

Bycatch and Entanglements of Gray Seals

in New England Fisheries



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Objectives

Overview of gray seal bycatch estimates and data (1997- 2014)

Summary of gray seal stranding data (2000 - 2016)

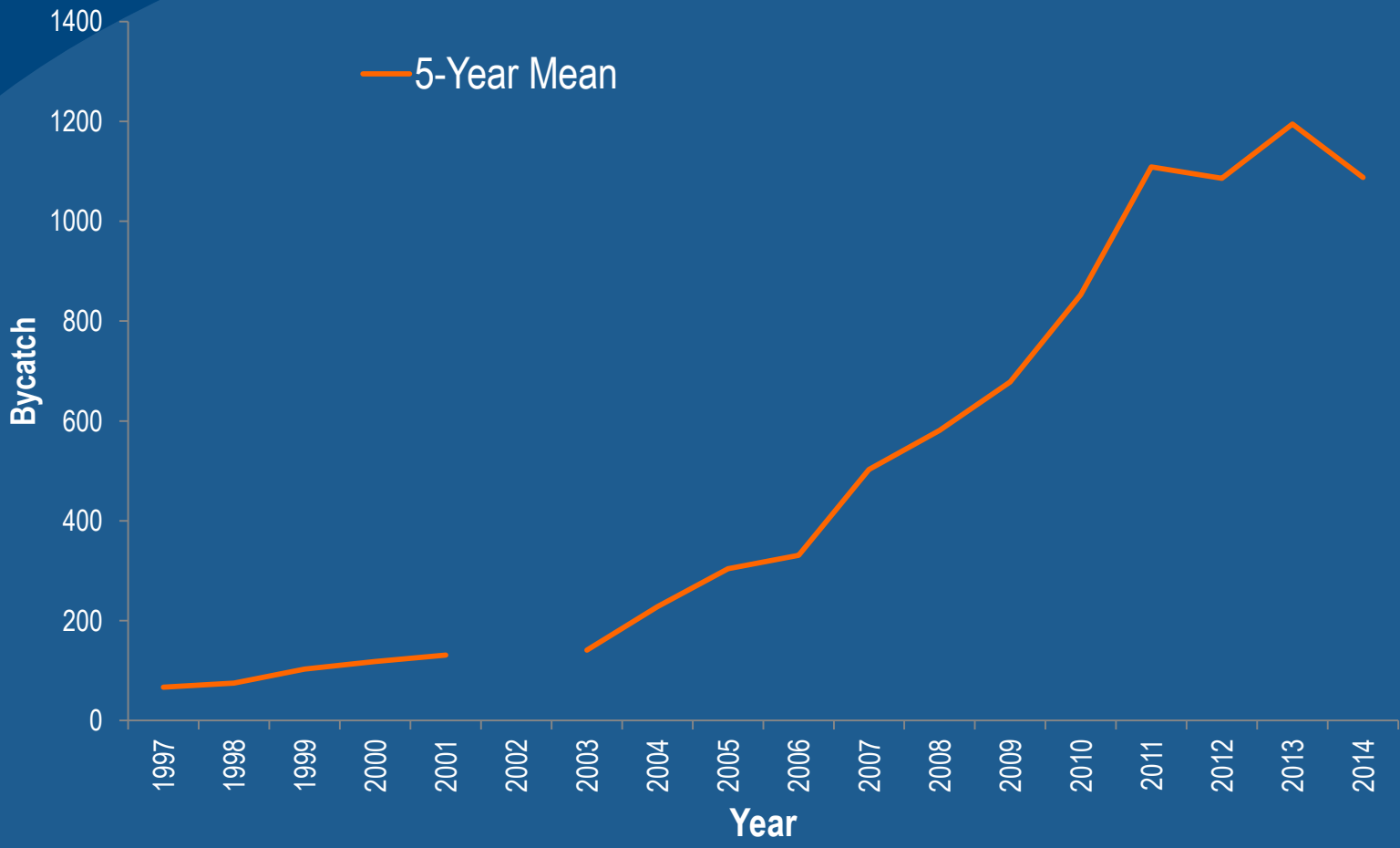
Demographics of gray seal entanglement data

Summary of gray seal bycatch and entanglement data

Next steps from a regional perspective



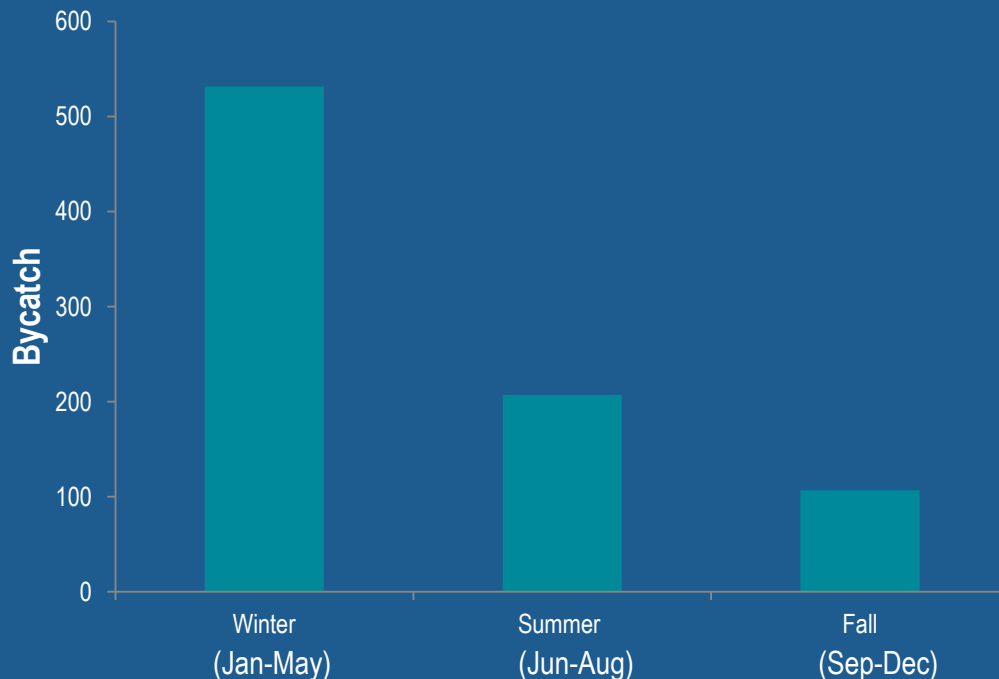
Gray seal 5-year mean bycatch estimates 1997-2014



