National Institute for Occupational Safety and Health
NIOSH

ALASKA PACIFIC
REGIONAL OFFICE

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"

NIOSH *National Institute for Occupational Safety and Health*

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

CDC Workplace Safety and Health

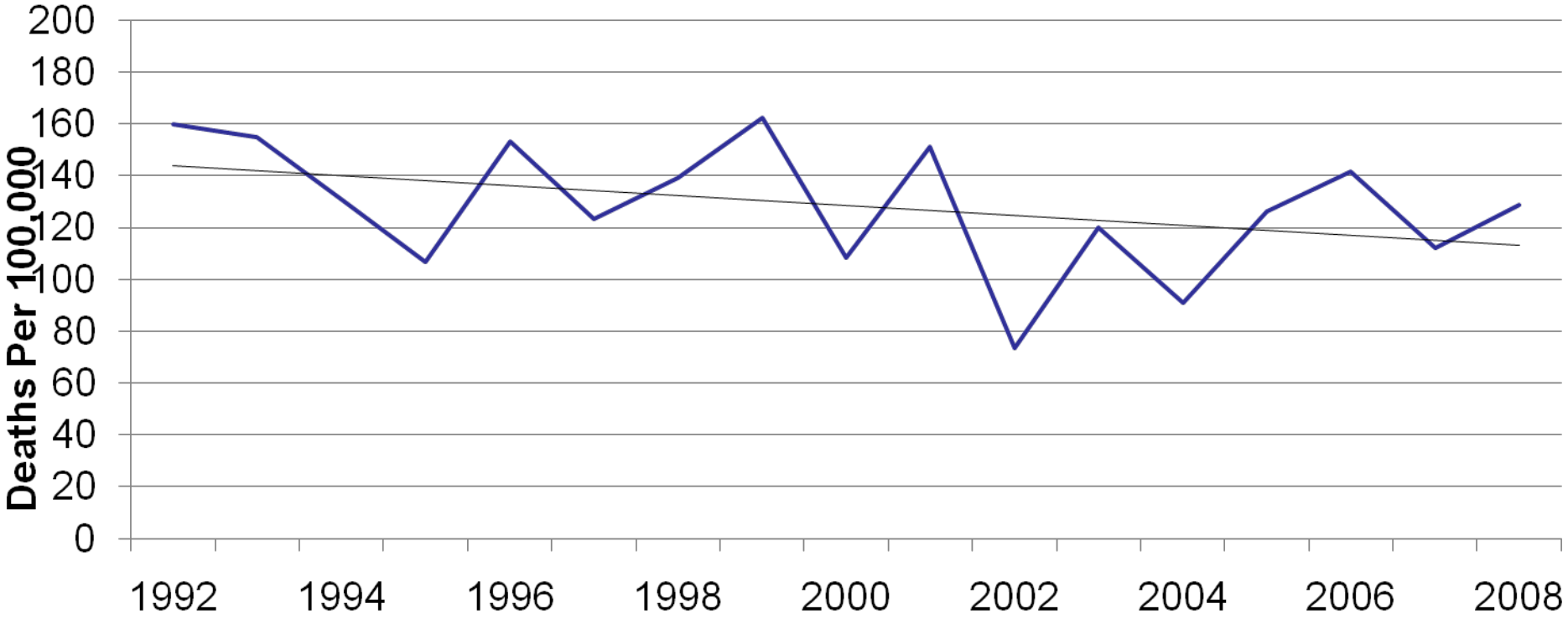
National Institute for Occupational Safety and Health NIOSH

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*)

