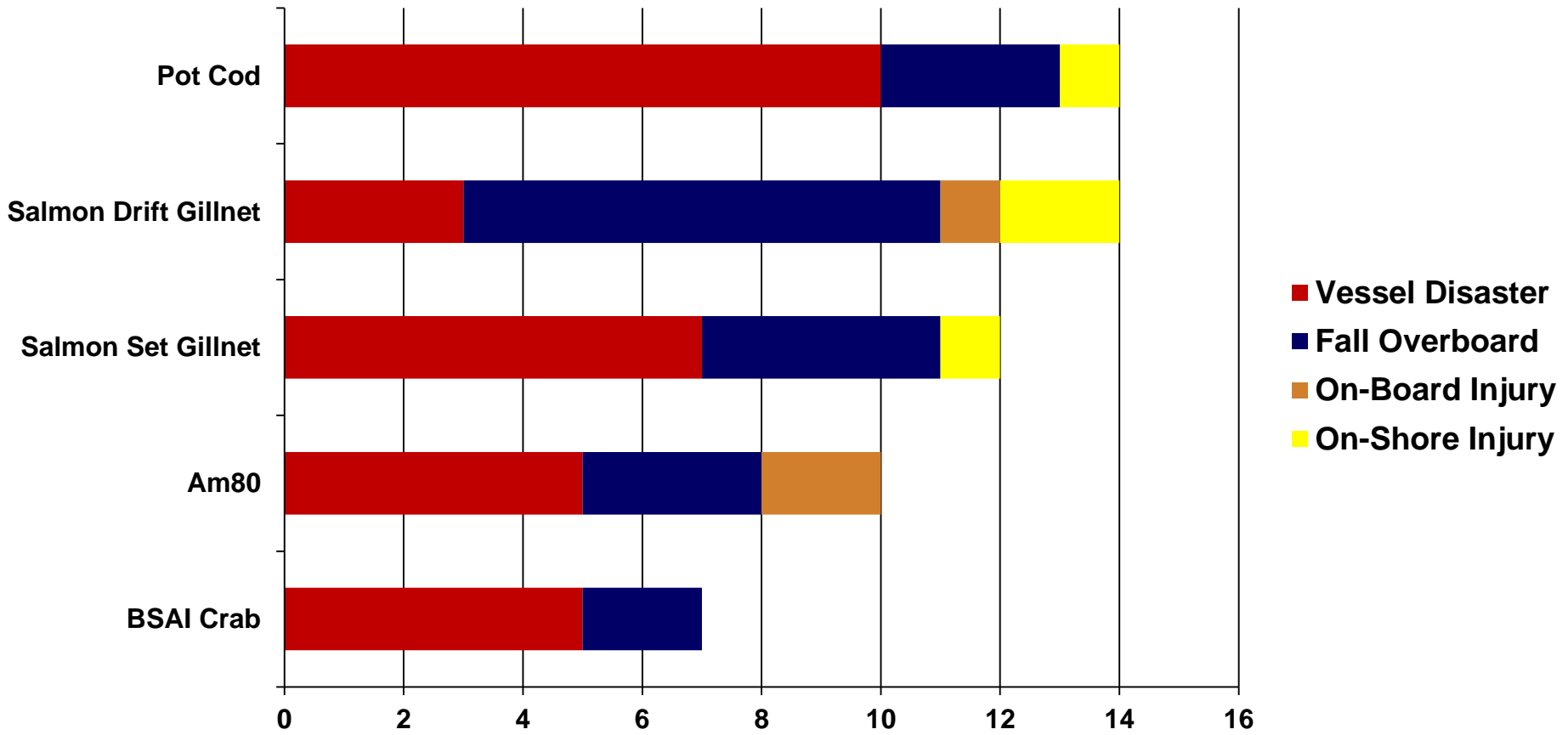
Commercial Fishing Fatalities, Alaska, 1990-2014 (n=396)