Gray Seal Bycatch

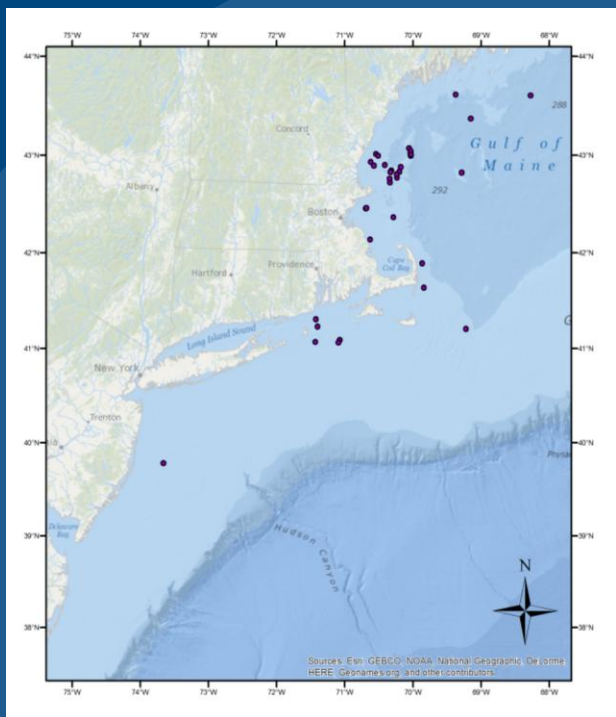
- Increasing annual bycatch estimates
- Highest number of mortalities documented in Northeast Sink Gillnet
- Relatively low number of mortalities documented in:
 - Mid-Atlantic Gillnet
 - Northeast Bottom Trawl
 - Mid-Atlantic Bottom Trawl

Average Seasonal Bycatch Estimates from 2004-2015

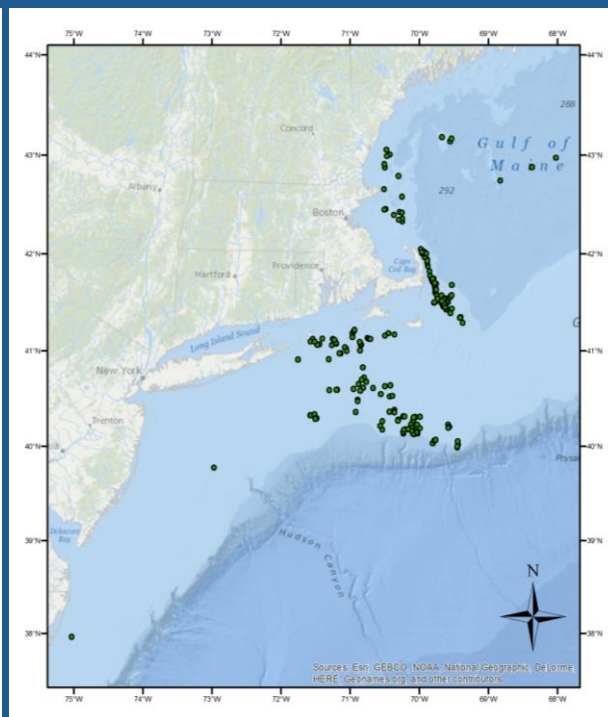


*Gray seal bycatch data collected by NE Fisheries Observer Program
Data can be found in published and draft Stock Assessment Reports*