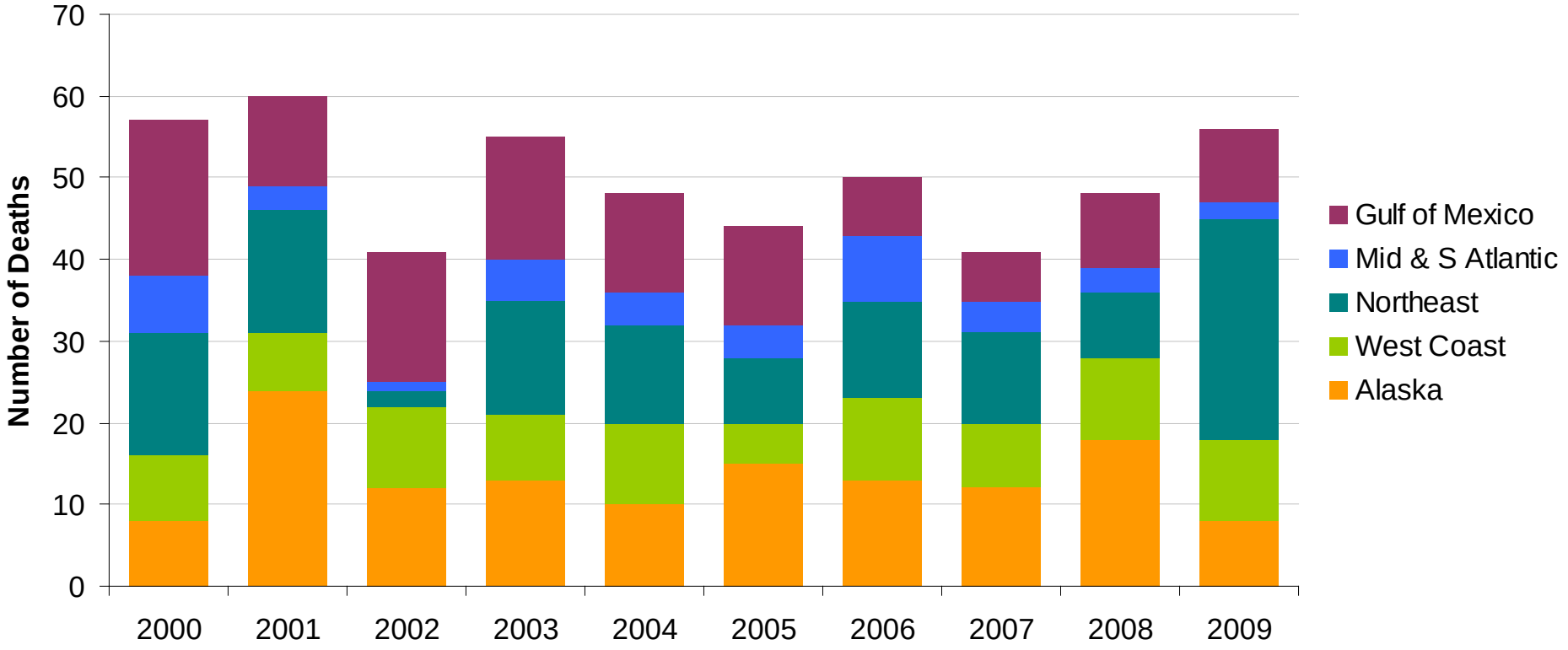
