Improving Fatality Surveillance for the US Fishing Industry

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Outline

- Background on US commercial fishing industry
- Development of the NIOSH Commercial Fishing Incident Database
- Identification of specific hazards and priority areas around the country
- CFID Redesign with OSU

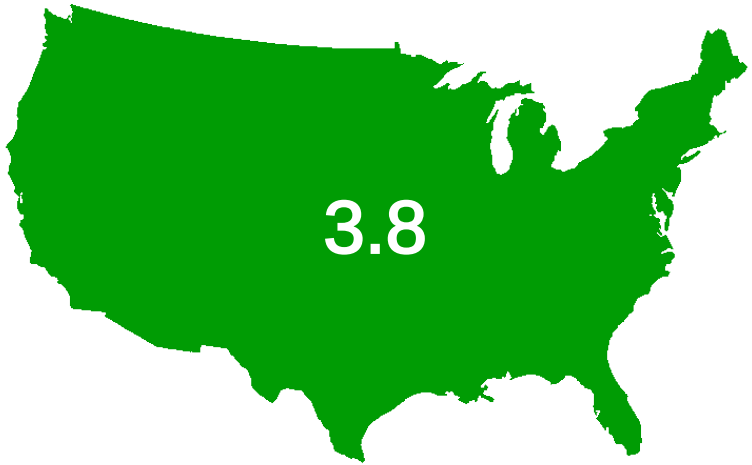
Commercial fishing is an economically important industry in the US

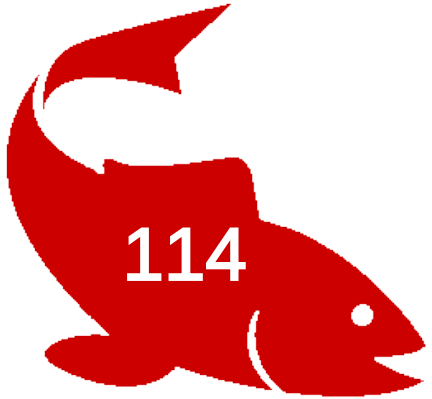
In 2017:

- 9.9 billion pounds of seafood harvested
- Earning over $5.4 billion
- Approximately 117,000 harvesters
- Dutch Harbor, Alaska
  - 769 million pounds
  - $173 million
- New Bedford, Massachusetts
  - 111 million pounds
  - $389 million

Source: National Marine Fisheries Service

US Occupational Fatality Rates per 100,000 Workers, 2000-2017*





Source: BLS CFOI

*2000-2005: per 100,000 workers; 2006-2017: per 100,000 full-time equivalent workers

