

Commercial Fishing Fatalities, 2000-2009: High-Risk Fisheries & Regional Trends

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The Mission of NIOSH

“To provide leadership in research to prevent work-related illness, injury, disability and death”





Occupational Safety and Health

Department of
Labor

Occupational
Safety and Health
Administration
OSHA

Regulation/Enforcement

Department of
Health and Human Services

Centers for Disease
Control and Prevention
(CDC)

National Institute for
Occupational
Safety and Health
NIOSH

Research, Training, and
Prevention Recommendations

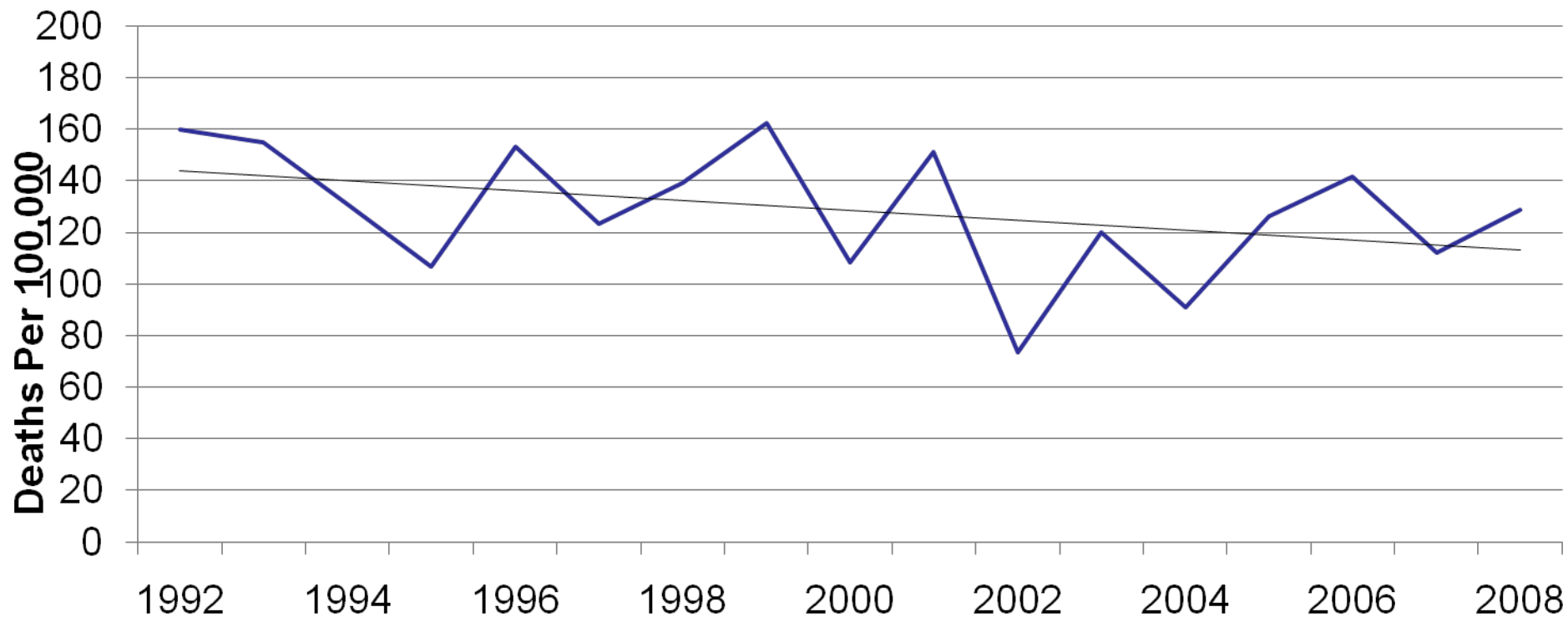
Partnership

NIOSH has served as a catalyst for change by:

- Providing scientific assessment of the worst problems
- Identifying high-risk groups
- Supporting the development of interventions
- Evaluating interventions



US Commercial Fishing Fatality Rate by Year, 1992-2008



Source: Bureau of Labor Statistics, Census of Fatal Occupational Injuries

Chi Square Test for Trend
 $X^2=6.719$
 $p=0.009$



Fatality Surveillance

- What is the problem?
 - who, how many, in what ways
- What is the cause?
 - risks, contributing factors
- Identifies areas for targeted interventions
- Monitors progress
 - Reduction in deaths



Commercial Fishing Incident Database (CFID)

- Relational database
 - Three data tables linked by incident ID
 - Incident Table, Victim Table, Vessel Table
- ~100 variables gather data on the Incident, Victim, and Vessel
- Ability to query data in many different ways
- Export to statistical software

Purpose

- Where are the most hazardous fisheries?
- What are the worst problems?
- What causes fatalities in hazardous fisheries?
- Where will prevention efforts be most effective?