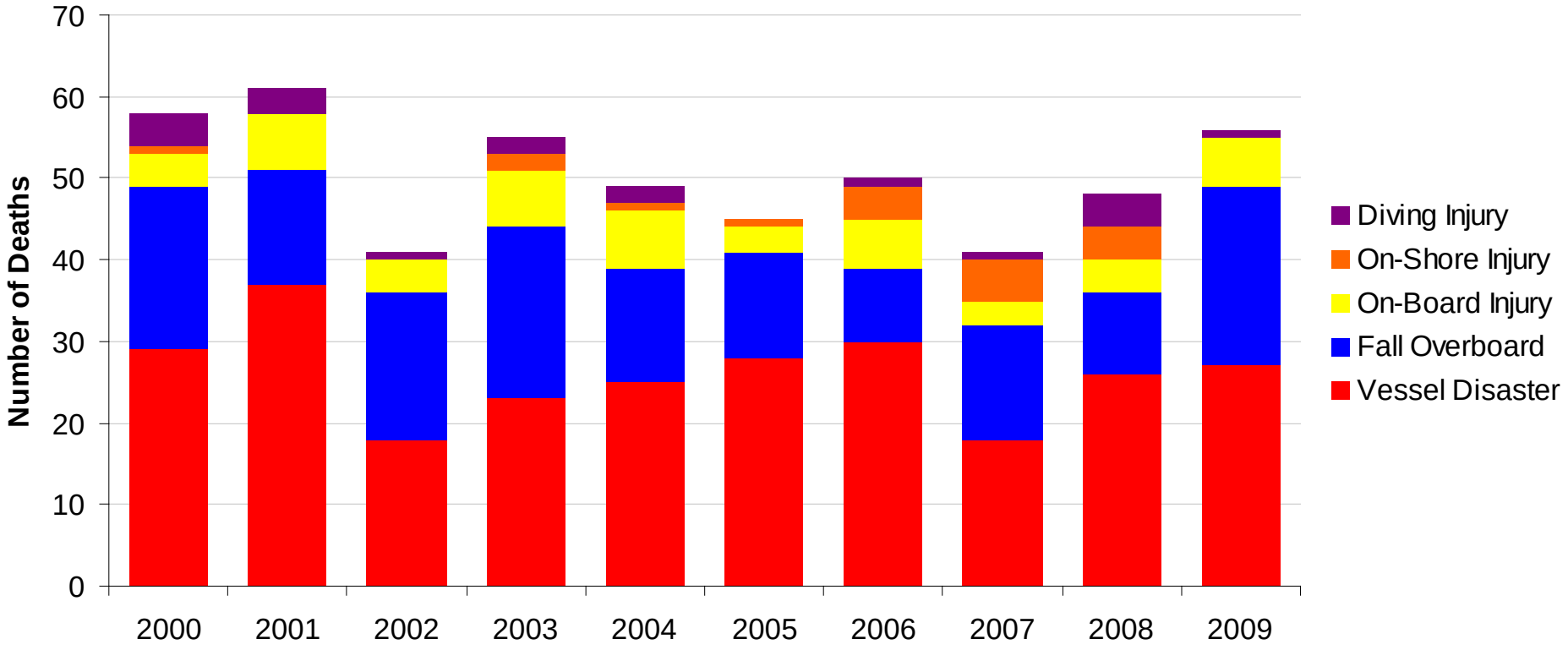