iStock/ Getty Images Plus


American Seafoods Company
NORTHERN HAWK

USCG-NIOSH Partnership

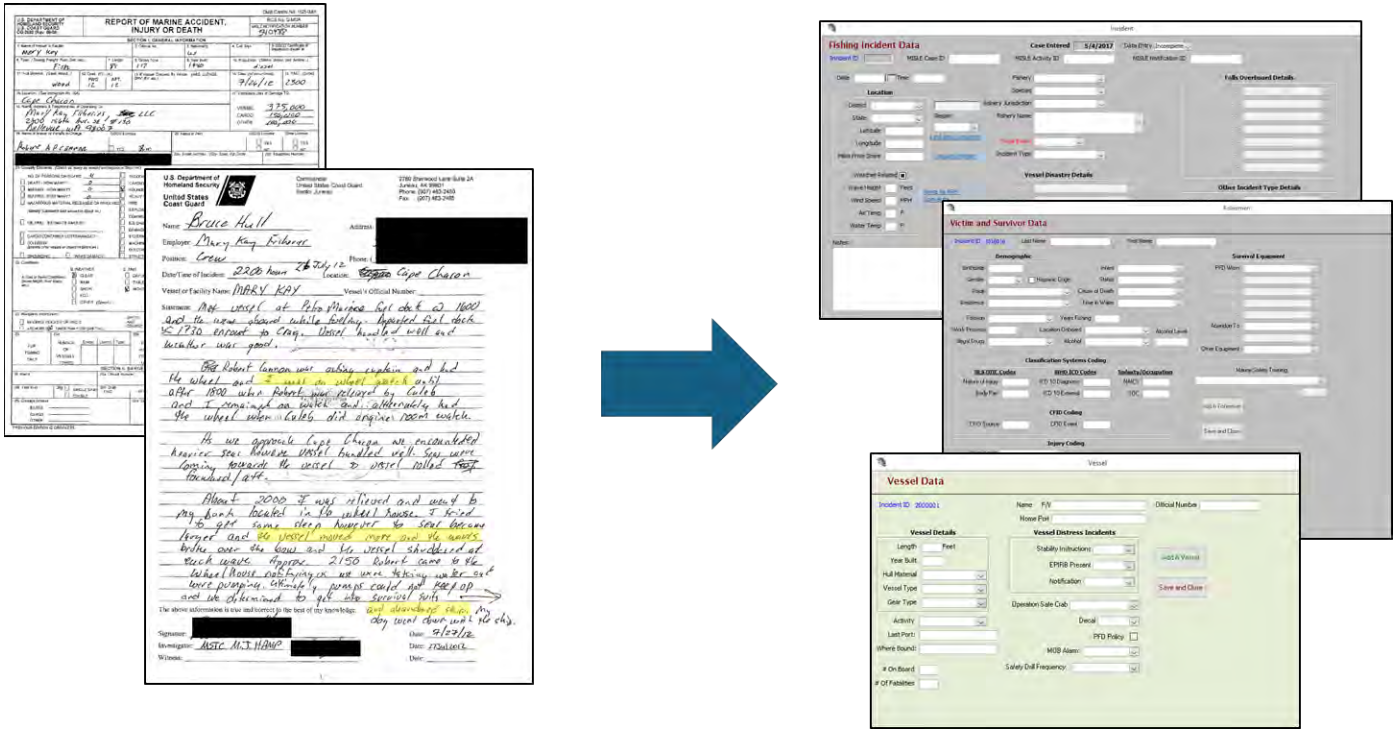
Memorandum of Agreement (MOA)

- NIOSH scientist granted USCG credentials as federal affiliate
- Access to MISLE to manually review cases
- Conduct statistical analyses of data
- Identify causes of hazards leading to deaths and injuries

Commercial Fishing Incident Database (CFID)

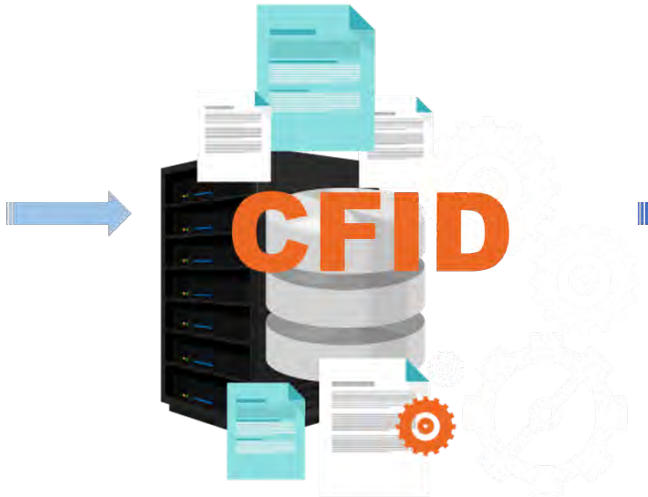
- National database
- Fatalities due to traumatic injury
- Variety of fishing vessels
- Any worker
- Five incident types:
  - Vessel disaster
  - Fall overboard
  - Onboard injury
  - Onshore injury
  - Diving injury

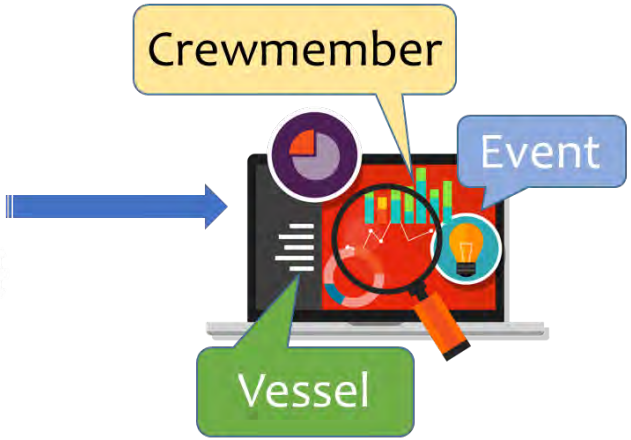
USCG Investigations and NIOSH Data Entry