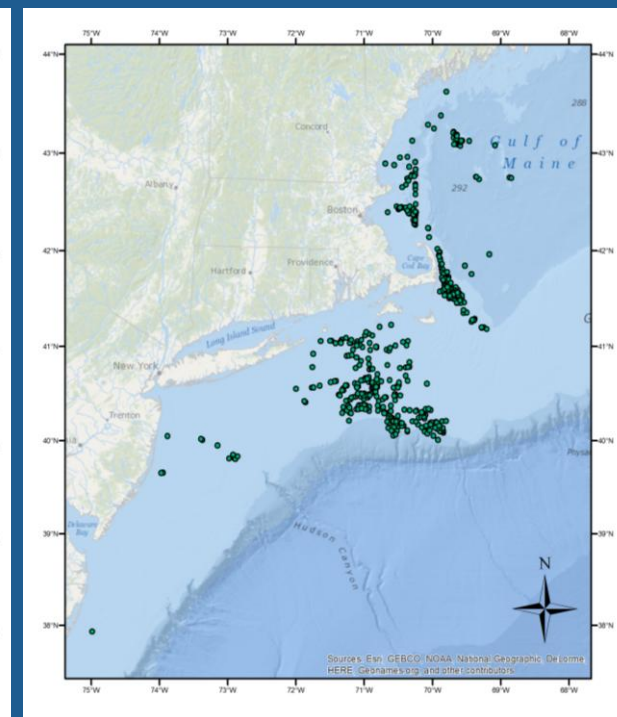
Gray Seal Bycatch Over Time



1989-1999

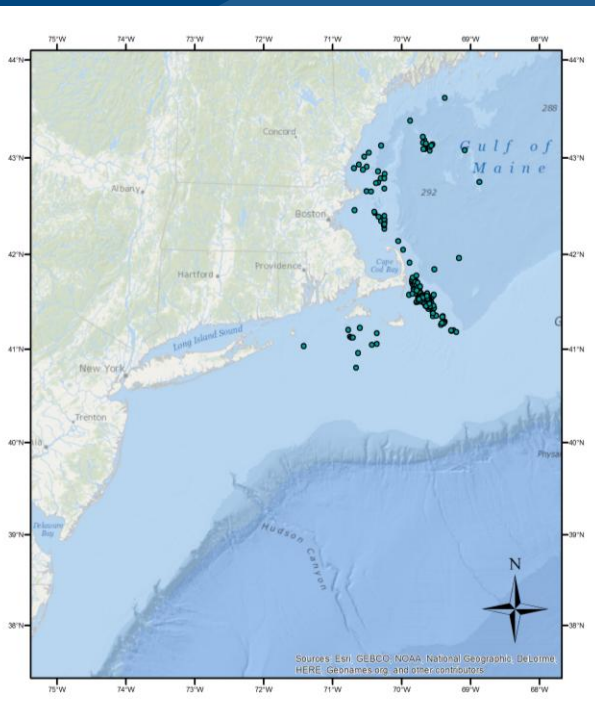


2000-2009

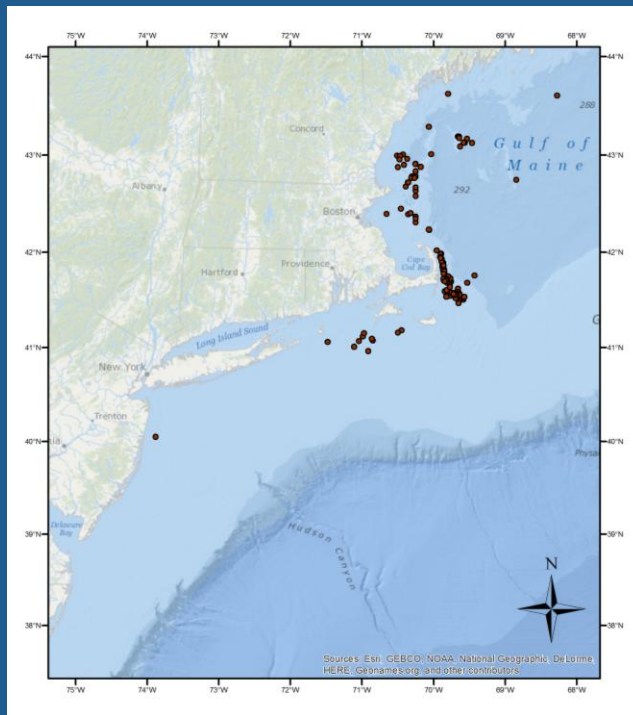


2010-2015

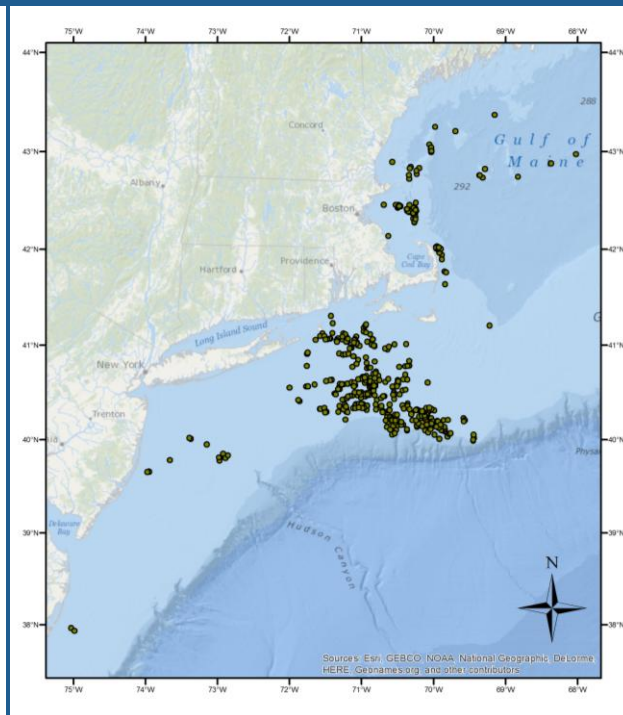
Gray Seal Bycatch Across Seasons



Summer (Jun-Aug)



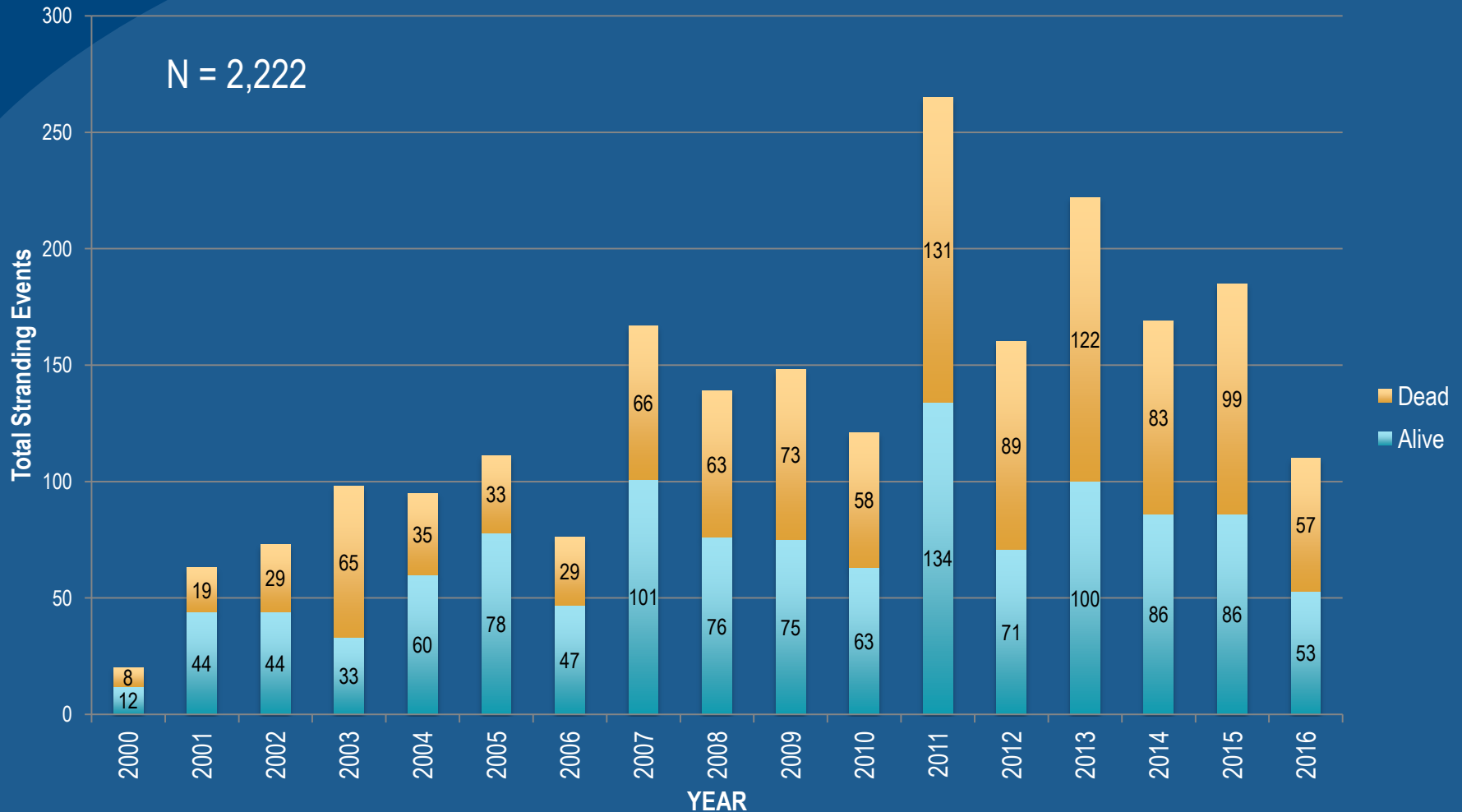
Fall (Sep-Dec)