74.3% overall decline in fatalities



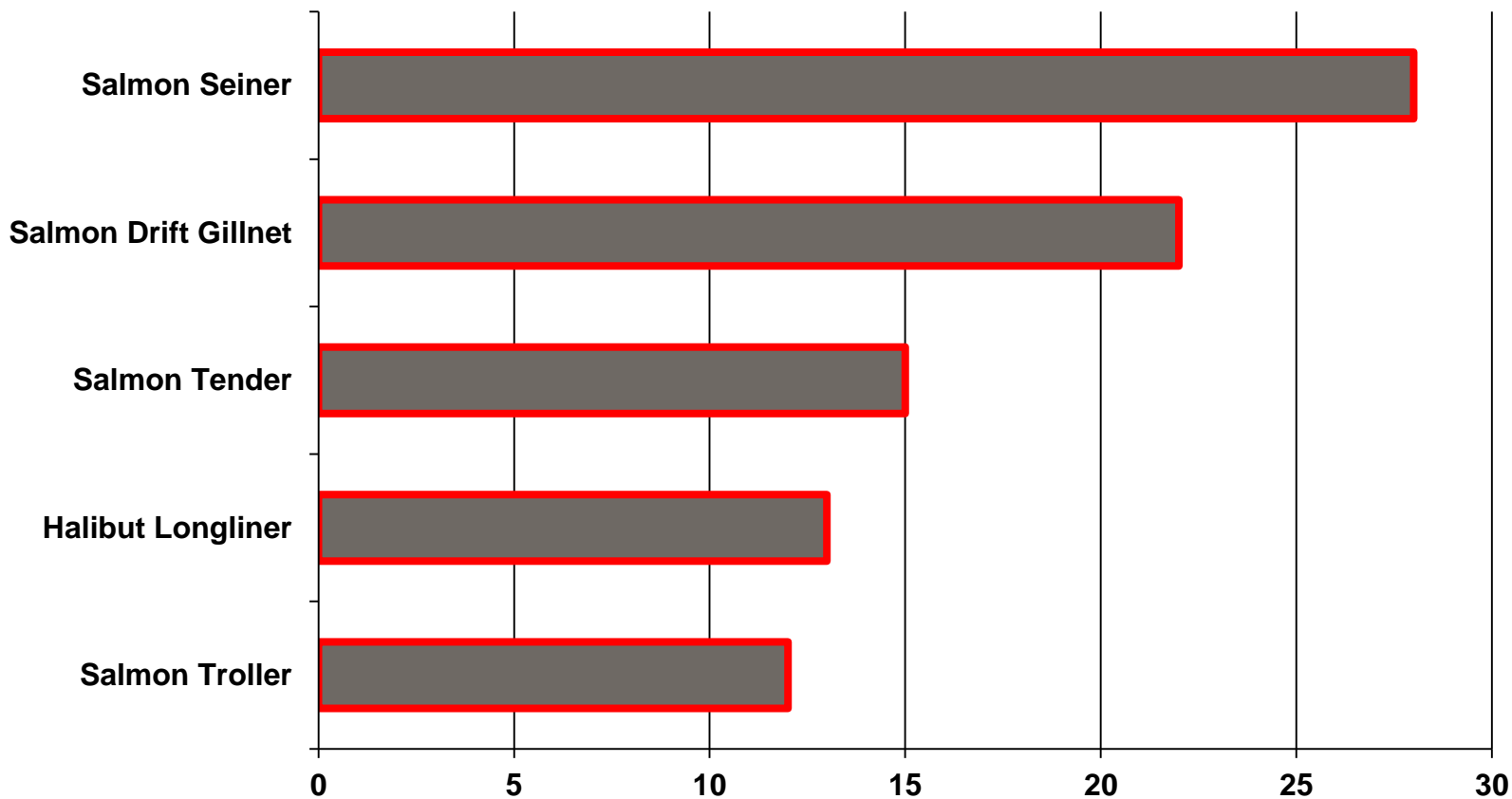
Commercial Fishing Fatalities by Fishery, Alaska, 2005-2014 (n=57)*



* Not included: any category with fewer than 7 fatalities (50) and unknown (2)