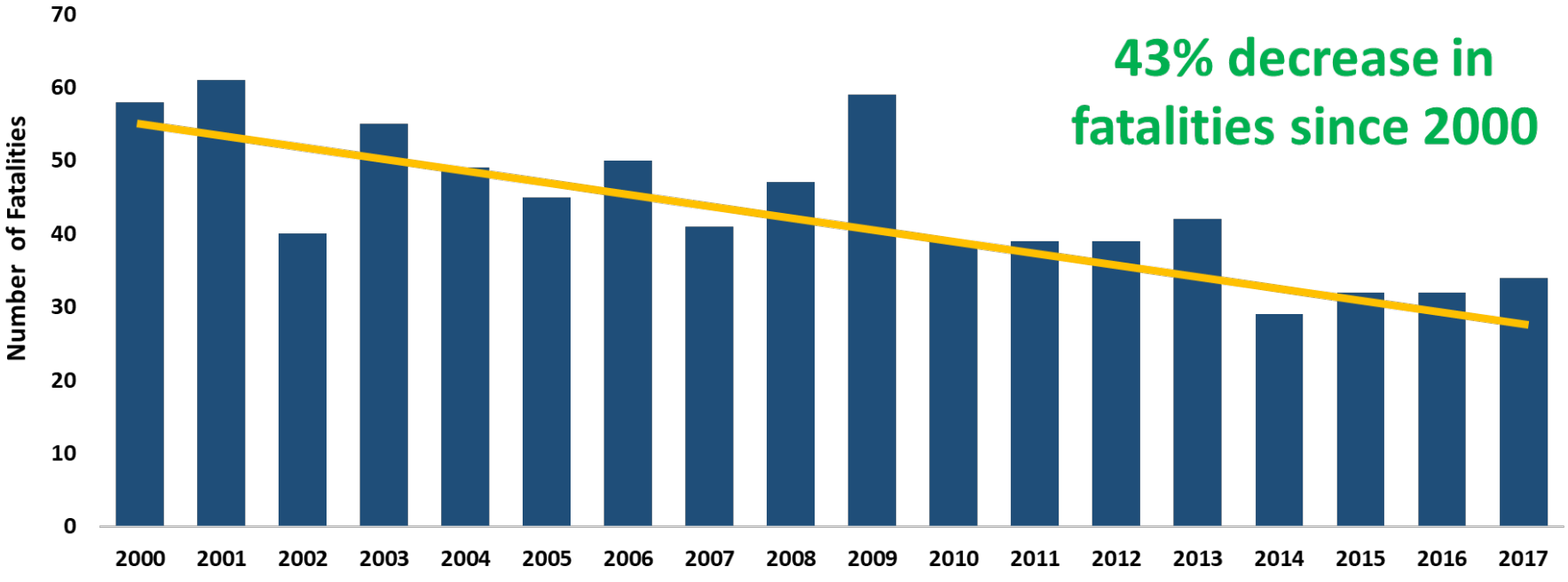
Commercial Fishing Incident Database

- US Coast Guard
- Local law enforcement
- News media
- Fishery Management Agencies
- Safety trainers



