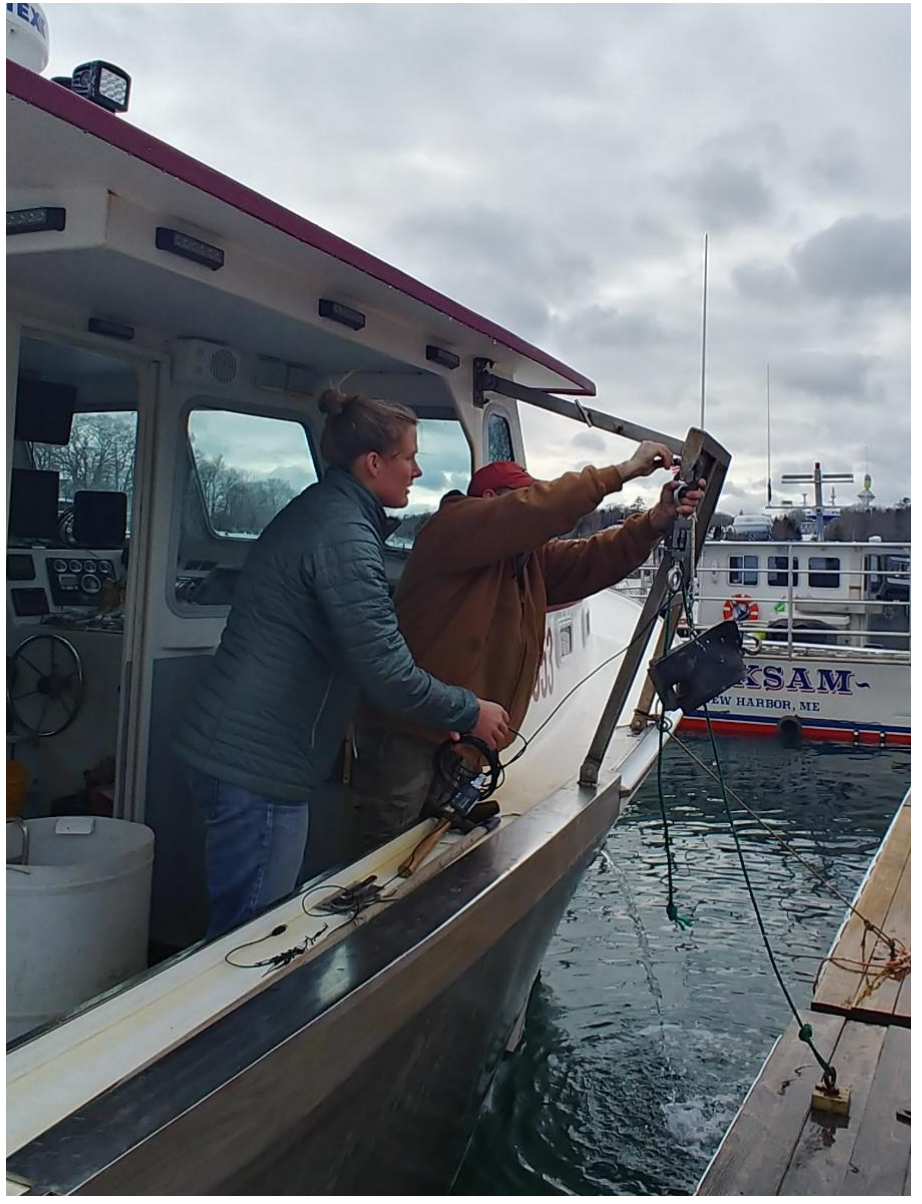
North Atlantic right whales
&
fixed gear fisheries

Caitlin Cleaver
FB Environmental Associates
Beaches Conference
June 14, 2019

Outline

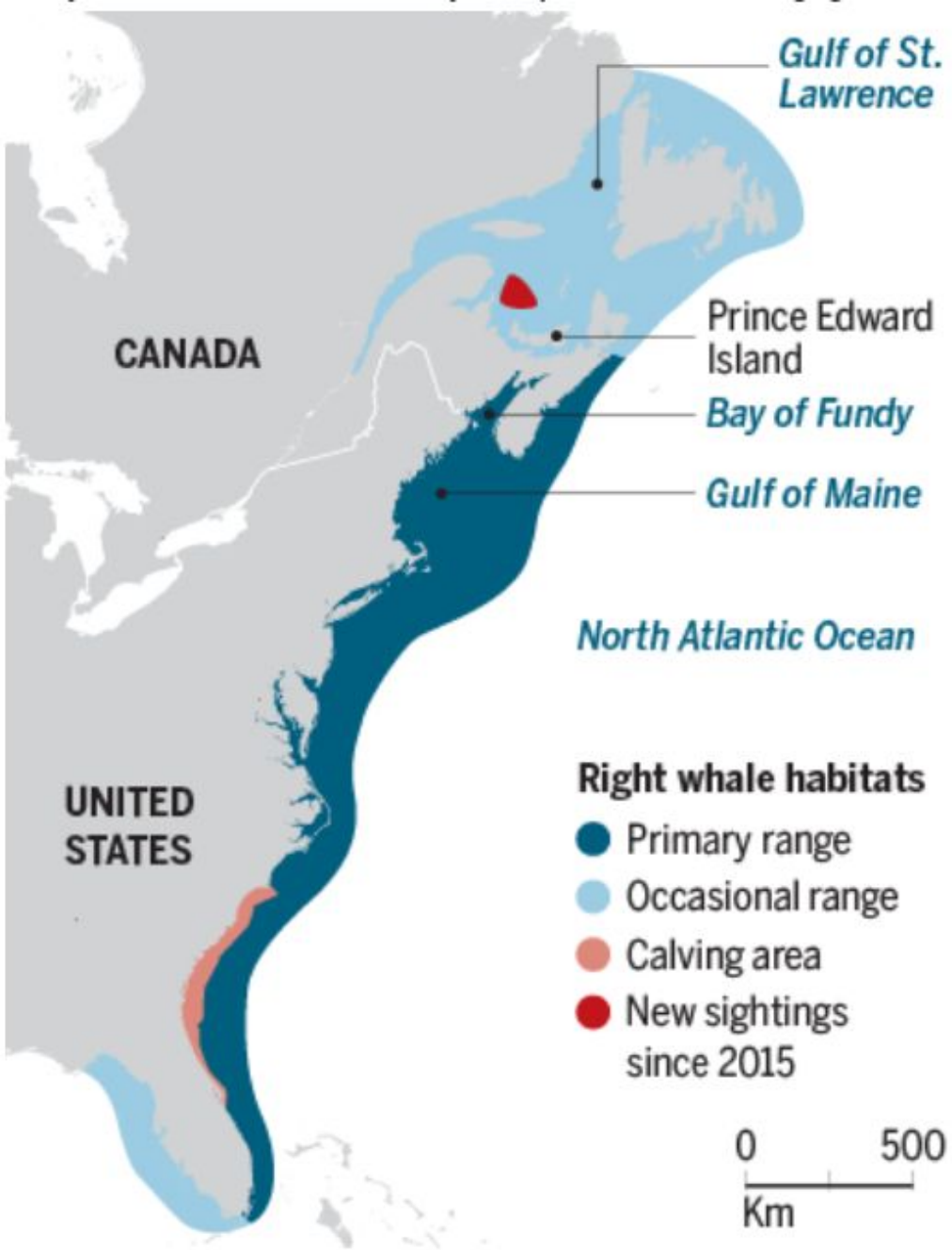
1. Interaction between right whales & fisheries
2. Vertical line characterization project
3. Summary & implications for regulations