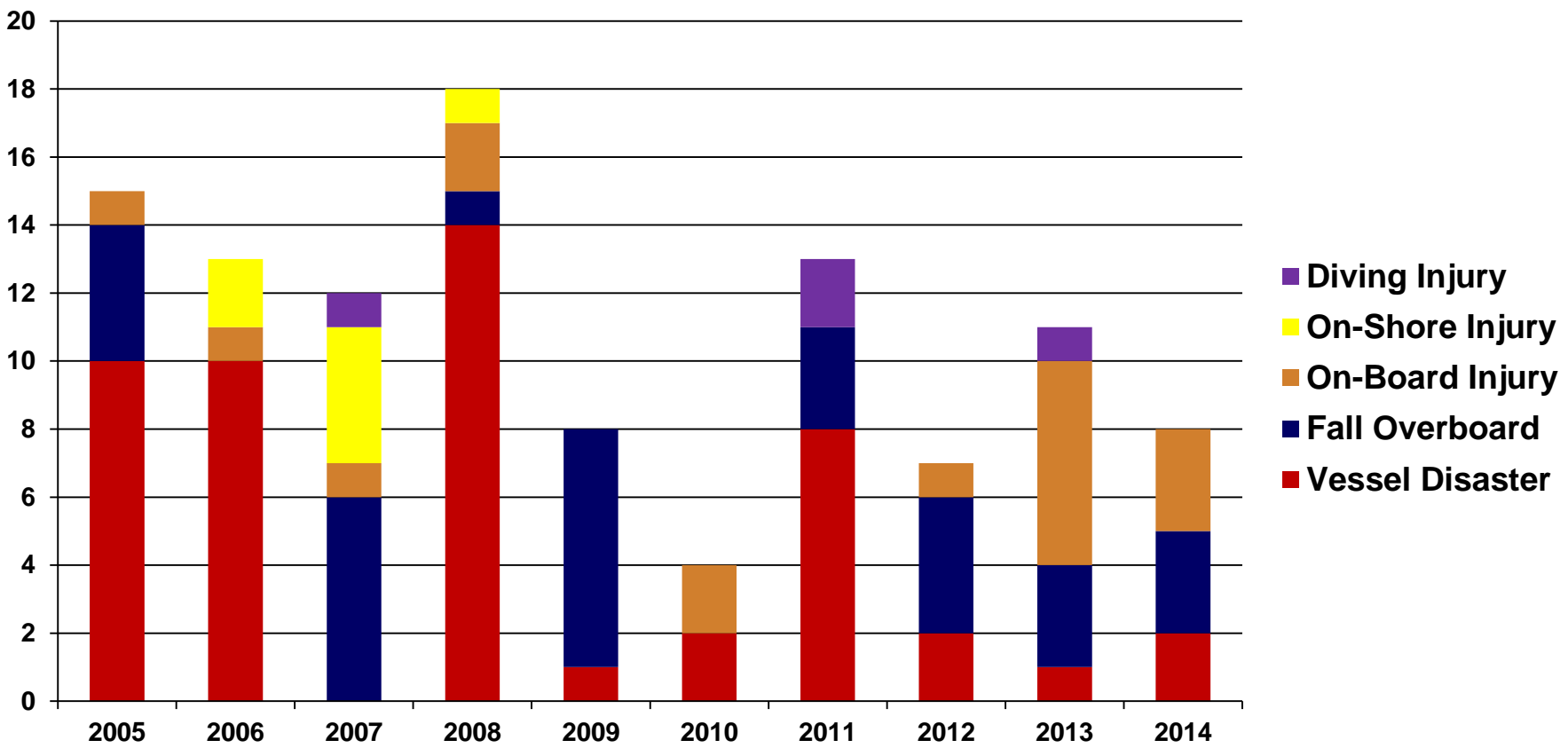
Non-Fatal Vessel Disasters by Fishery, Alaska, 2005-2014 (n=90)*