*Chart excludes 6 deaths in Hawaii and 1 in Canadian waters during transit to AK

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	

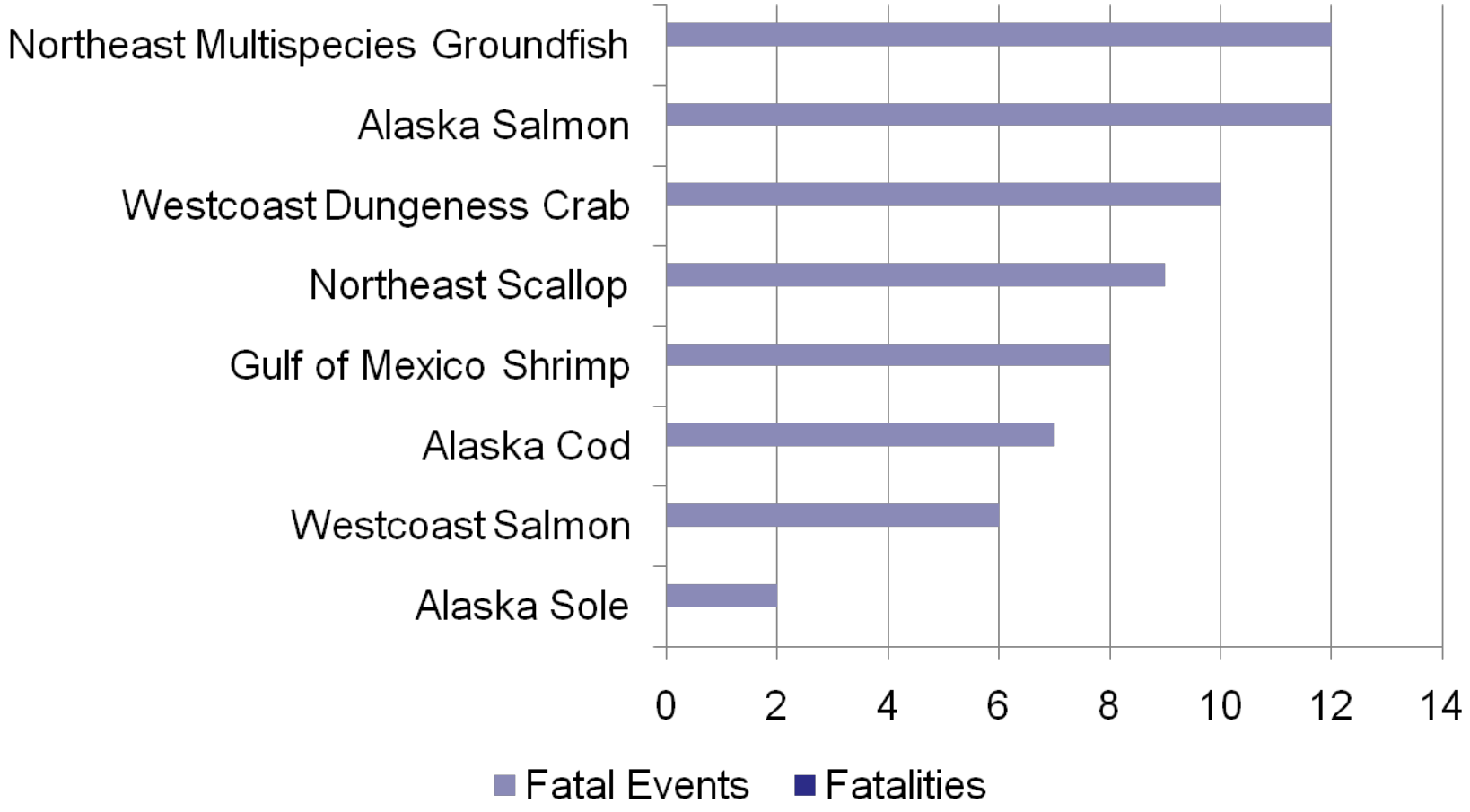
Vessel Disasters: Cause of Flooding (n=37)