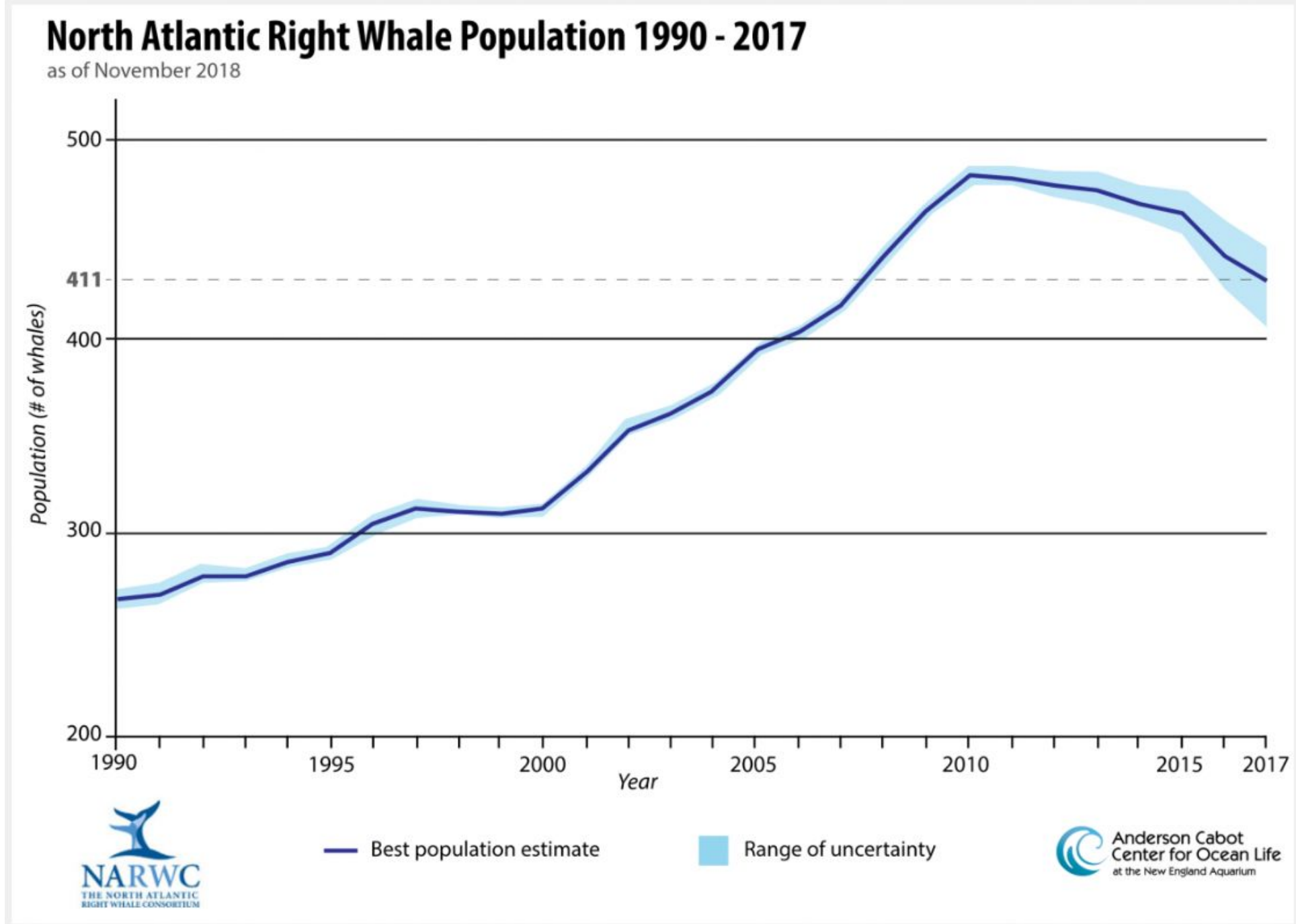
North Atlantic Right Whale

Eubalaena glacialis

Source: www.fisheries.noaa.gov/species/north-atlantic-right-whale



CREDITS: (MAP) J. YOU/*SCIENCE*; (DATA) NOAA/FISHERIES AND OCEANS CANADA



Source: www.andersoncabotcenterforoceanlife.org/blog/2018-right-whale-report-card/