Winter (Jan-May)

Regional Gray Seal Stranding Events

Annual Gray Seal Stranding Events Greater Atlantic Region 2000-2016

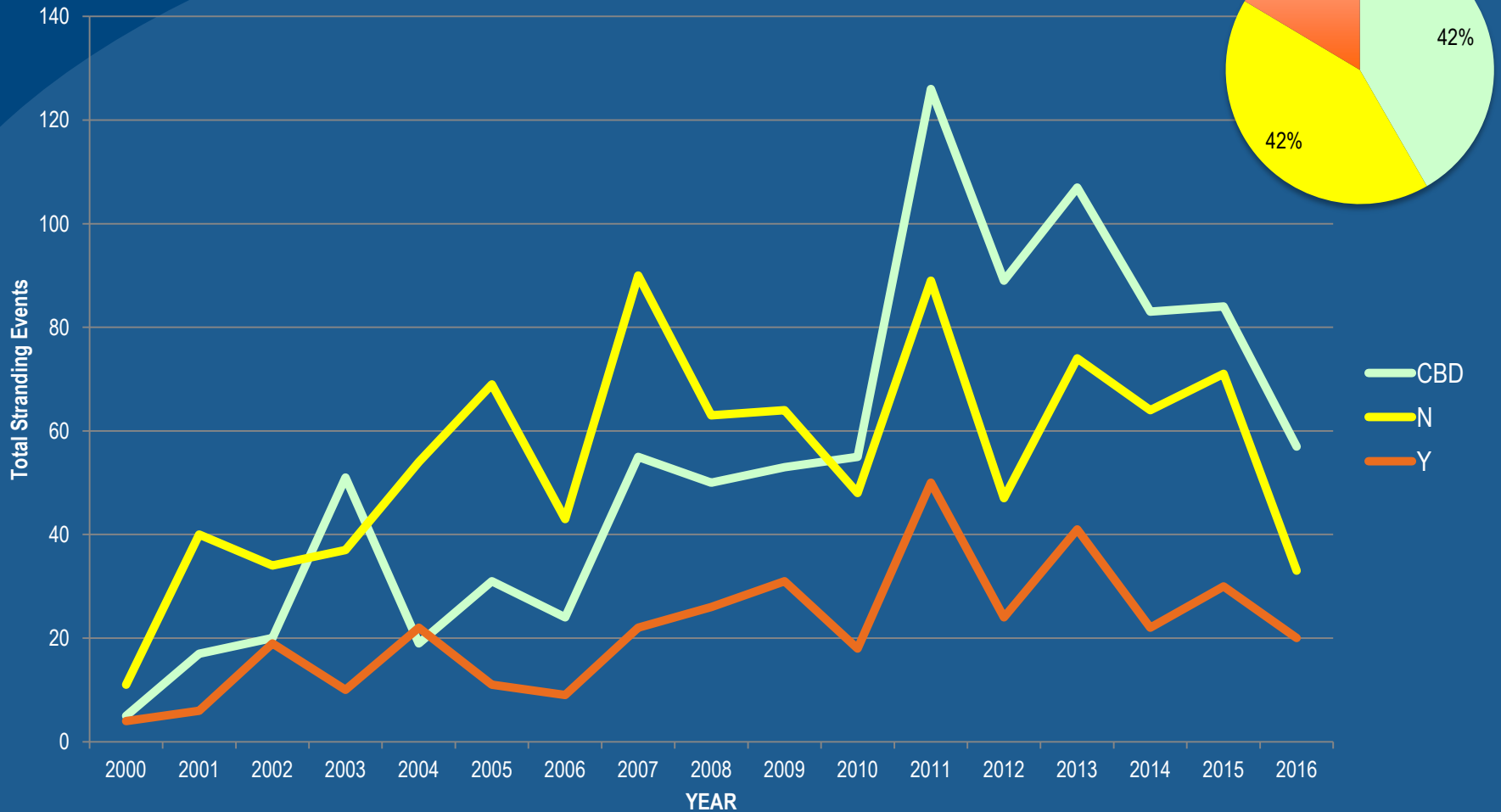


Regional Gray Seal Stranding Events

Human Interaction Findings

Gray Seal Stranding Events Human Interactions Findings