Data Sources

- United States Coast Guard
- State health departments
- Local law enforcement agencies
- News media
- Death certificates



Types of Events

- Vessel Disasters
 - Initiating Event
 - Cause of flooding
 - Cause of instability
- Falls Overboard
 - Cause of Fall Overboard
 - Contributing factor
- On-board Injuries



Fisheries

- Geographic Location
 - Alaska
 - Westcoast
 - Northeast Atlantic
 - Mid & South Atlantic
 - Gulf of Mexico
- Species sought



Purpose

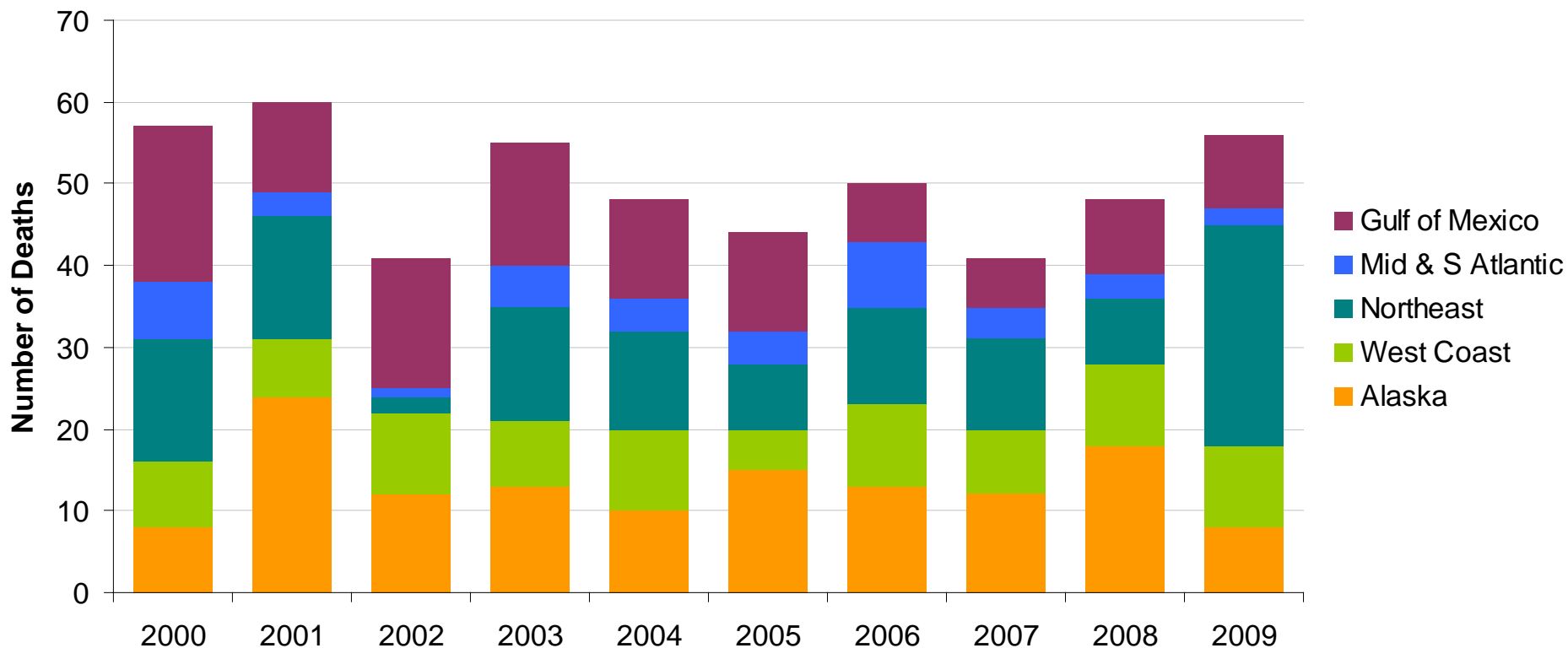
- Provide brief look at the type and level of data we have
- We can look at data a variety of ways
- Learn from you what other type of information you would like