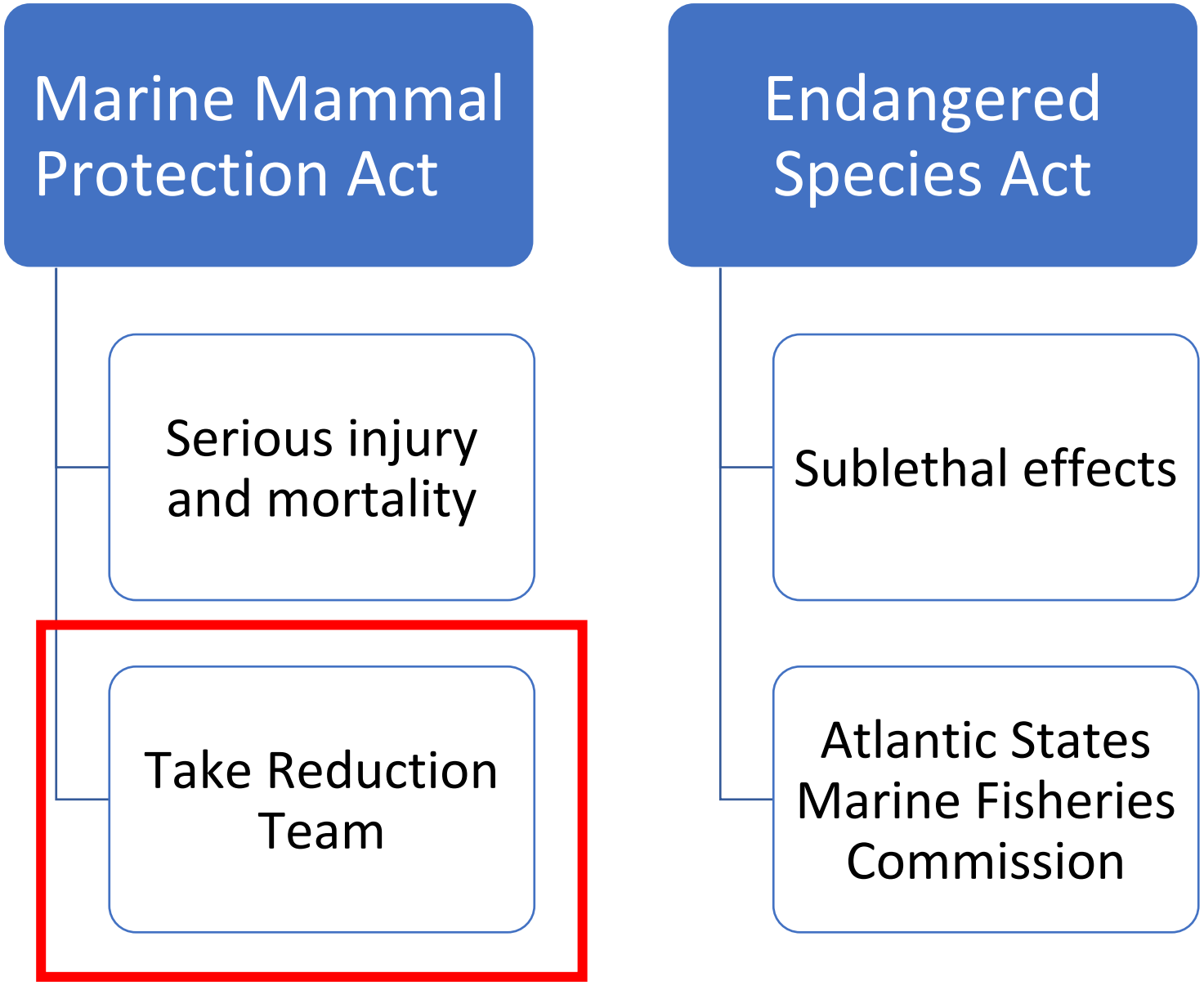
Fisheries interactions

- 2010-2014: 82% of deaths due to entanglement
- 83% entangled at least once

NOAA panel backs sharp curbs on lobster lines that imperil right whales

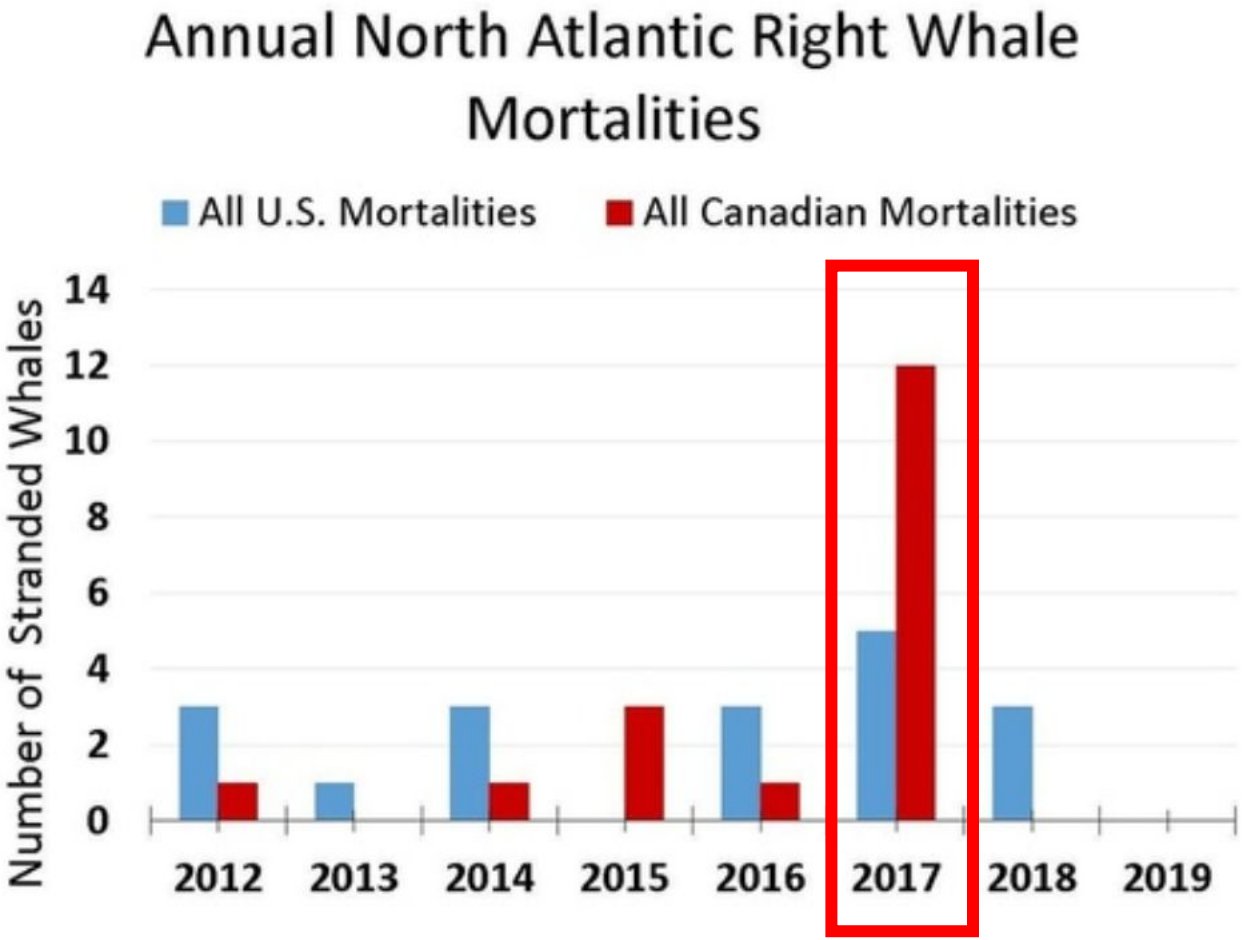
By David Abel Globe Staff, April 26, 2019, 3:48 p.m.

Regulatory protection



Take Reduction Team (TRT)

- Est. in 1996 by NOAA's National Marine Fisheries Service
- Charged with reducing risks to large whales
- Revise ALWTR implementation plan regularly



Source: www.fisheries.noaa.gov/national/marine-life-distress/2017-2019-north-atlantic-right-whale-unusual-mortality-event

Regulatory options

- Goal: ***Reduce risk by 60%***
  - Decrease # of vertical lines
  - Weak rope
  - Gear modifications

New regulations are a matter of life and extinction for right whales

By David Abel Globe Staff, April 20, 2019, 5:25 p.m.