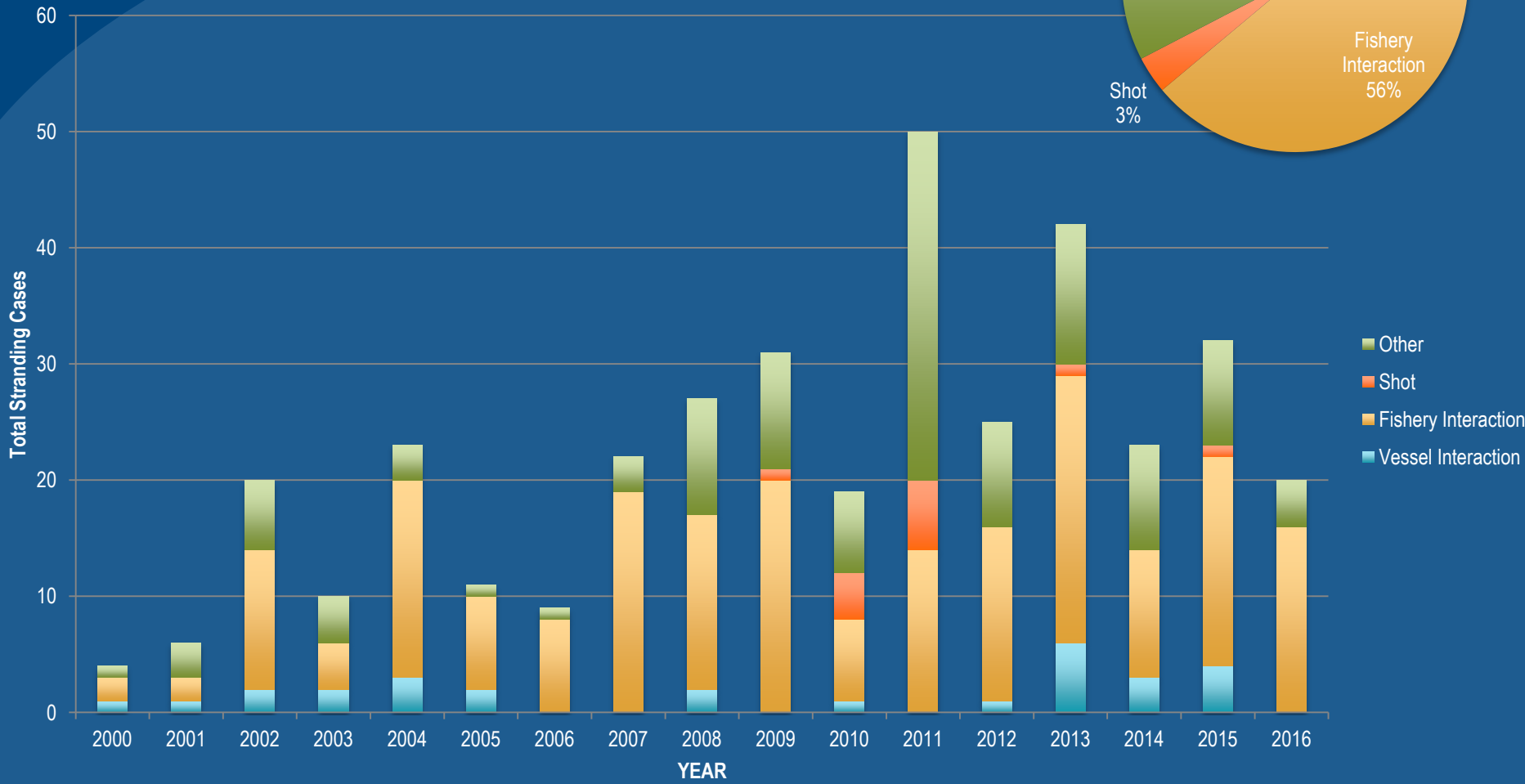
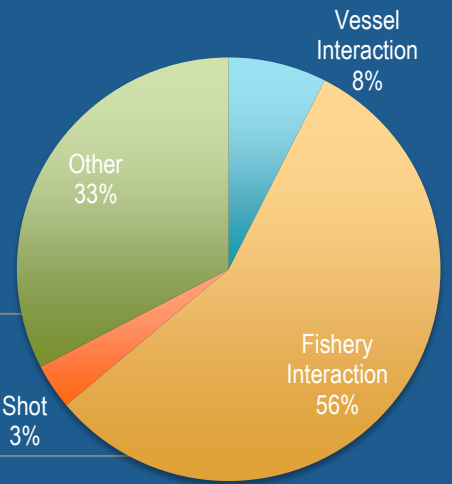
Greater Atlantic Region 2000-2016



Regional Gray Seal Stranding Events

Human Interaction Findings

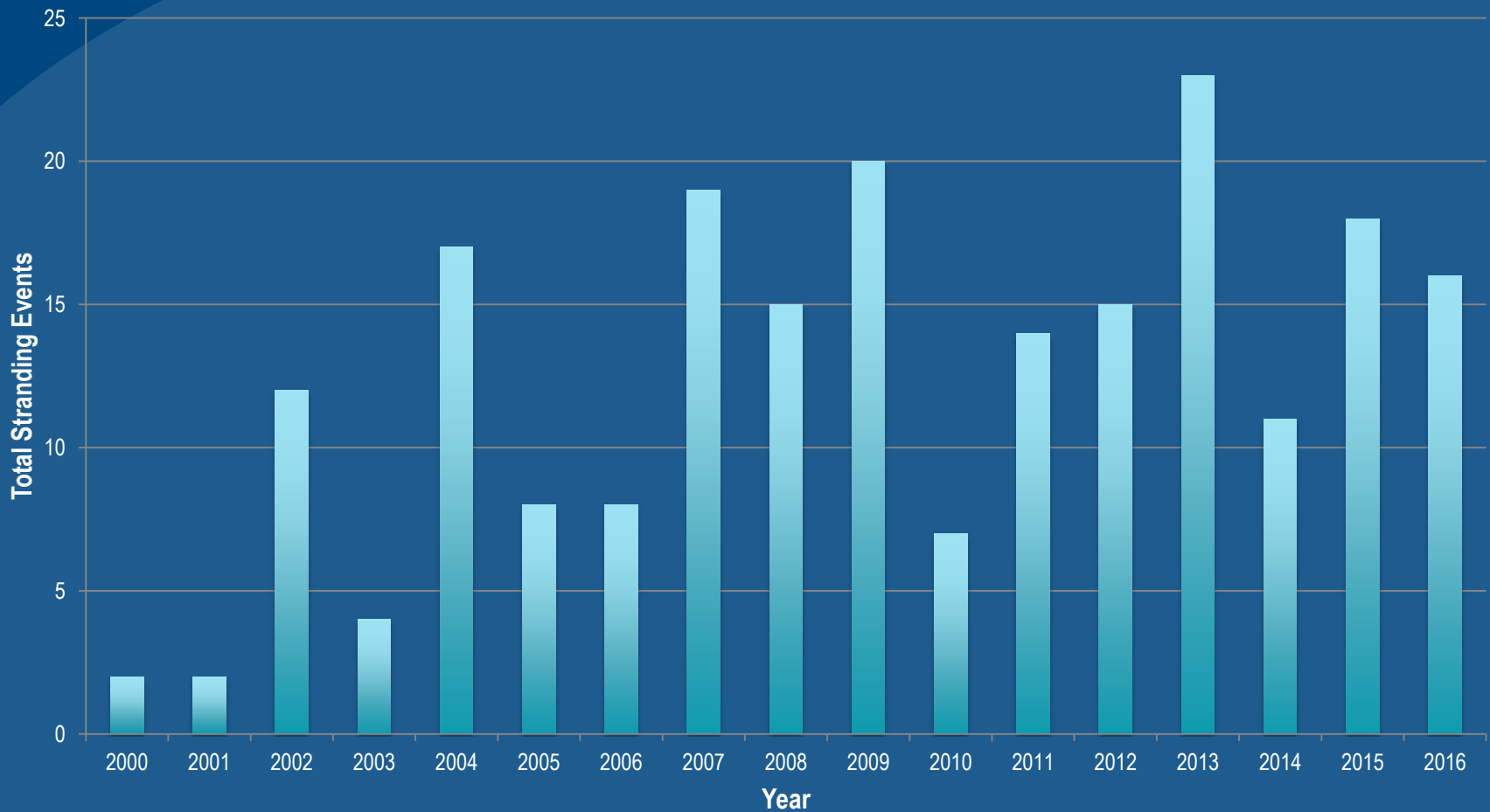
Gray Seal Human Interactions by Type
Greater Atlantic Region 2000-2016