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

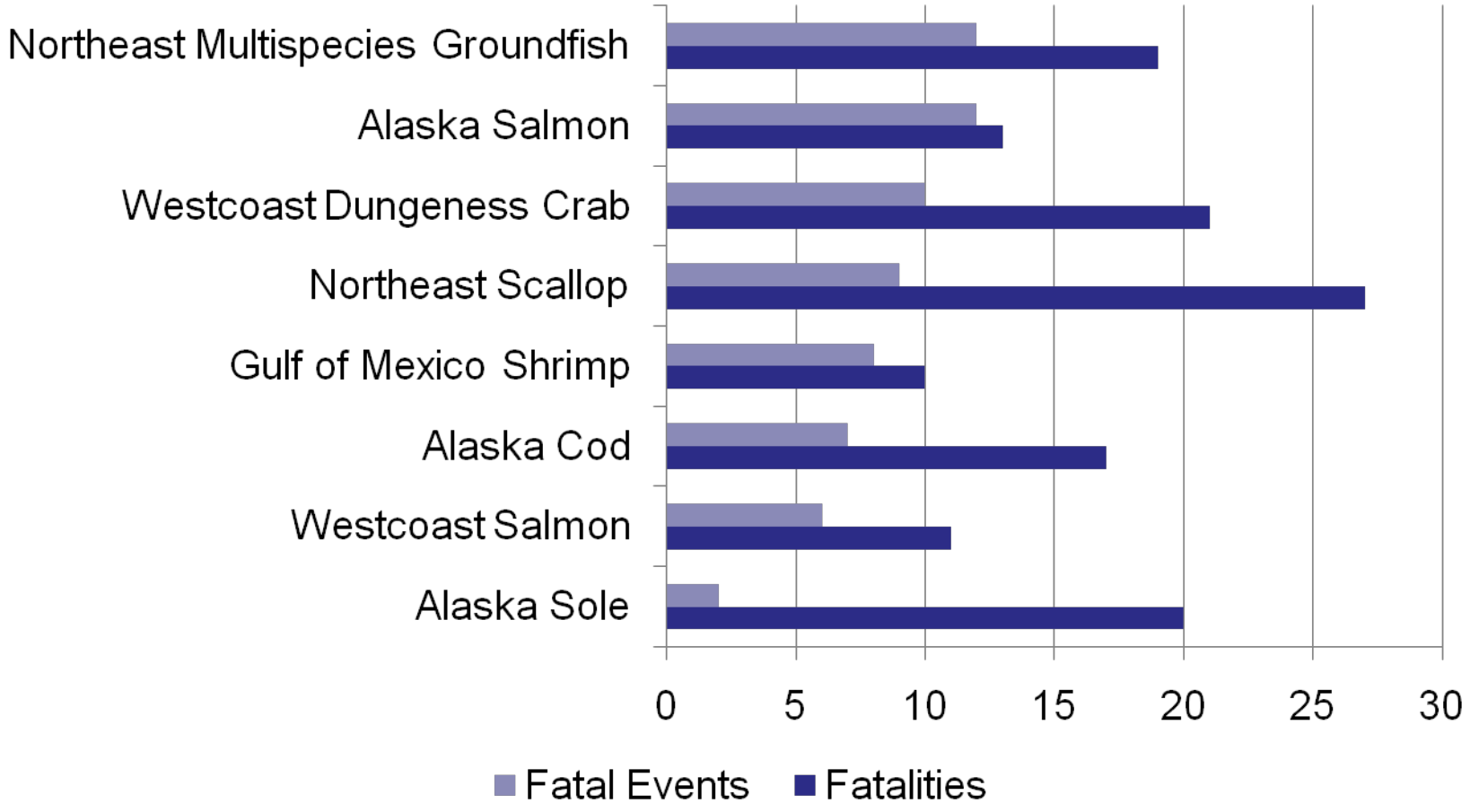
Vessel Disasters: Cause of Instability (n=24)