Regulators Consider New Rules On Fishermen To Protect Right Whales

By FRED BEVER • APR 22, 2019

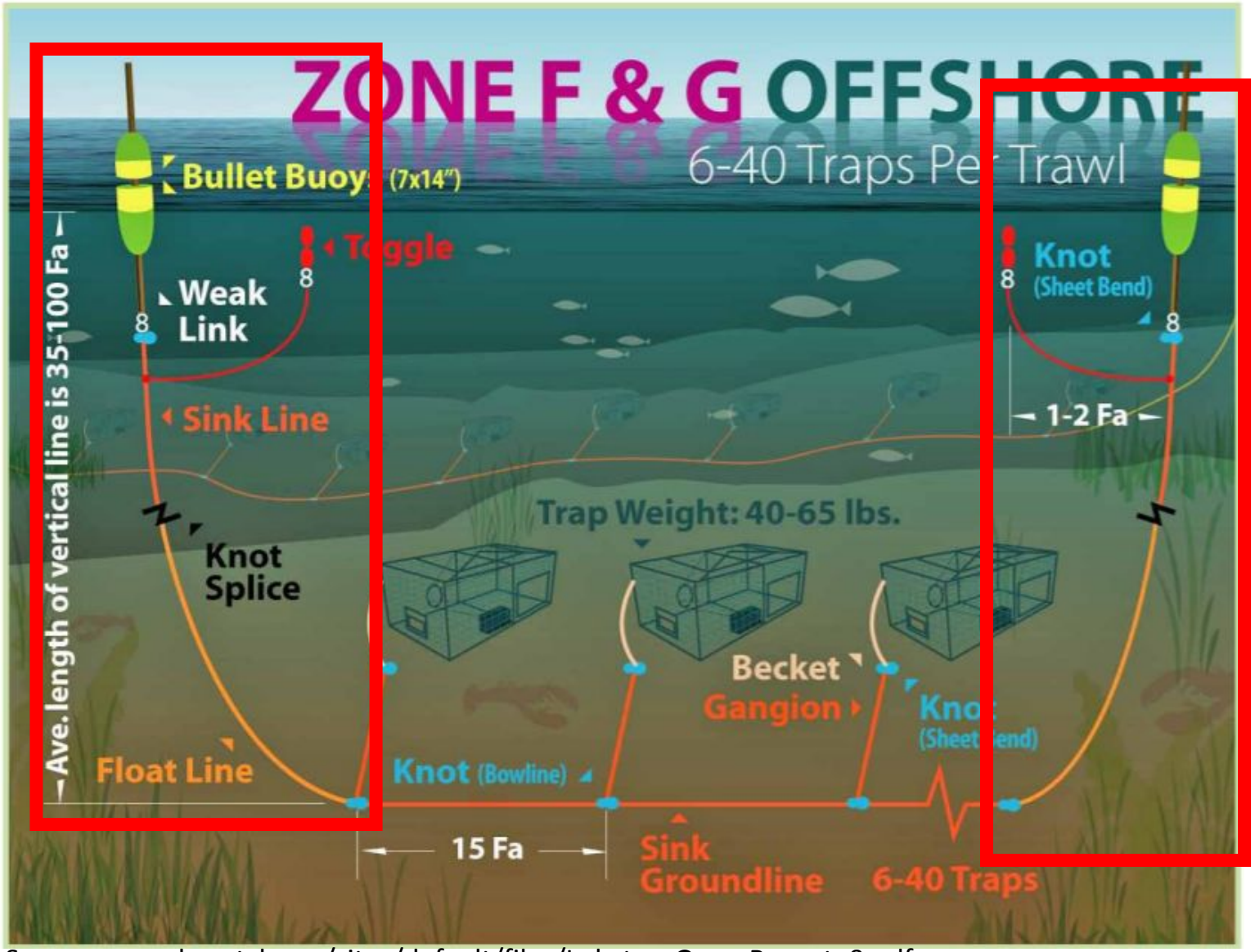
Zone C Whale Meeting

Thursday, June 6, DI– Stonington Elementary School

(Reach Performng Arts Center), 249 N.Deer Isle

*****6 pm ******

Vertical line characterization



Source: www.bycatch.org/sites/default/files/Lobster_Gear_Report_0.pdf

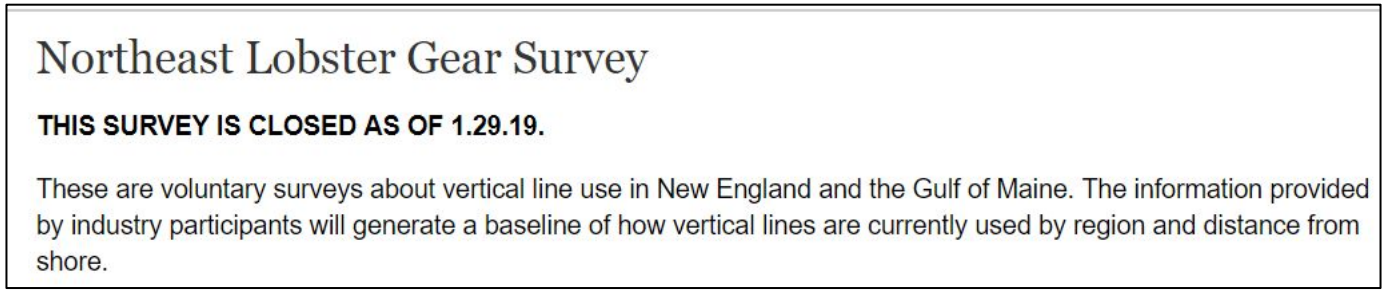
Collaborators

NOAA's Section 6 Grants to States

- State agency partners: RI, CT, MA, NH, ME
- Industry partners:
  - Maine Lobstermen's Association
  - Massachusetts Lobstermen's Association
  - Atlantic Offshore Lobstermen's Association
- Other:
  - FB Environmental Associates
  - University of Maine

Methods: Survey

- Data:
  - Area fished
  - Traps per trawl
  - Vertical line configuration
- Mode:
  - Online
  - Phone interviews