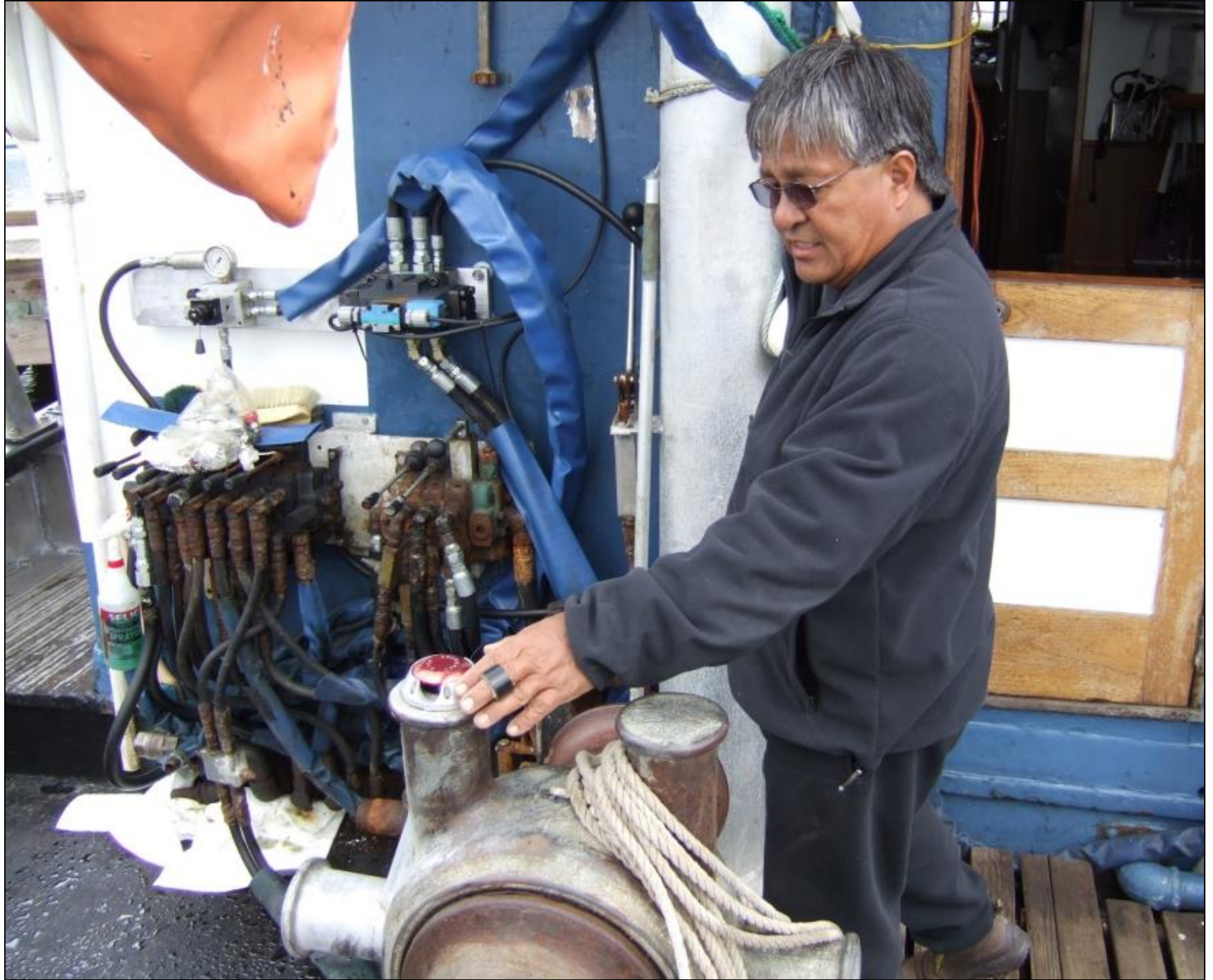


*Not included: any category with fewer than 12 incidents (31) and unknown (11)



Commercial Fishing Fatalities, Alaska, 2005-2014 (n=109)