Results



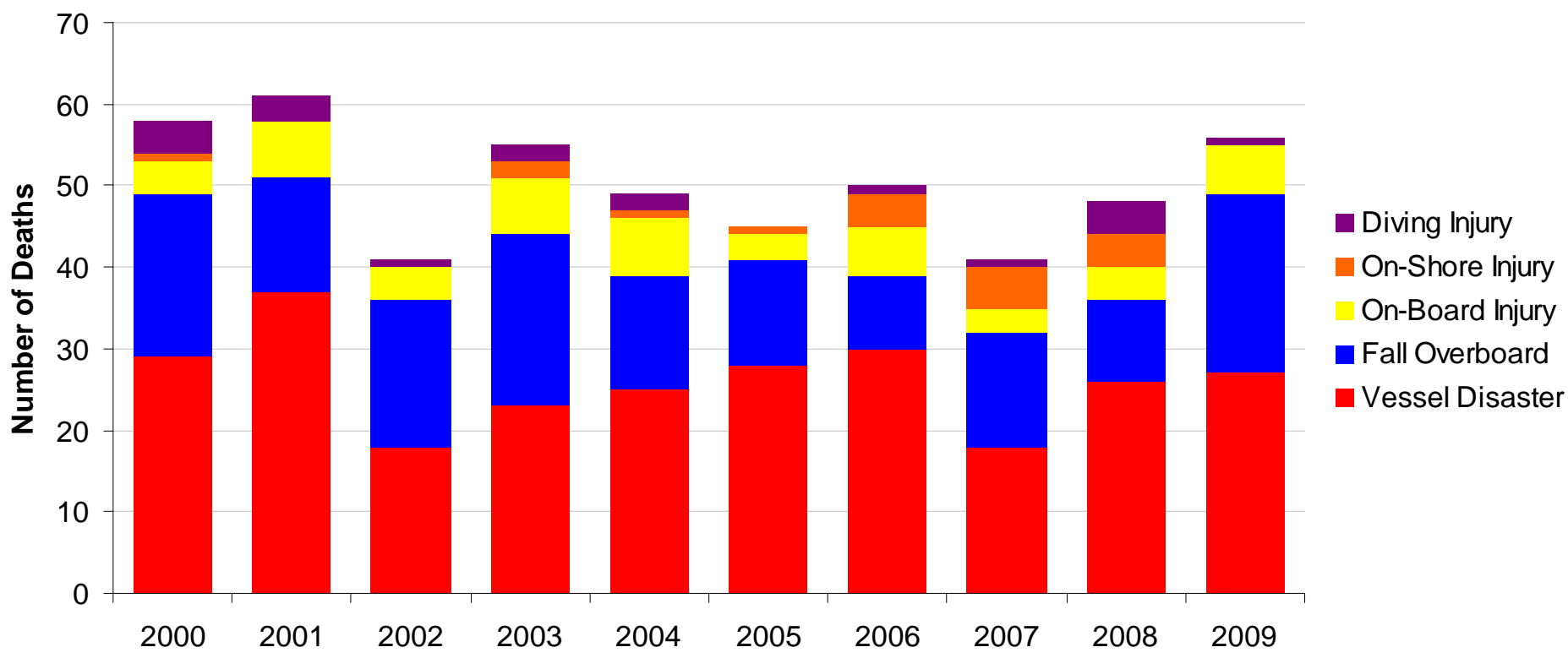
US Commercial Fishing Fatalities by Year and Region, 2000-2009 (N=504*)



*Chart excludes 6 deaths in Hawaii and 1 in Canadian waters during transit to AK



US Commercial Fishing Fatalities by Year and Incident Type 2000-2009 (N=504)



Source: NIOSH Commercial Fishing Incident Database



- Vessel Disasters
- Falls Overboard

- Type of event
- Causes and Associated Risk Factors
- Particular high-risk fisheries



- **Vessel Disasters (261, 52%)**
- Falls Overboard



Vessel Disasters: Initiating Event

Initiating Event	Number	Percent
Flooding	37	25%
Instability	24	16%
Struck by Large Wave	23	16%
Collision/Allision	13	9%
Prop Entanglement	6	4%
Fire/Explosion	6	4%
Other	22	
Unknown	17	



Vessel Disasters: Cause of Flooding (n=37)

Initiating Event	Number	Percent
Down-Flooding	14	38%
Below Waterline Flooding	10	27%
Swamping (Open Skiff)	8	22%
Unknown Cause	5	14%