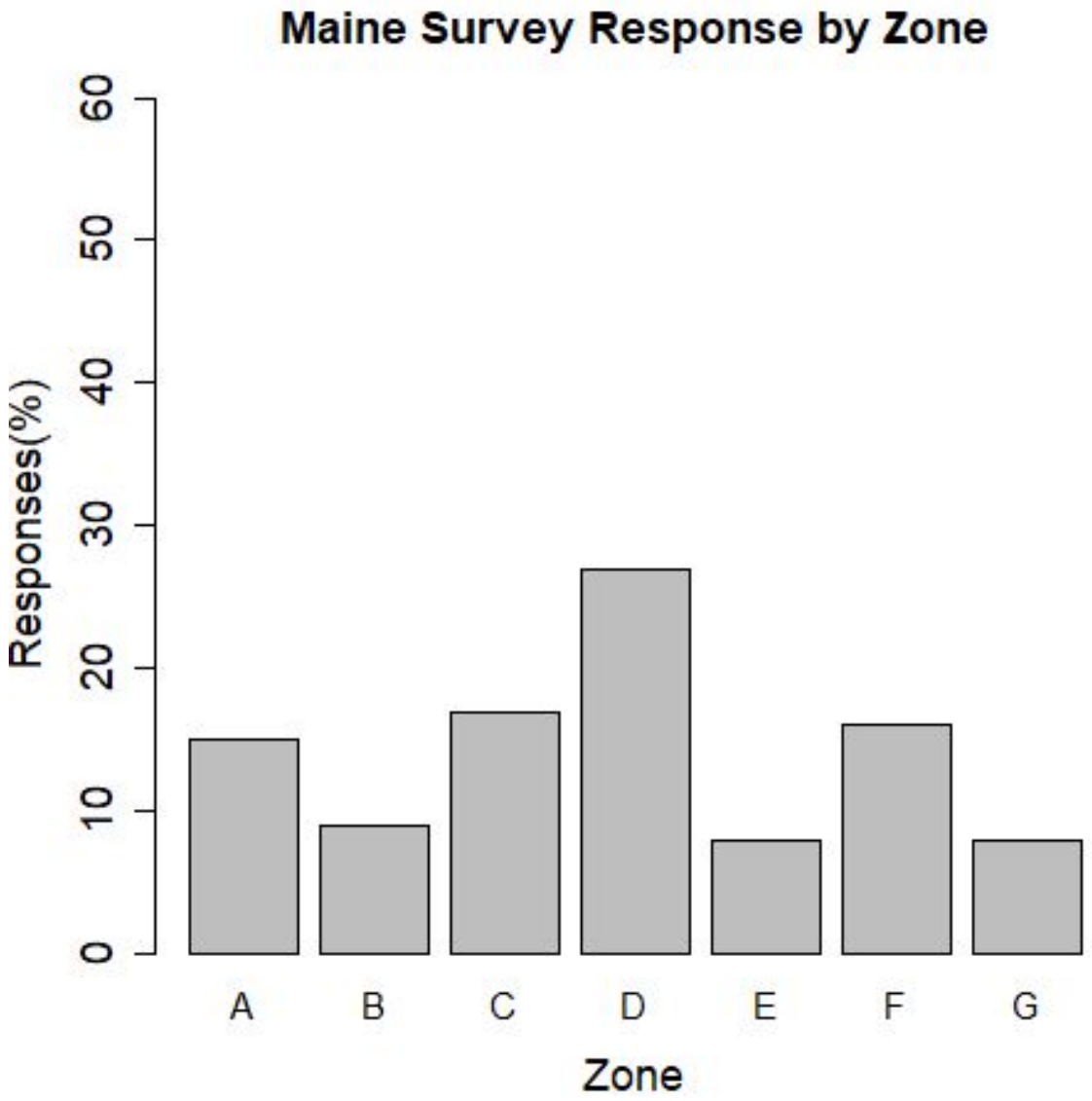
Northeast Lobster Gear Survey

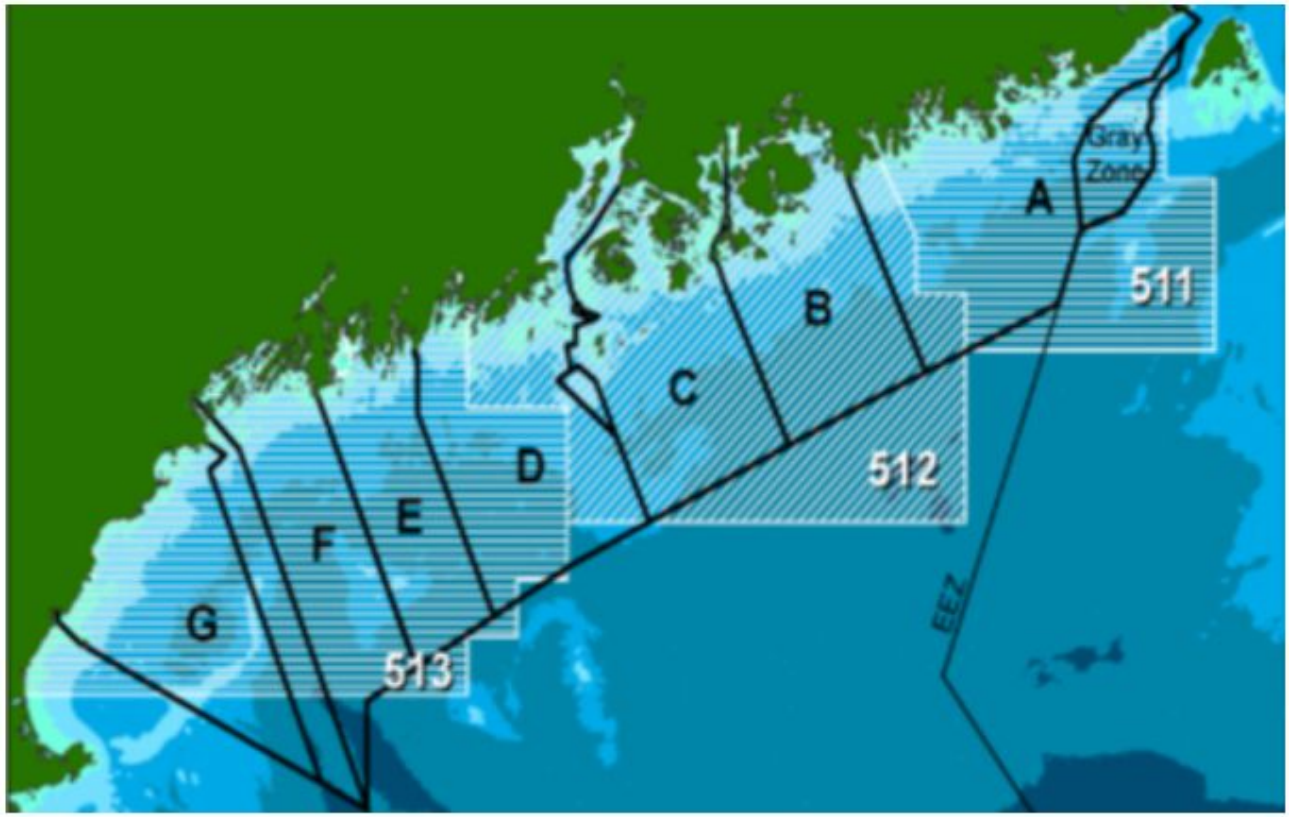
THIS SURVEY IS CLOSED AS OF 1.29.19.

These are voluntary surveys about vertical line use in New England and the Gulf of Maine. The information provided by industry participants will generate a baseline of how vertical lines are currently used by region and distance from shore.