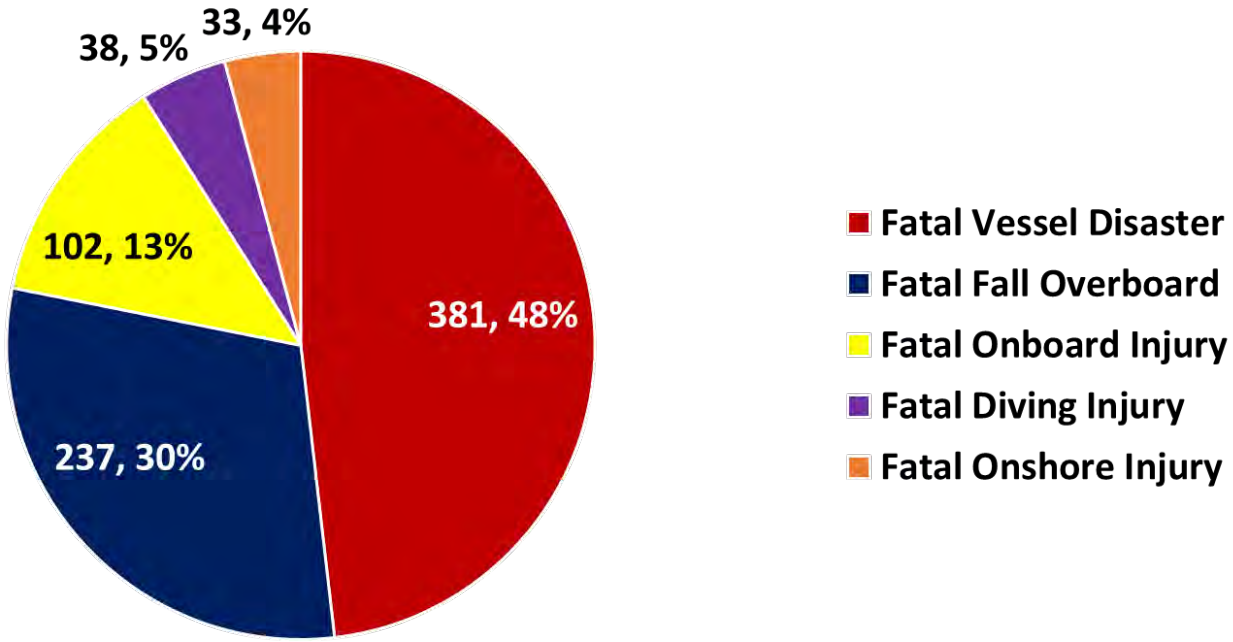


US Commercial Fishing Fatalities, 2000-2017 (n=791)