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

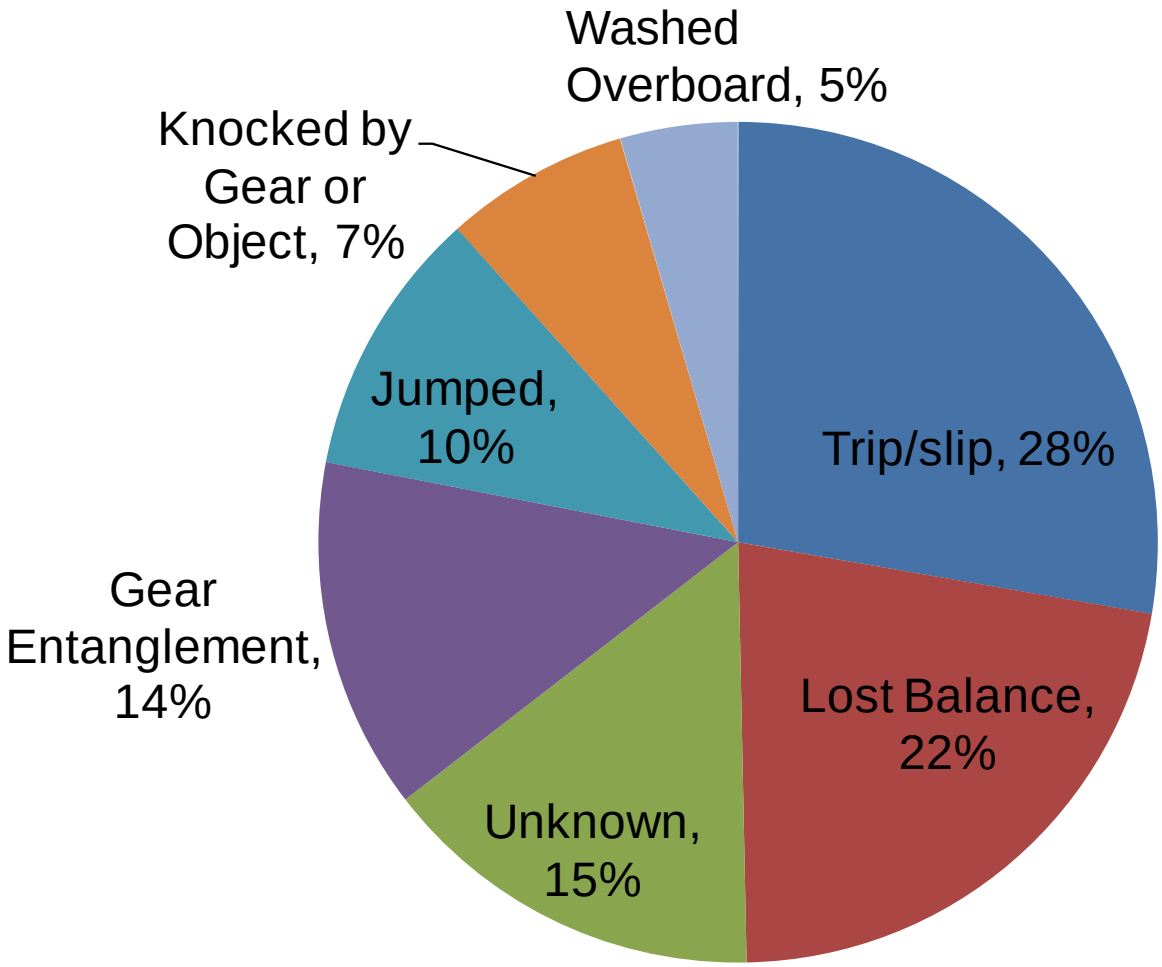


Vessel Disaster: Fatalities and Fatal Events by Fishery

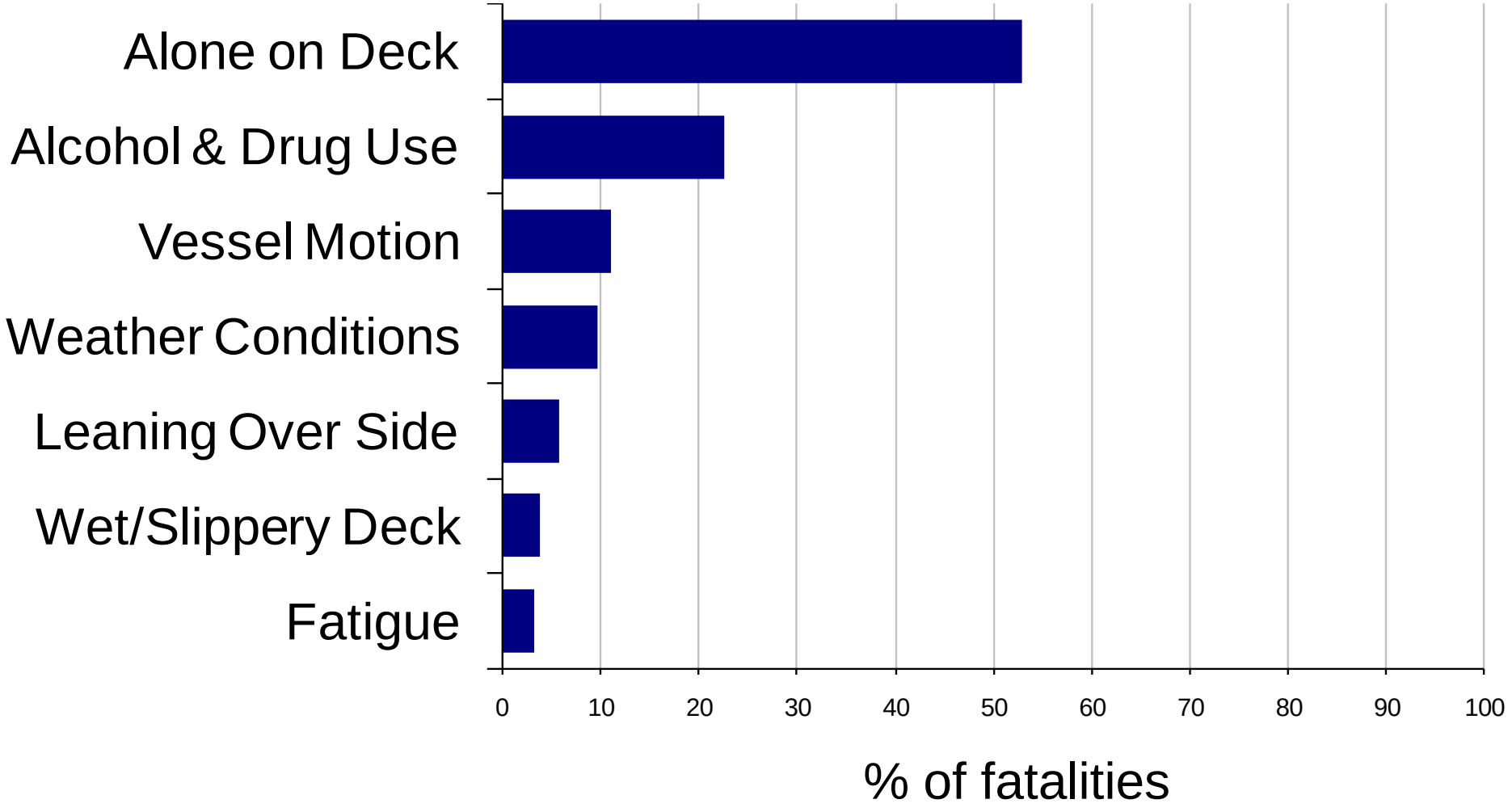