State	Number of Responses
ME	647
MA	139
NH	57
RI	13
Offshore	11

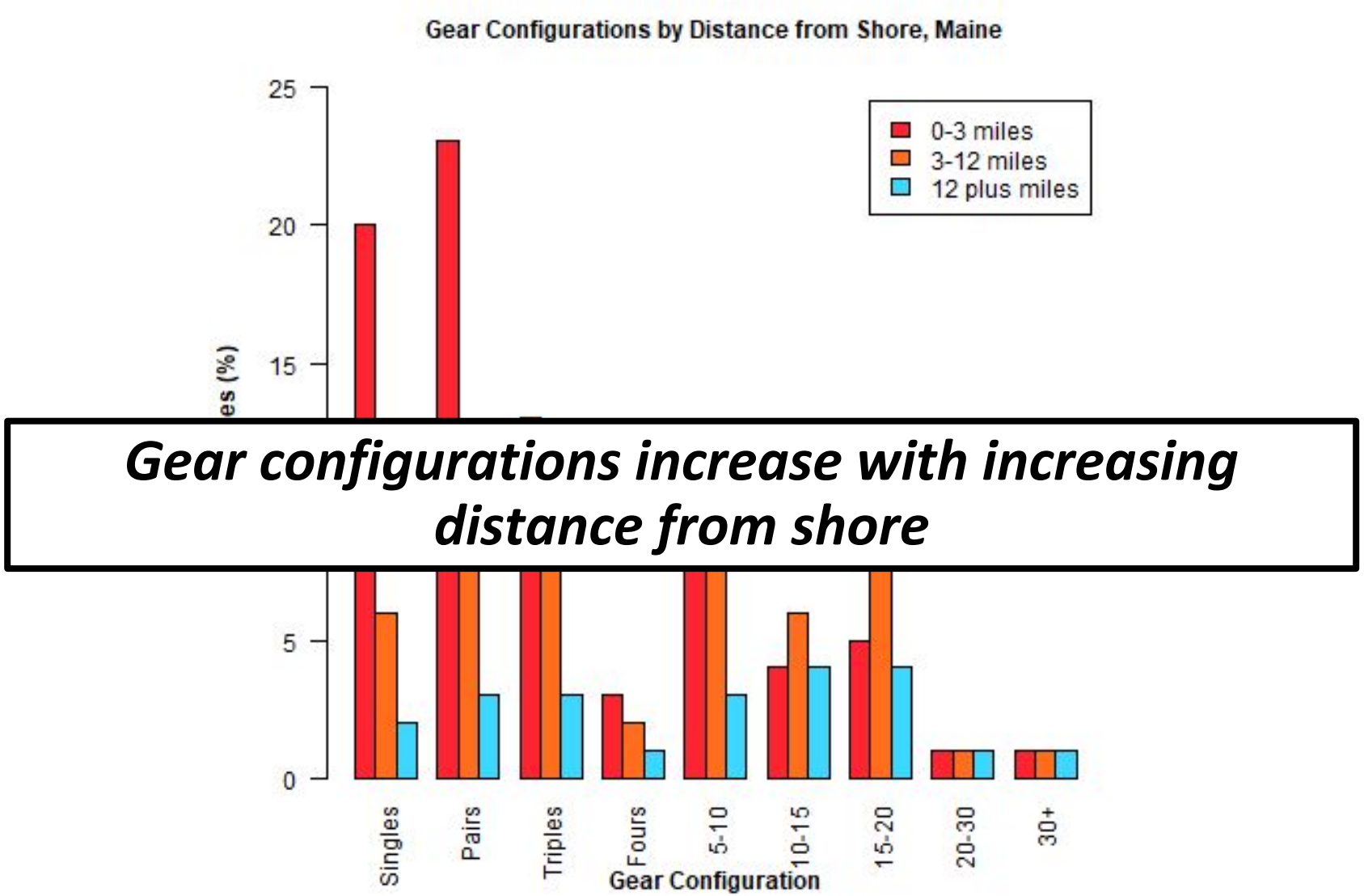
Preliminary results: Survey





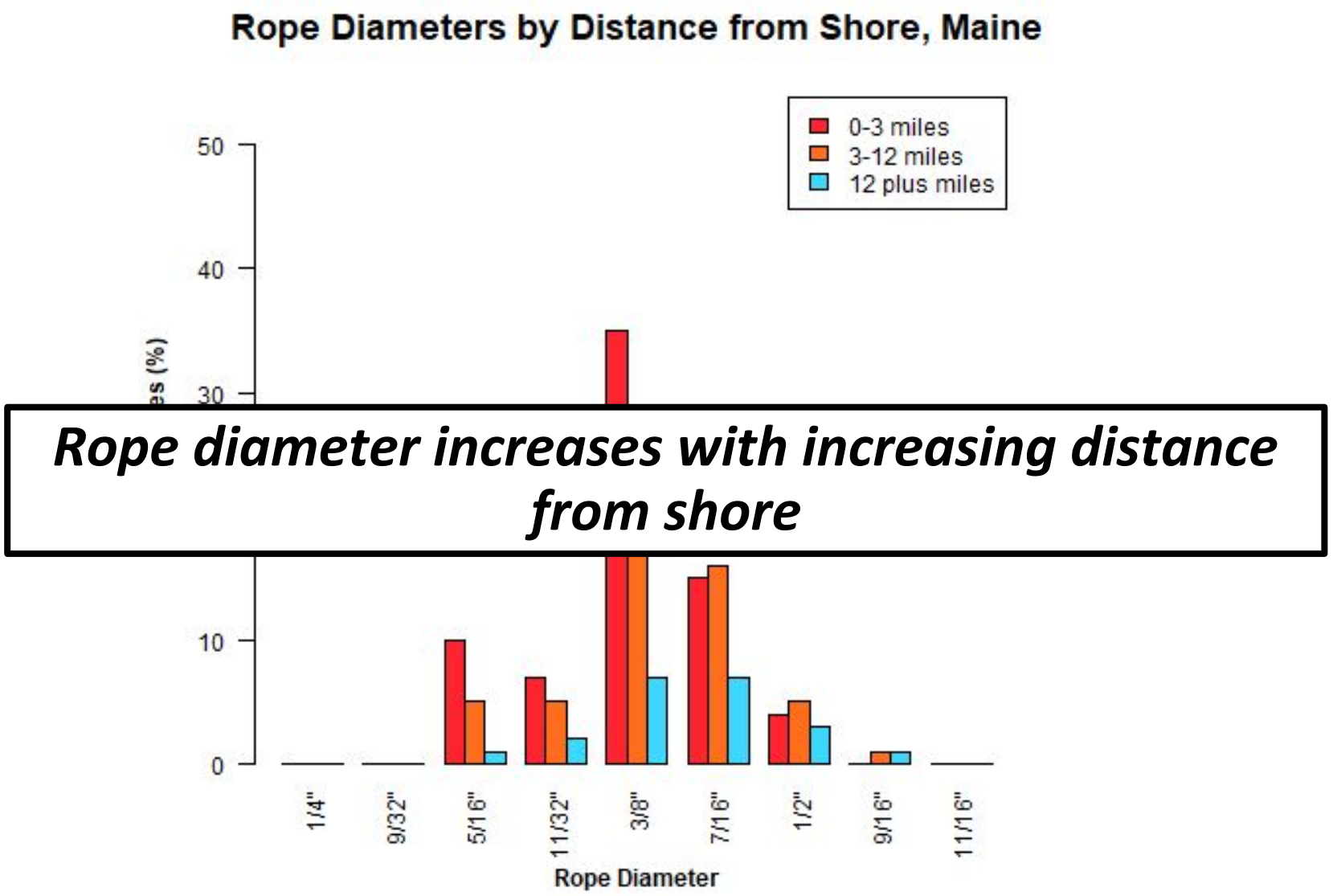
Source: www.maine.gov/dmr/scienceresearch/species/lobster/seasampling.html