Regional Gray Seal Stranding Events

Fishery Interaction Findings

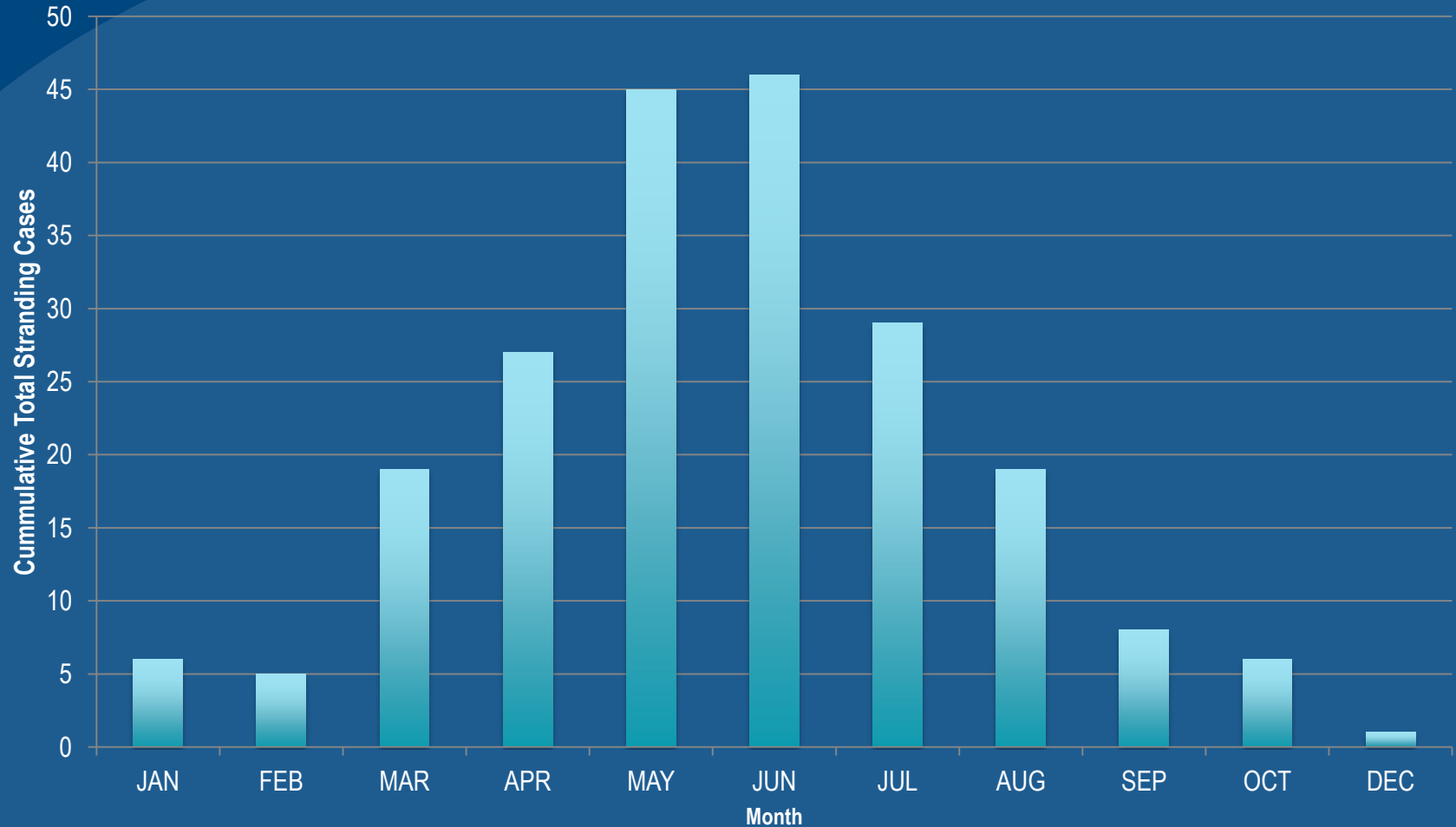
Interannual Variability of Gray Seal Fishery Interactions



Regional Gray Seal Stranding Events

Fishery Interaction Findings

Monthly Distribution of Fishery Interactions
Gray Seal Stranding Events 2000-2016