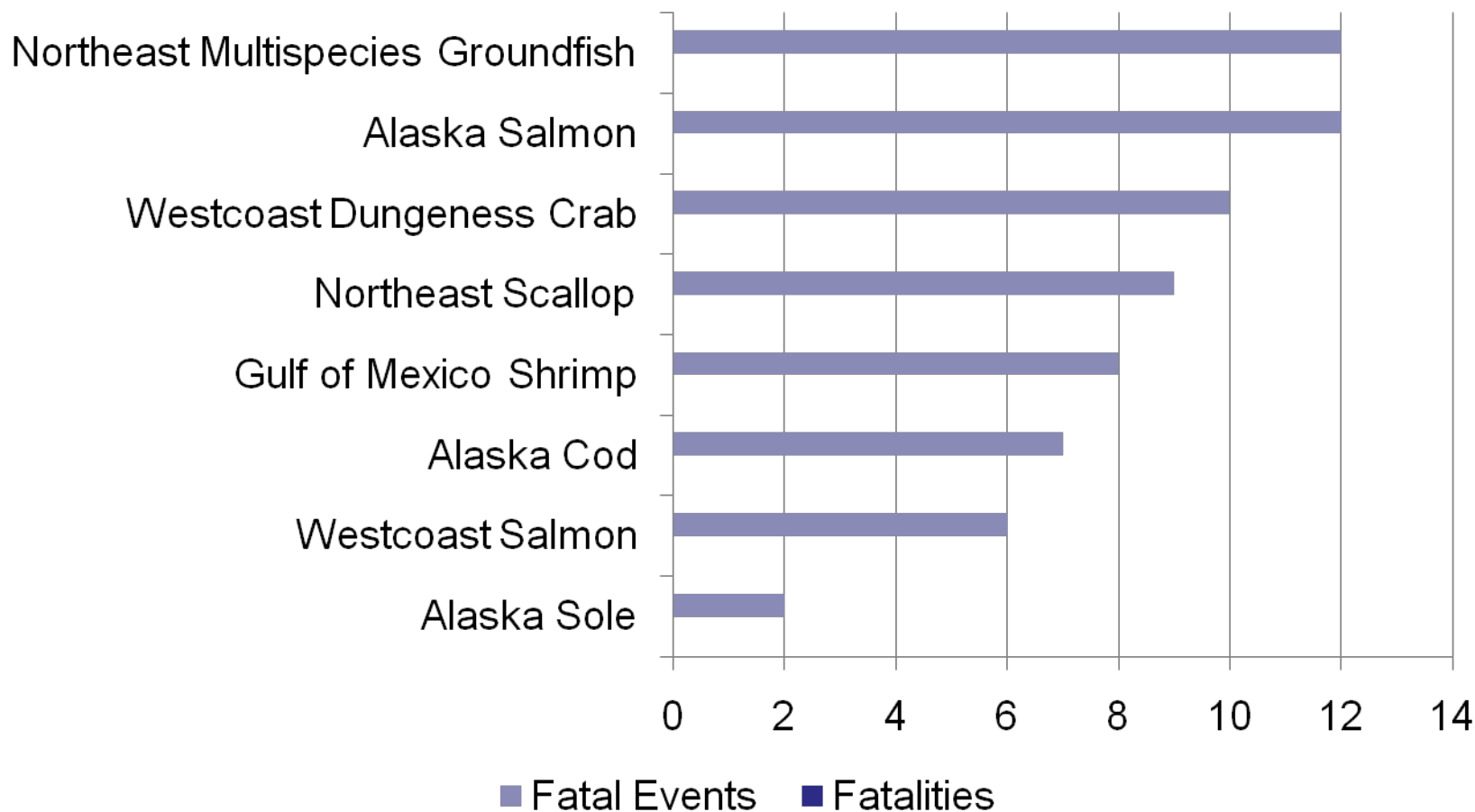


Vessel Disasters: Cause of Instability (n=24)

Initiating Event	Number	Percent
Overloading	10	42%
Hauling up Heavy Net	6	25%
Shifting Load	3	13%
Icing	2	8%
Structural Modifications	1	4%
Slack Tank	1	4%
Unknown	1	4%