Preliminary results: Survey



Gear configurations increase with increasing distance from shore

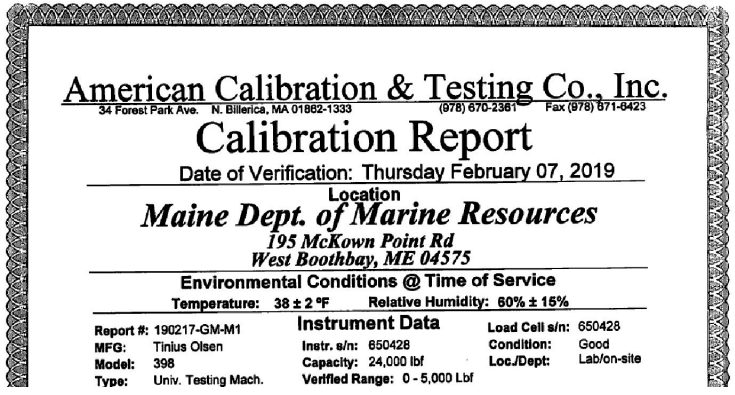
Preliminary results: Survey



Rope diameter increases with increasing distance from shore

Methods: Testing breaking strength

- Collecting vertical line samples
- Data collected:
  - Area fished
  - Average traps per trawl
  - Rope type
  - Rope diameter
  - Seasons fished
- 215 tests so far



American Calibration & Testing Co., Inc.
34 Forest Park Ave. N. Billerica, MA 01862-1333 (978) 670-2361 Fax (978) 671-6423

Calibration Report

Date of Verification: Thursday February 07, 2019

Location
Maine Dept. of Marine Resources
195 McKown Point Rd
West Boothbay, ME 04575

Environmental Conditions @ Time of Service
Temperature: 38 ± 2 °F Relative Humidity: 60% ± 15%

Instrument Data

Report #:	190217-GM-M1	Instr. s/n:	650428	Load Cell s/n:	650428
MFG:	Tinius Olsen	Capacity:	24,000 lbf	Condition:	Good
Model:	398	Verified Range:	0 - 5,000 Lbf	Loc./Dept:	Lab/on-site
Type:	Univ. Testing Mach.				

Preliminary results: Breaking strength

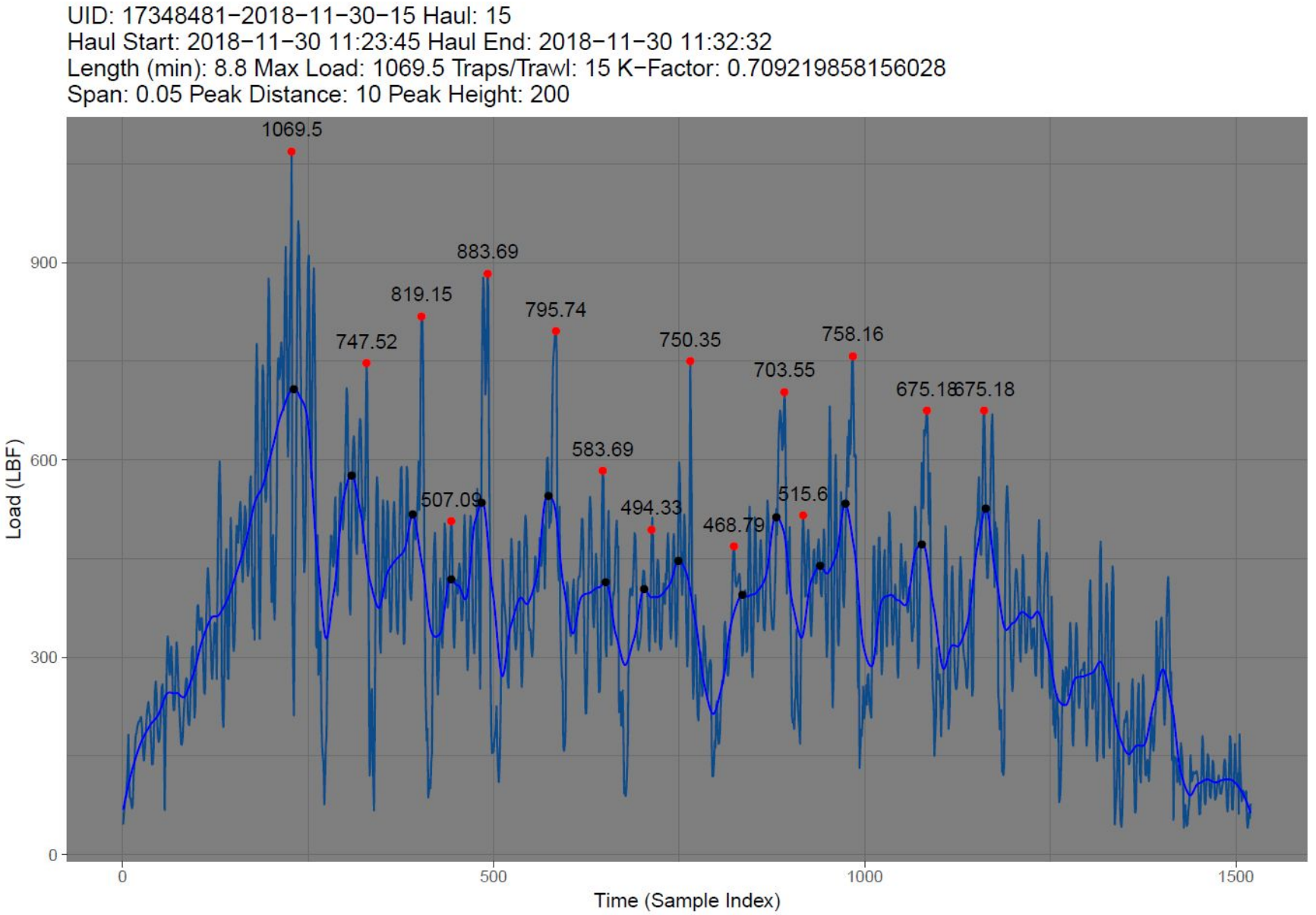
Smaller the diameter, the lower the breaking strength

Knots and splices lower the breaking strength and breaks will occur at these points