Winch Entanglements

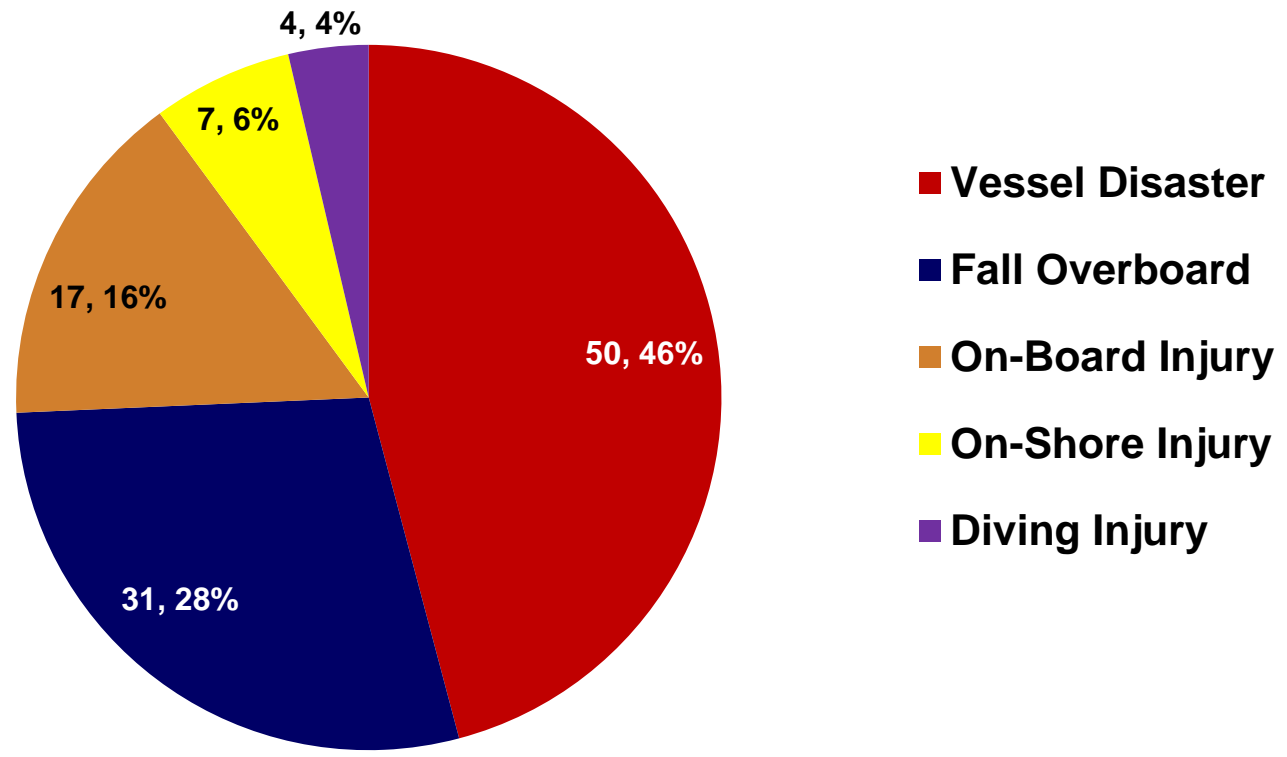
- August 2014— male
 - Southeast Alaska
 - Severed 4 fingers

Winch Entanglements

- August 2014— male
 - Southeast Alaska
 - Severed 4 fingers
- August 2013— male
 - Southeast Alaska
 - Crushed hand and arm
 - Severed 3 fingers