- Vessel Disasters
- **Falls Overboard (155, 31%)**

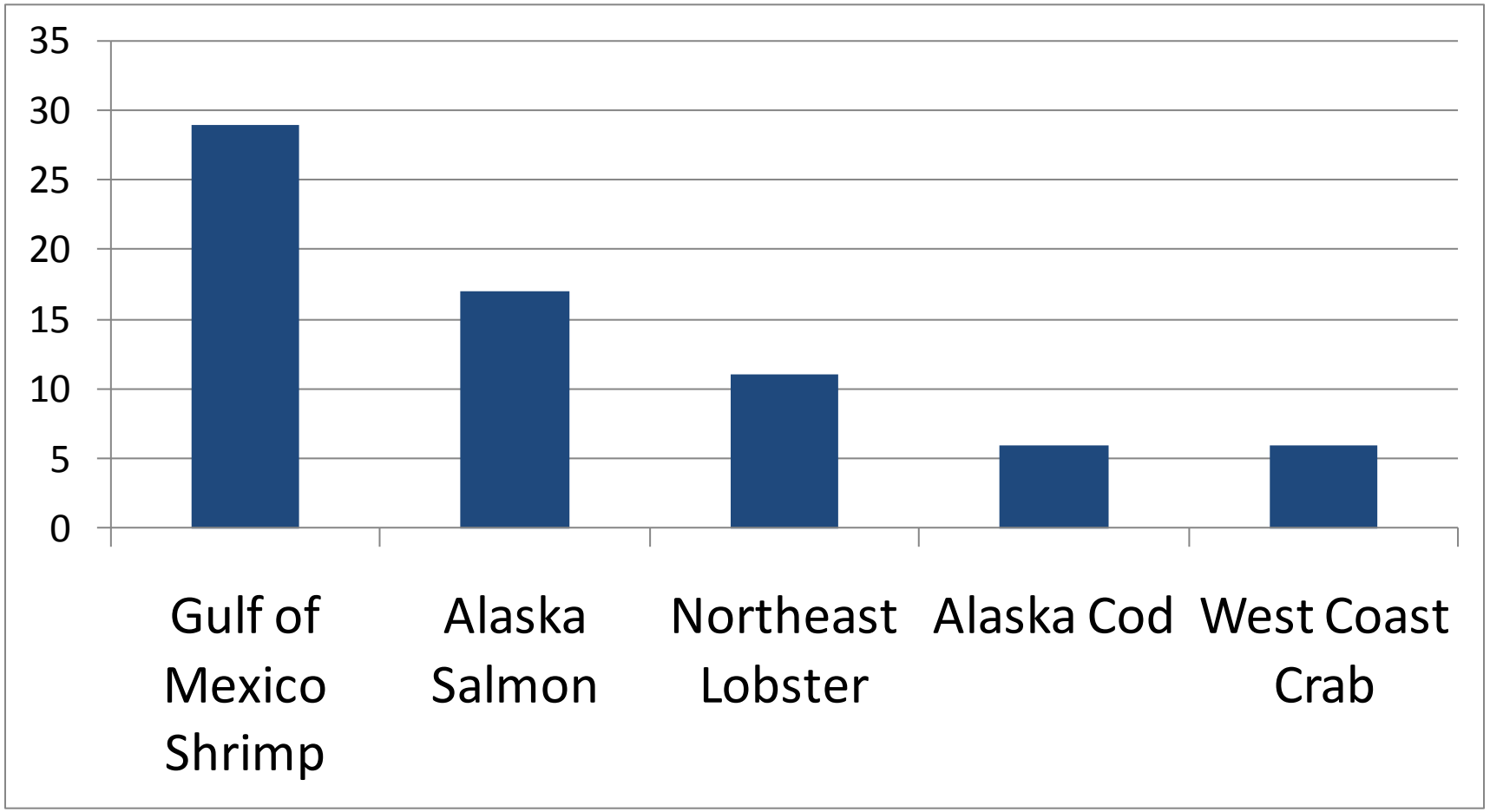
Falls Overboard: Causes



Falls Overboard: Contributing Factors