Regional Gray Seal Stranding Events

Fishery Interaction Findings

Observation Status of Fishery Interactions

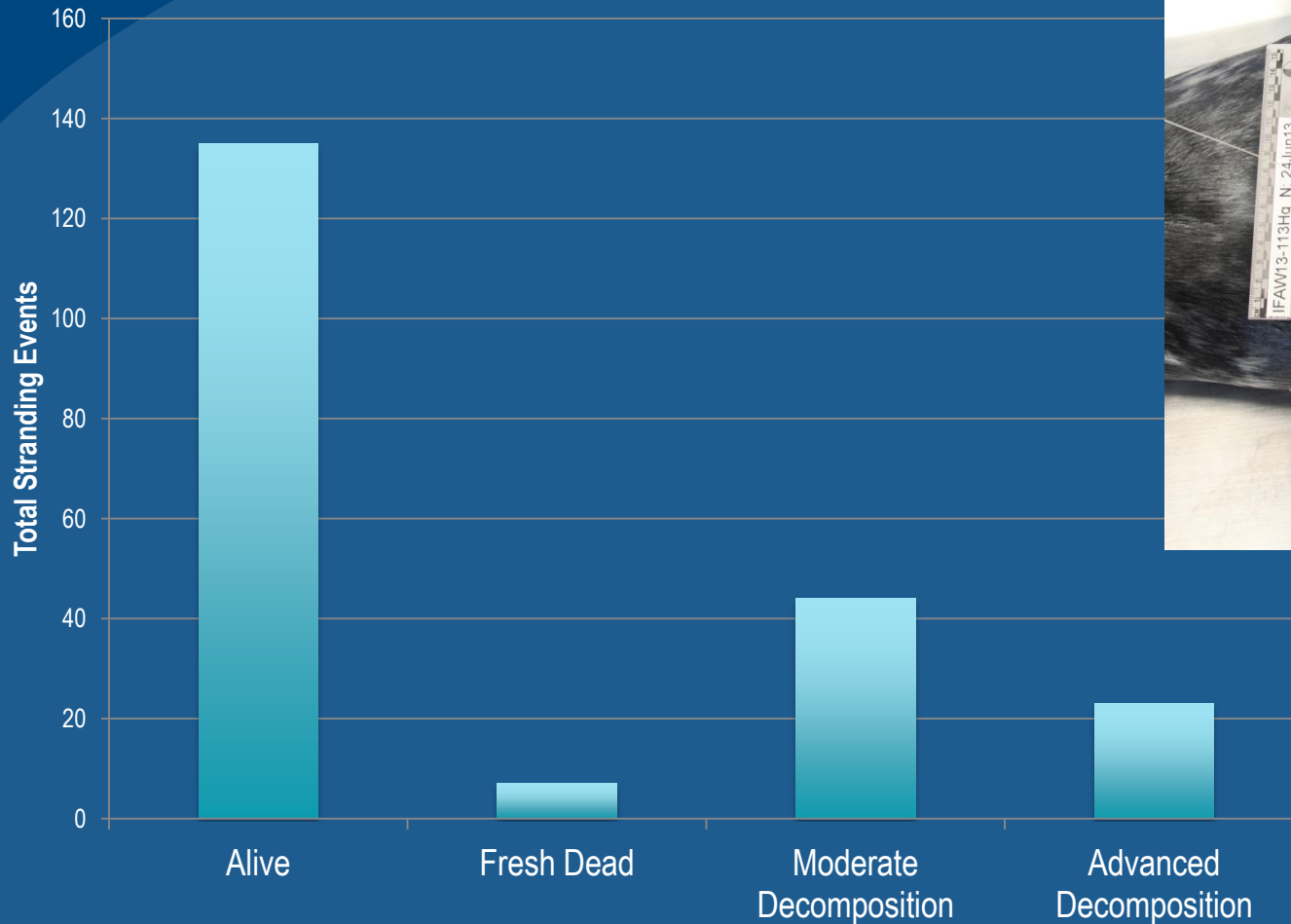
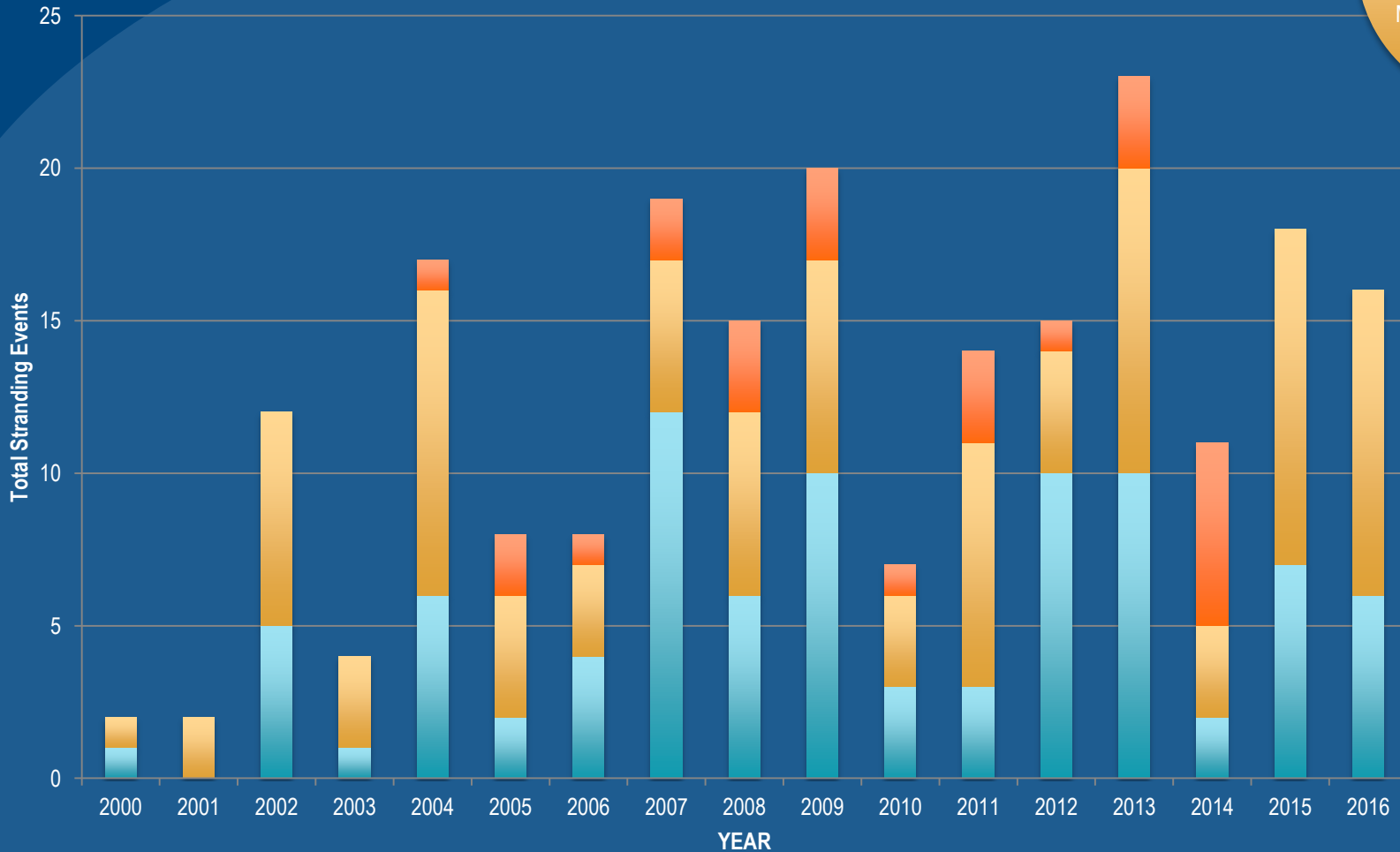
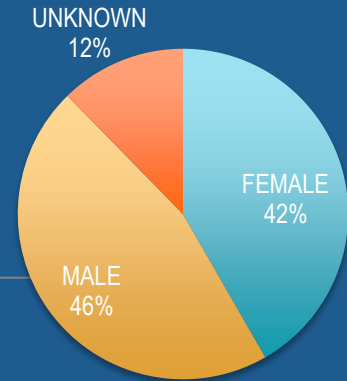