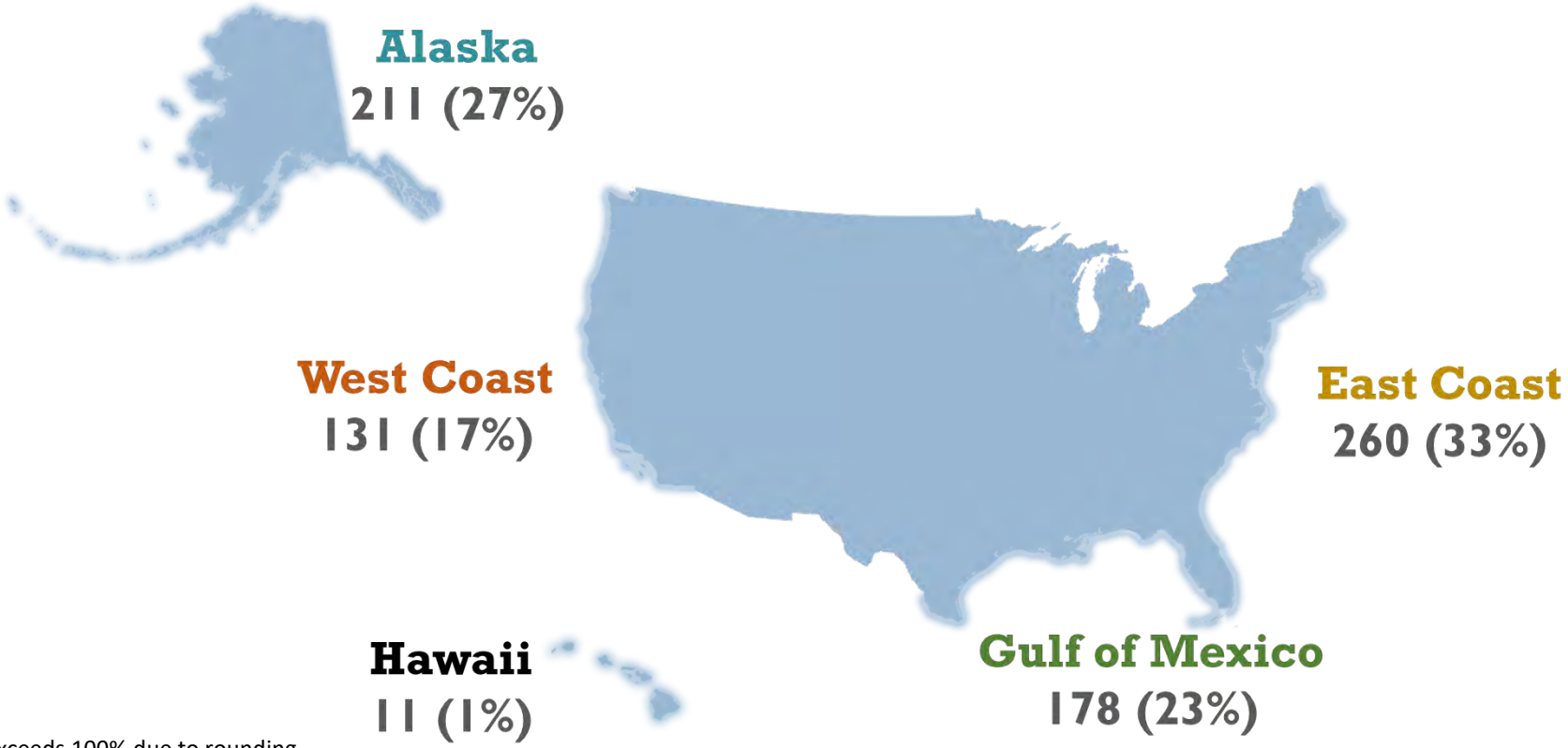


IRR = 0.968;
$p < 0.001$

US Commercial Fishing Fatalities by Incident Type, 2000-2017 (n=791)

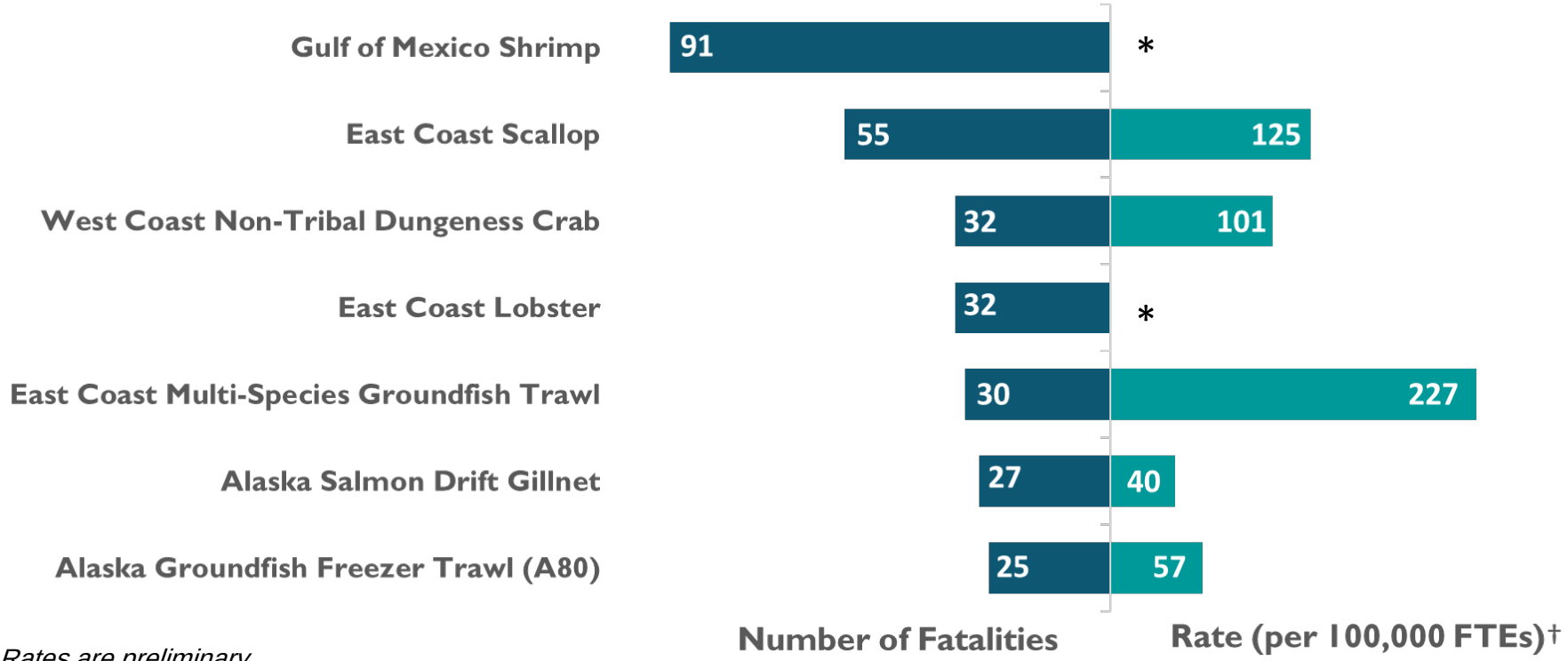


US Commercial Fishing Fatalities by Region, 2000-2017 (n=791)