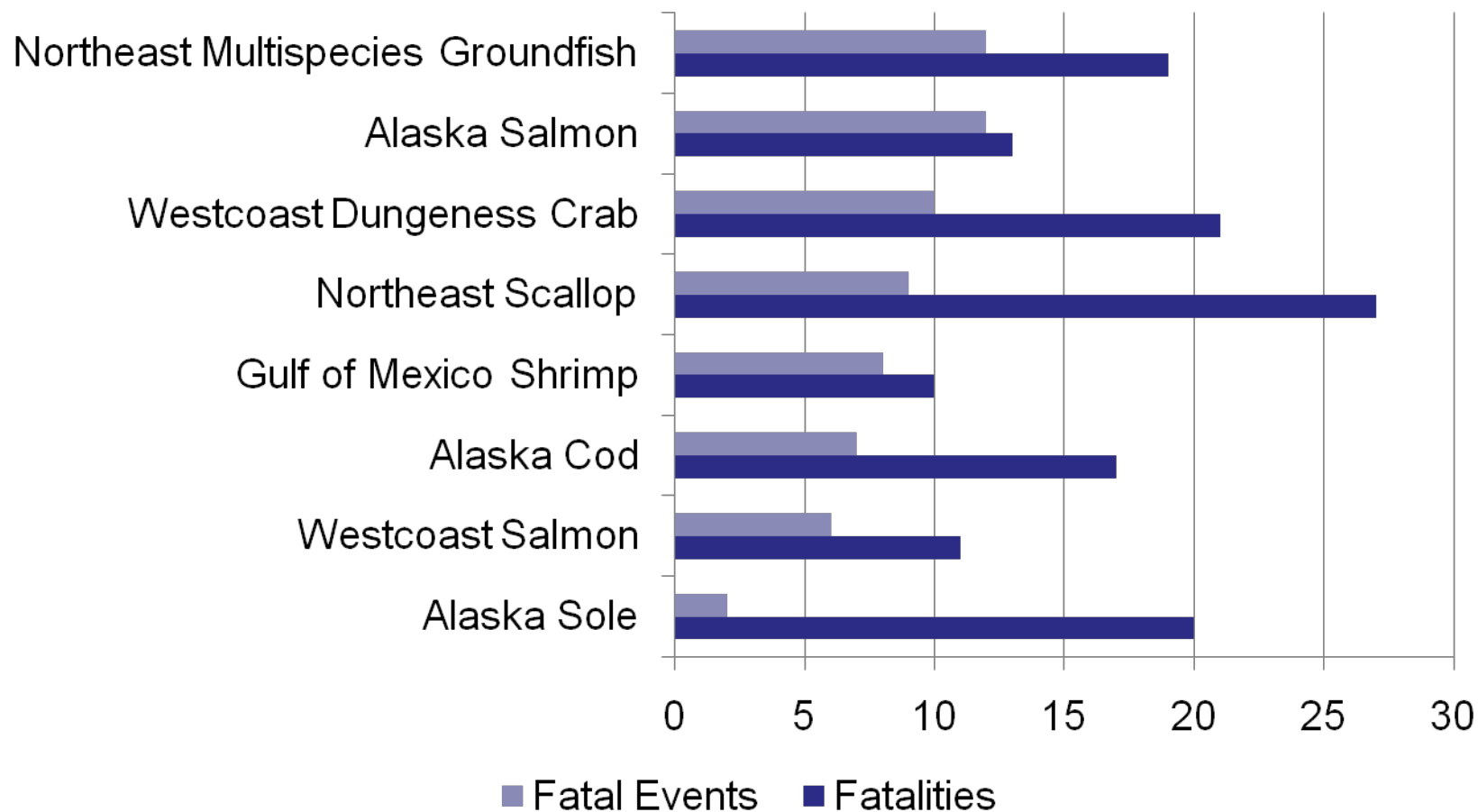


Vessel Disaster: Fatal Events by Fishery





Vessel Disaster: Fatalities and Fatal Events by Fishery

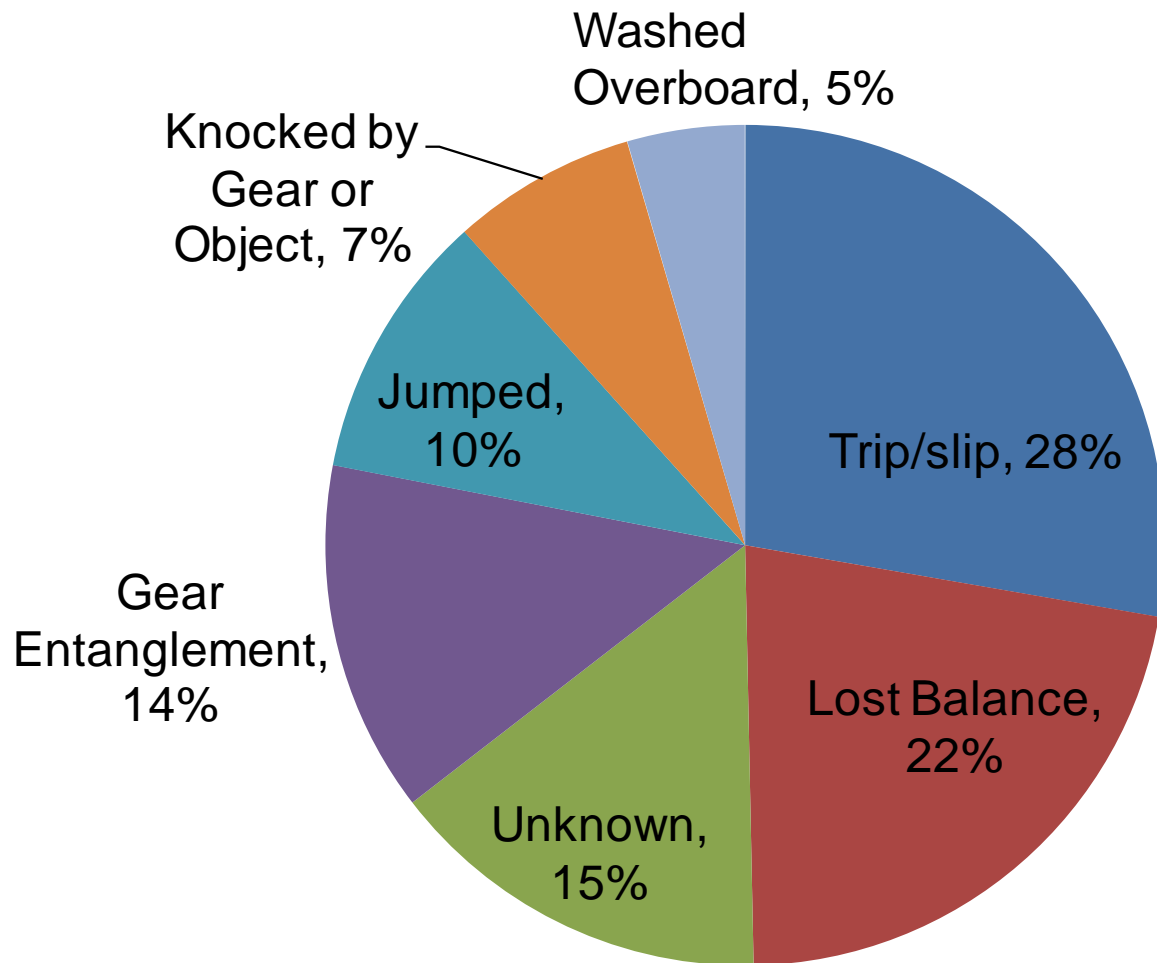




- Vessel Disasters
- **Falls Overboard (155, 31%)**

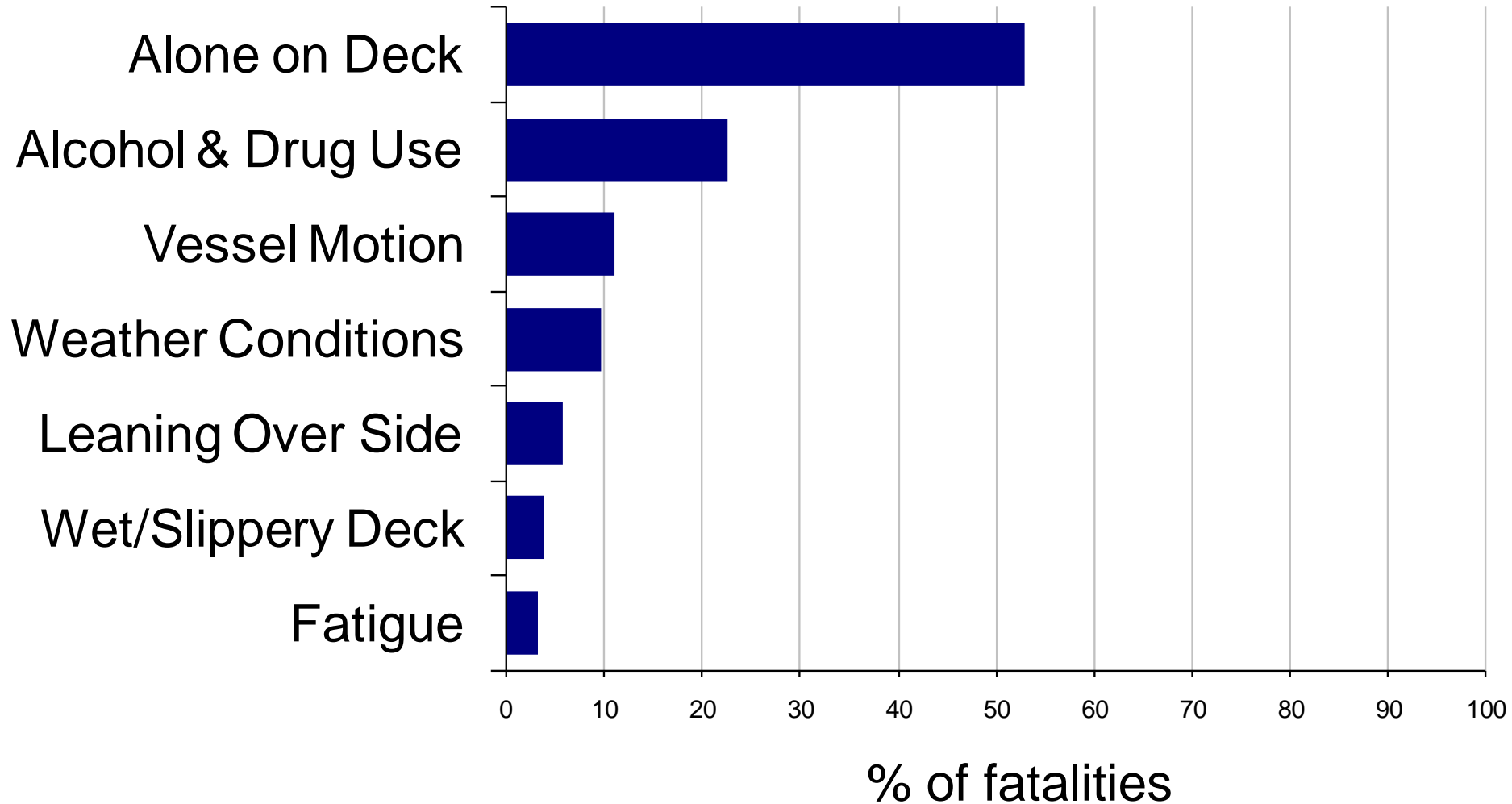


Falls Overboard: Causes



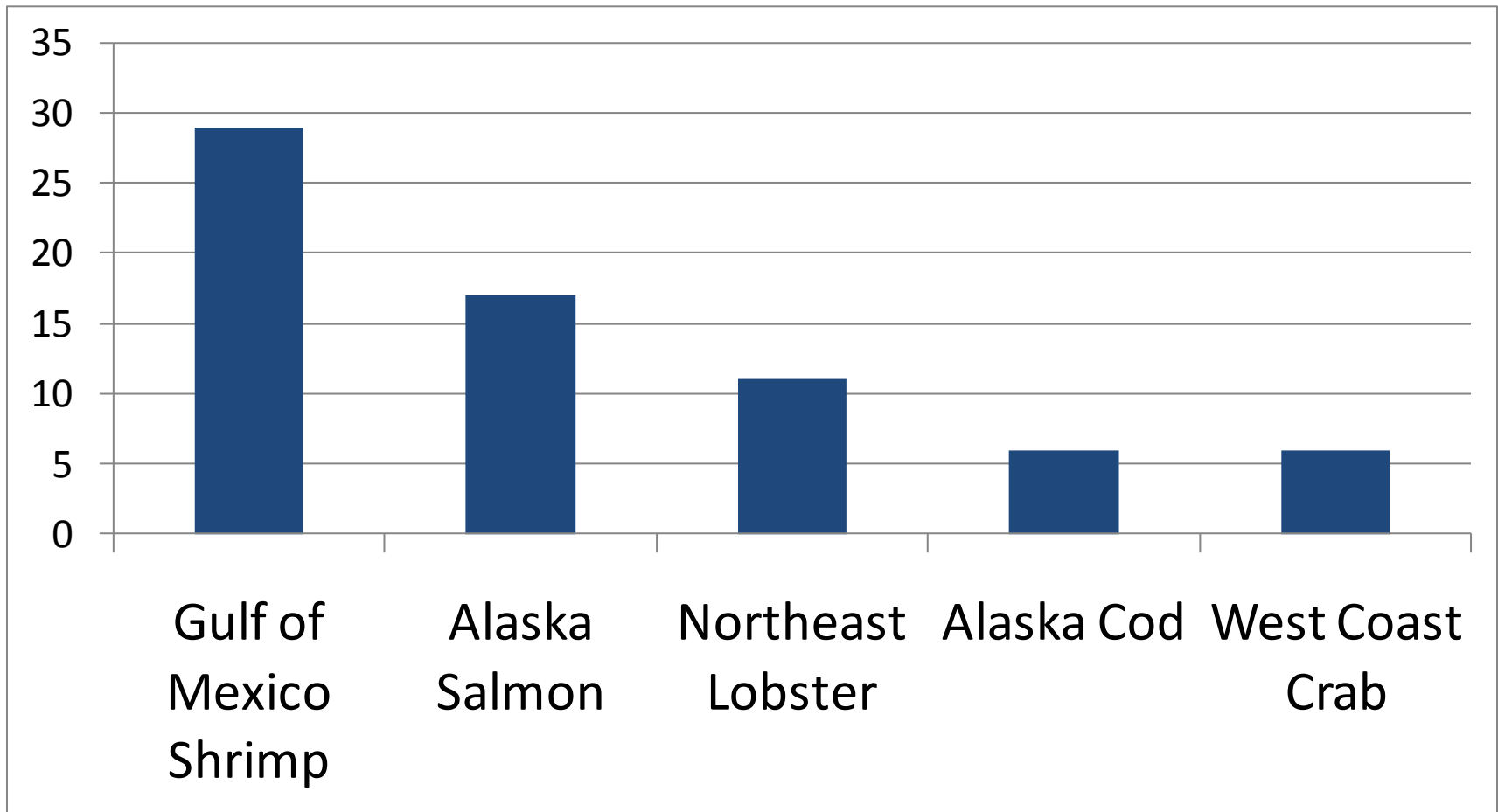


Falls Overboard: Contributing Factors





Falls Overboard: By Fishery with highest number of fatalities





Reasons to focus on a fishery hazard