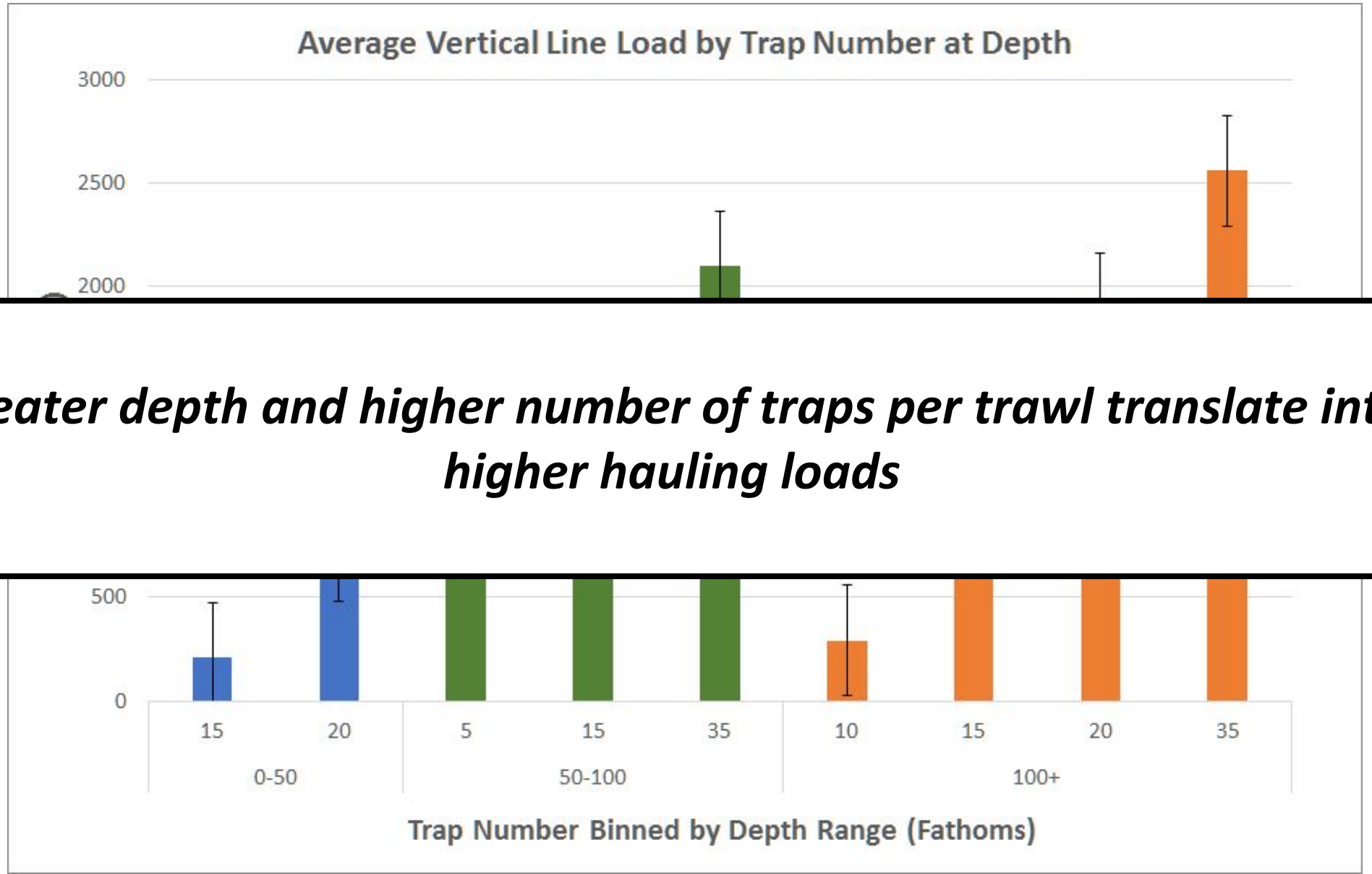
Methods: Hauling loads

- Document hauling loads under varying conditions and gear characteristics
  - Information recorded:
    - Area fished
    - Traps per trawl
    - Depth range fished
    - Length of groundline
    - Vessel size
    - Weather and tide
    - Events such as set overs and hang downs
  - 11 fishermen have participated to date

Methods: Hauling loads



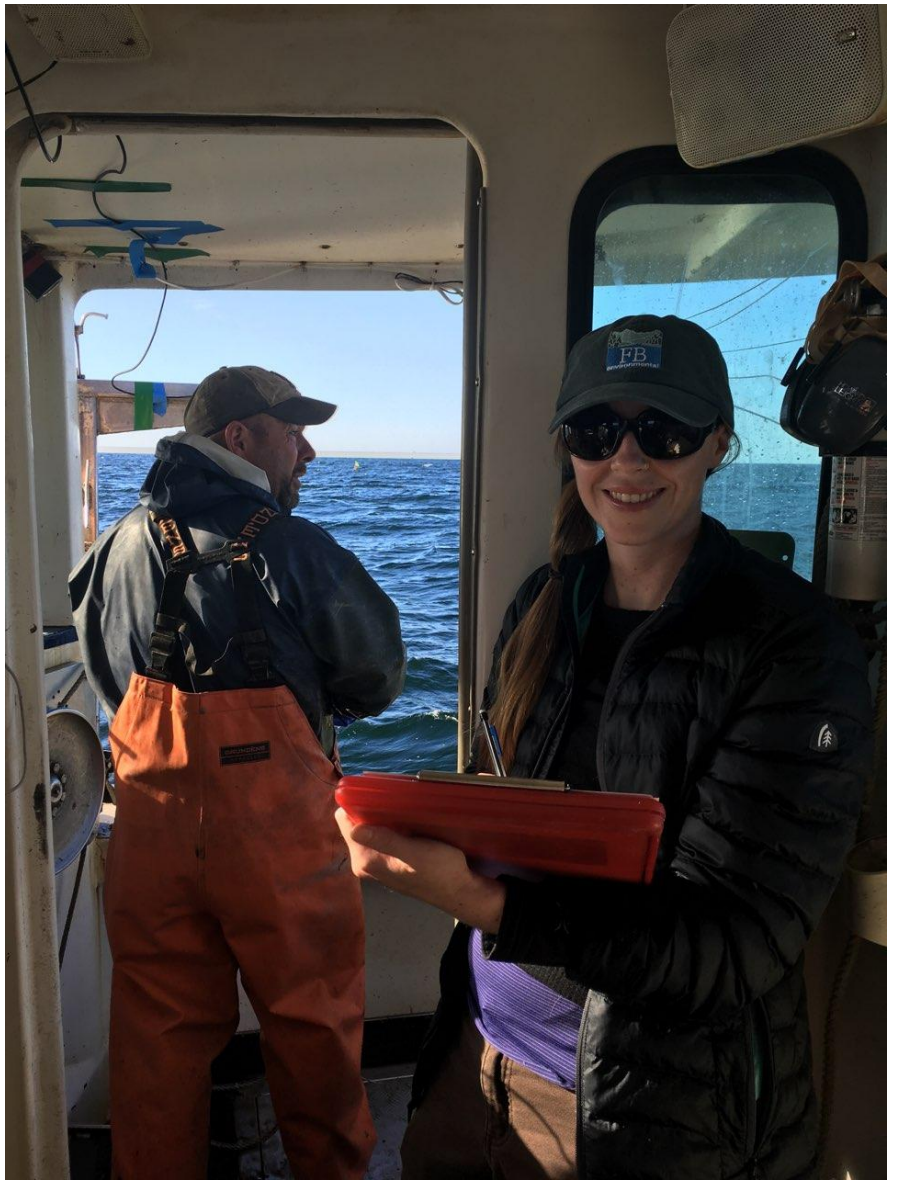
Preliminary results: Hauling loads



Greater depth and higher number of traps per trawl translate into higher hauling loads

Summary

- Rope diameter and traps per trawl increase with increasing distance from shore
  - *Regulations could be tailored to areas with greatest risk to whales*
- Knots and splices lower breaking strength
  - *Fishermen may already be fishing rope that meets goal of 1700 lb breaking strength*
- Depth fished and traps per trawl influence load most
  - *Regulations need to consider max hauling loads ropes are under to maintain safe fishing operations*



Thank you & questions?