% Total exceeds 100% due to rounding

Fleets with the Highest Number of Fatalities and Rates, 2000-2017 (n=292)



†*Rates are preliminary*
**Rate not available*

Most Hazardous Fisheries & Events

Alaska

- Salmon skiff capsizings & falls overboard
- Dive harvest incidents

West Coast

- Dungeness crab vessel disasters
- Groundings
- Dive harvest incidents

East Coast

- Lobster falls overboard
- Vessel disasters in scallop & multi-species groundfish

Gulf of Mexico

- Shrimp winch entanglements & falls overboard
- Fires/explosions

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RESEARCH ARTICLE

WILEY

Work-related mortality in the US fishing industry during 2000-2014: New findings based on improved workforce exposure estimates

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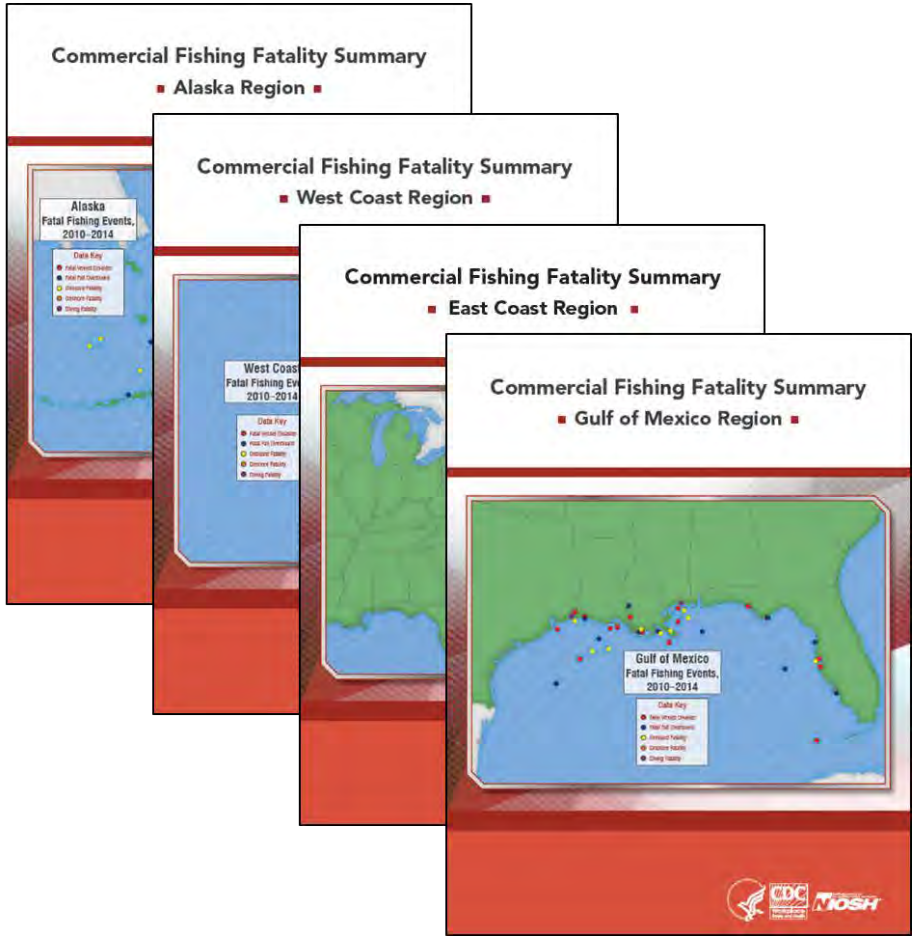
Background: Commercial fishing is a global industry that has been frequently classified as high-risk. The use of detailed surveillance data is critical in identifying hazards.
Methods: The purpose of this study was to provide updated statistics for the entire US fishing industry during 2010-2014, generate fleet-specific fatality rates using a revised calculation of full-time equivalent estimates, and examine changes in the patterns of fatalities and in risk over a 15-year period (2000-2014).
Results: During 2010-2014, 188 commercial fishing fatalities occurred in the United States. Vessel disasters and falls overboard remain leading contributors to commercial fishing deaths. The Atlantic scallop fleet stands out for achieving substantial declines in the risk of fatalities over the 15-year study period. However, fatality rates ranged from 21 to 147 deaths per 100 000 FTEs, many times higher than the rate for all US workers.
Conclusions: Although the number of fatalities among commercial fishermen in the United States has generally declined since 2000, commercial fishing continues to have one of the highest occupational fatality rates in the United States. The sustainable seafood movement could assist in improving the health and safety of fishing industry workers if worker well-being was integrated into the definition of sustainable seafood.