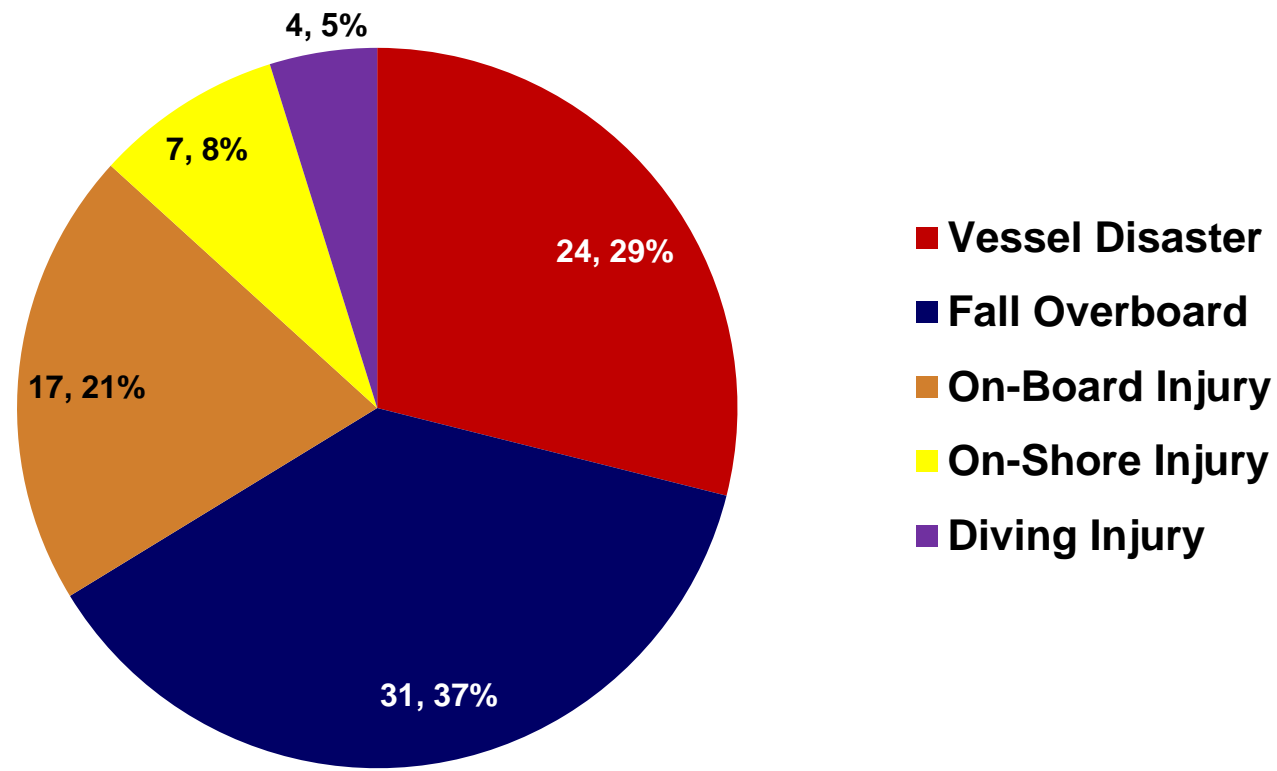


Commercial Fishing Fatalities by Incident Type, Alaska, 2005-2014 (n=109)





Commercial Fishing Fatal Events by Incident Type, Alaska, 2005-2014 (n=83)





Bering Sea Crab Fleet

PFD Use	2008 Survey	2014 Survey
Never Wear	16%	16%
Sometimes Wear	51%	24%
Frequently Wear	12%	8%
Always Wear	22%	52%



$X^2 = 22.5; p < 0.001$

Analysis of Samples

- 2008 & 2014 sample comparison
 - *Demographically identical*
 - Age, sex, experience, job position, residence
 - *Risk perceptions and attitudes about PFDs differ*
 - 2014 sample had higher risk perceptions regarding falling overboard
 - More positive attitudes about PFD comfort
 - These are what we would expect based on modeling predictors of PFD use from the 2008 sample

ALASKA PACIFIC OFFICE



If you can swim the Bering Sea, you're a better man than me. **AND YOU AREN'T.**

Angus Iversen

Today's low-profile PFDs are comfortable, don't tangle in gear and extend survival time in the water. Choose yours at livetobesalty.org. Then make it part of your standard on-deck gear.

LIVE TO BE SALTY

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Sure PFDs get in the way. In the way of **YOU DROWNING.**

Angus Iversen

LIVE TO BE SALTY

When fishing the shallows or crossing the bar, a boat can capsize faster than you can put on a life jacket. So make a habit of wearing one. Today's PFDs are comfortable, easy to work in and will extend survival time in the water. Choose the PFD for you at livetobesalty.org. Wear it. And live.

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“Rogue” Tactical Deck Vest

- Worked with Trident Seafoods
- Tested with fisherman
- Designed Vest based on:
 - Appeal to broader base of northern fishermen
 - Less restrictive, continuous wear
 - Ability to wear under outerwear
- Included 12 lb. floatation for buoyancy with low profile



“Rogue” Tactical Deck Vest

Summary

- NIOSH Commercial Fishing Incident Database
- Falls Overboard and Deck Safety
- Practical and Relevant Projects
- Future Work
 - Update rates
 - Non-fatal injuries
 - All vessel losses



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