Photo: IFAW
June 23, 2013 Chatham, MA
Juv. Male Gray seal

Regional Gray Seal Stranding Events

Fishery Interaction Findings

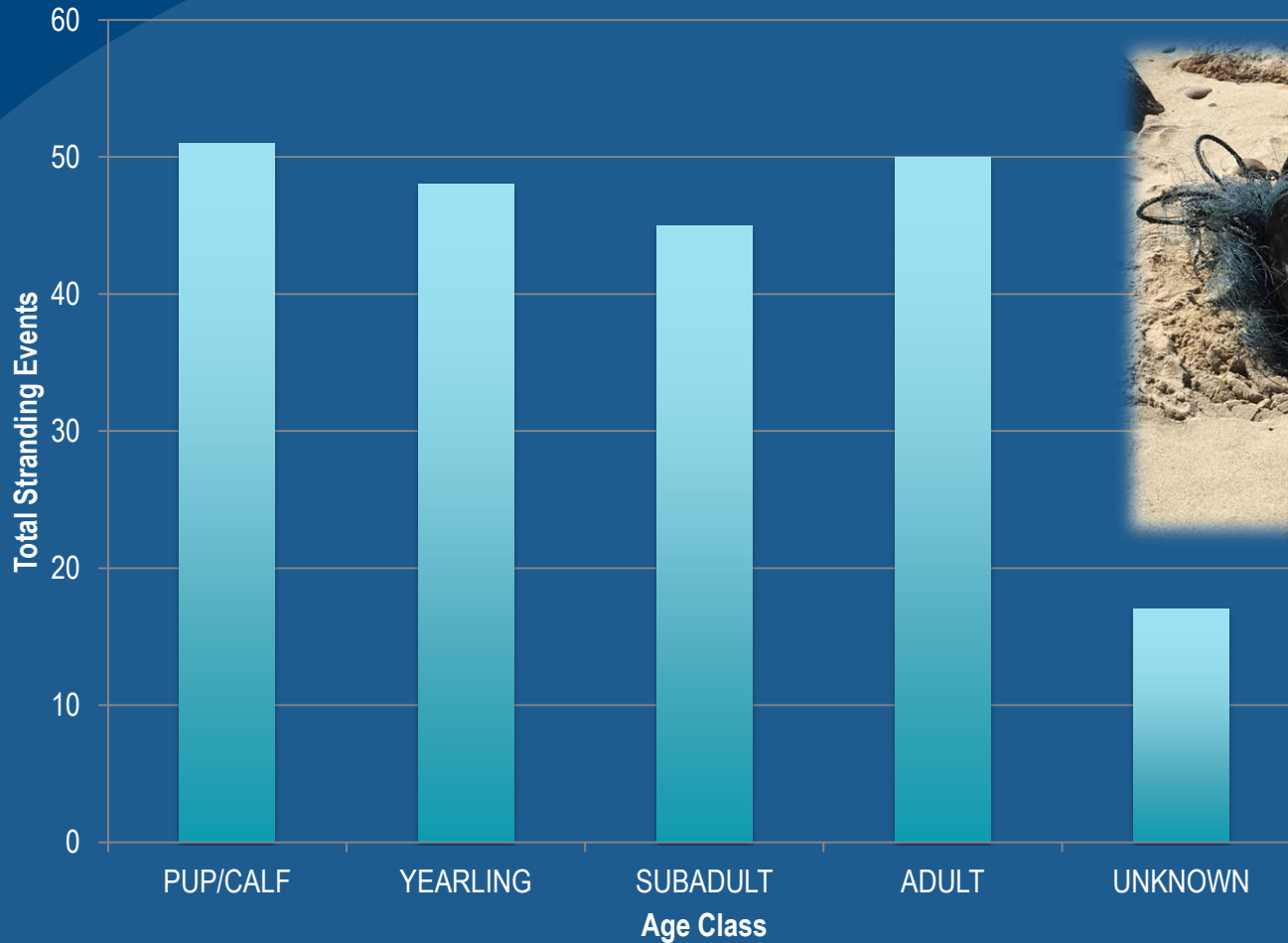
Sex Ratios Gray Seal Fishery Interactions Cases



Regional Gray Seal Stranding Events

Fishery Interaction Findings

Age Class for Gray Seal Fishery Interactions Cases



*March 20, 2017
Recently weaned entangled
gray seal on MV.*

Regional Gray Seal Stranding Events

Fishery Interaction Findings

Sex / Age Class Comparison Gray Seal Fishery Interactions



Fishery Interactions: What we know...

Bycatch ↑ / Entanglements – Increasing?



Haul-outs and Free-swimming seals

- Localized research projects / survey efforts.
- No standardized data collection / storage across the Region.

Dead / Live Stranded Seals

- Quantified for dead and live responses.
- Occurring in all ages classes and in both Males and Females.

Fishery Interactions: Moving Forward...

Discussions among a large collaborative network identifying data gaps:

- Better understanding gray seal interactions with active fishing gear
 - ↳ Inform research on effective deterrent methods
- Identifying what questions current data sets can address
 - Refinement of regional data collection protocols
 - Collaboration with researchers conducting survey efforts / photo identification
- Continuation and enhancement of pro-active disentanglement projects at the population level
 - Manual and remote sedation disentanglement attempts at haul-outs
 - Expanding methodology to other geographic areas in the region

Acknowledgements

Northeast Fisheries Observer Program
Greater Atlantic Region Marine Mammal Stranding Network

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Photo: National Marine Life Center



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