Falls Overboard: By Fishery with highest number of fatalities



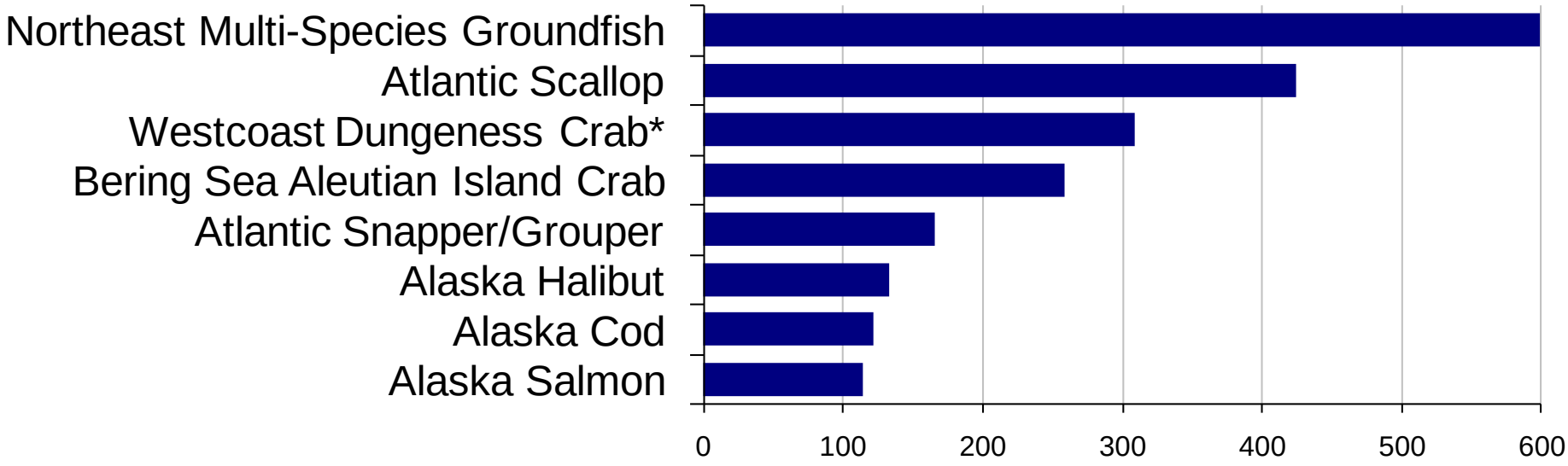
Reasons to focus on a fishery hazard

- 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