KEYWORDS
fishing, mortality, occupational, surveillance

1 | INTRODUCTION

Commercial fishing is a critical industry for global food security, generating a major source of animal protein for billions of people worldwide.[1] Fishing vessels vary widely in terms of size and configuration, ranging from small undecked vessels with as few as one person onboard to large decked vessels with dozens of crewmembers who catch and process fish into final products in factories onboard the vessels. The fishing industry has been frequently classified as exceptionally high-risk, with workplace fatality rates that are often the highest among all industries in many countries.[2] The life-threatening hazards faced by workers in the fishing industry have been measured and described in many epidemiologic studies for decades,[3] yet public concern over the death toll has been mostly lacking, including within social movements such as for sustainable seafood.

Interest in sustainable seafood has been steadily increasing among wholesalers, retailers, restaurants, and consumers.[4] Market research has predicted a growing awareness and preference for seafood that is environmentally, economically, and socially sustainable.[5] Definitions



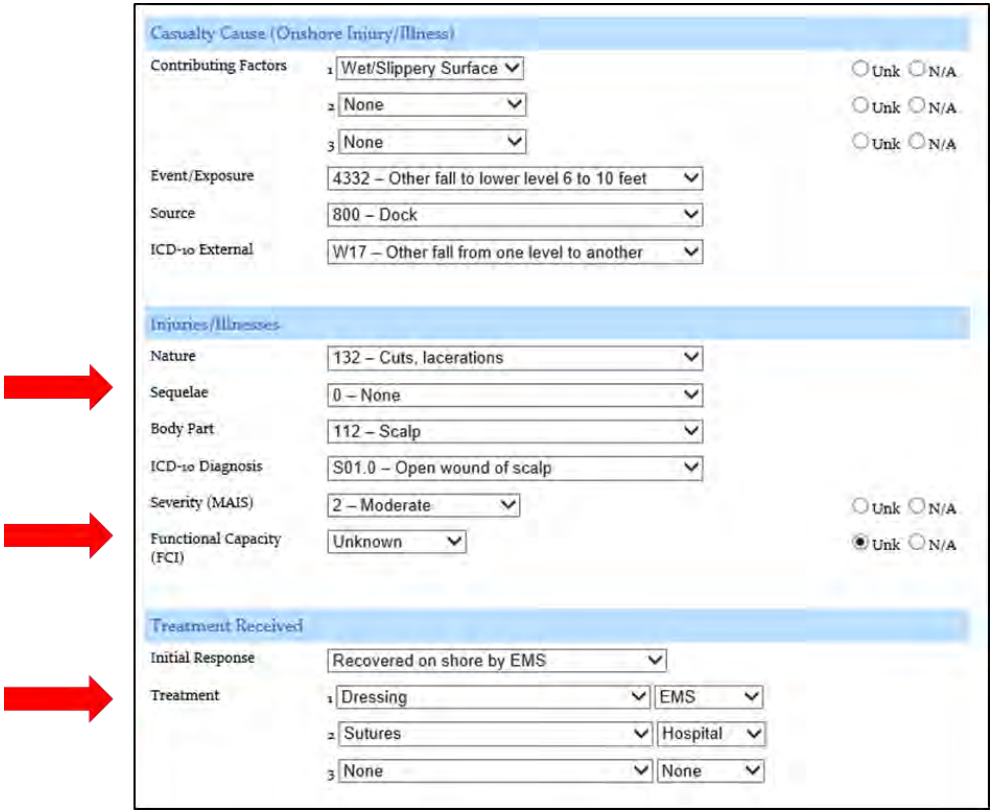
CFID Redesign

Oregon State University

PI: Laurel Kincl

Database developer: Jasmine Nahorniak

CFID Redesign



Conclusions

- Detailed fatality, injury, and event data can be used to…
  - Understand hazards
  - Examine trends over time
  - Inform research priorities
- Hazards vary by region and fleet
- Request data from CFID for analyses
- Leverage partnerships to improve surveillance and expand research

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www.cdc.gov/niosh/topics/fishing/
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