- Numbers of Fatalities
- Number of Fatal Events
- Fatality Rates

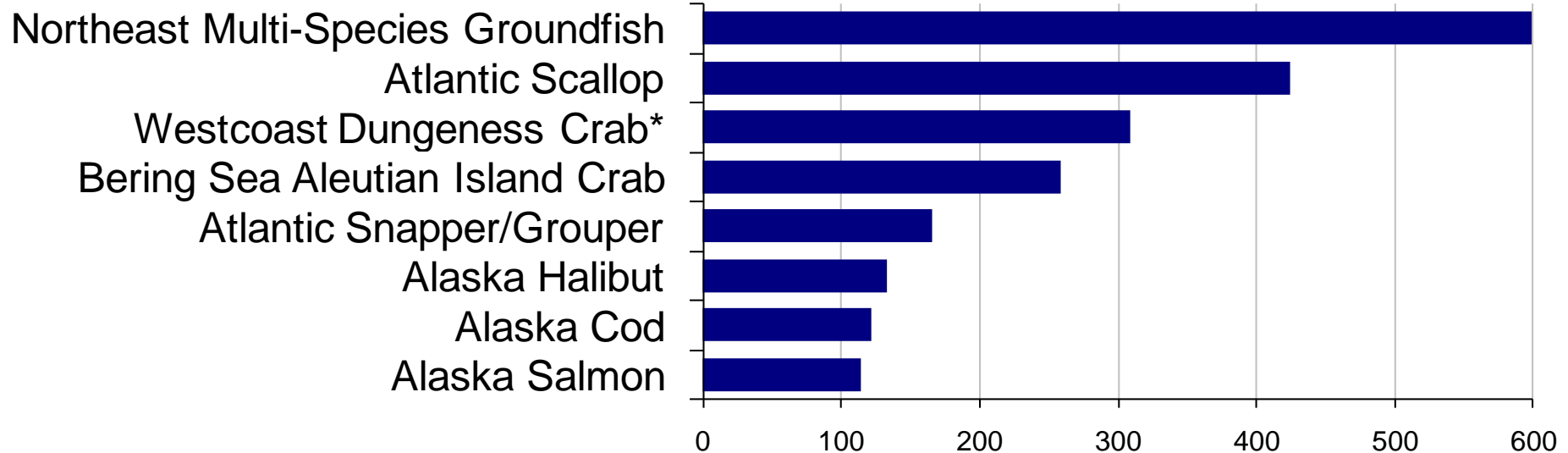
Workforce Estimates

- Vessel Landings
- Length of Openings
- Average Crew Size





Fatality Rates for Selected US Fisheries, 2000-2009



*Excludes 2 WA tribal crab fatalities which are not included in the FTE

Risks Vary by Fishery

- Northeast Groundfish: 50% events instability usually due to hauling a heavy net of fish and flooding
- Alaska salmon: 58% were set net skiffs
- Westcoast Dungeness crab: 100% heavy weather and many while crossing bar
- Northeast scallop fleet: instability, gear caught on the bottom, and collision



- Northeast scallop and Groundfish fleets
 - intervention focusing on the relationship between vessel stability and gear handling.
- Alaska salmon and West coast Dungeness crab fleet
 - interventions focusing on issues of operating in heavy weather



Conclusions

- Vessel Disasters
 - Majority of Fatalities
 - Fisheries have different risk factors
- Falls overboard
 - 1/3 of all fatalities
 - 0 were wearing PFDs
 - Majority alone



Conclusions

- As Committee Members and Individuals
 - National Policies
 - Regional Policies
 - Local or Fishery-specific Action



In partnership... NIOSH will continue

- Assessment: Collect and interpret data
- Policy Development: Research new insights and innovative solutions
- Assurance: inform, educate, and empower, evaluate progress

Contact Information



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cdc.gov/niosh/topics/fishing