

A scenic photograph of a coastal town built on a hillside overlooking a harbor. The town features several houses, including a prominent red one, and a church. A large white boat is docked at a pier in the foreground, and other smaller boats are visible in the water. The background is a dense forest of evergreen trees under a cloudy sky.

# Lobster Communities, Climate Change, Right Whales

October 2023, SPCE Rotary



**CLIMATE SOLUTIONS**  
**RESILIENT ECONOMIES**  
**STRONG LEADERSHIP**



**ISLAND  
INSTITUTE**



# Overview

- Island Institute Background
- Lobster Community Context
- Science Communication, Climate Change and Gulf of Maine
- Working Waterfront Protection and Preservation
- Shellfish and Seaweed Aquaculture
- Electric Outboards

# Lobstering is important to Maine

- \$725 Million in value to the harvester
- 4,800 lobstermen = 4,800 small business and about 10,000 jobs
- 5,500 jobs in the distribution supply chain
- Lobstering has grown to be the dominant fishery in Maine



\*2021 Numbers, 2022 wasn't as good

## Lobstering is highly concentrated

10 communities account for half of Maine's lobster landings

4 ports see 25% of the landings

20% of the ~5000 licenses are held by people living in 5 communities

In year-round island communities, most have more than 10% of residents holding lobster licenses.



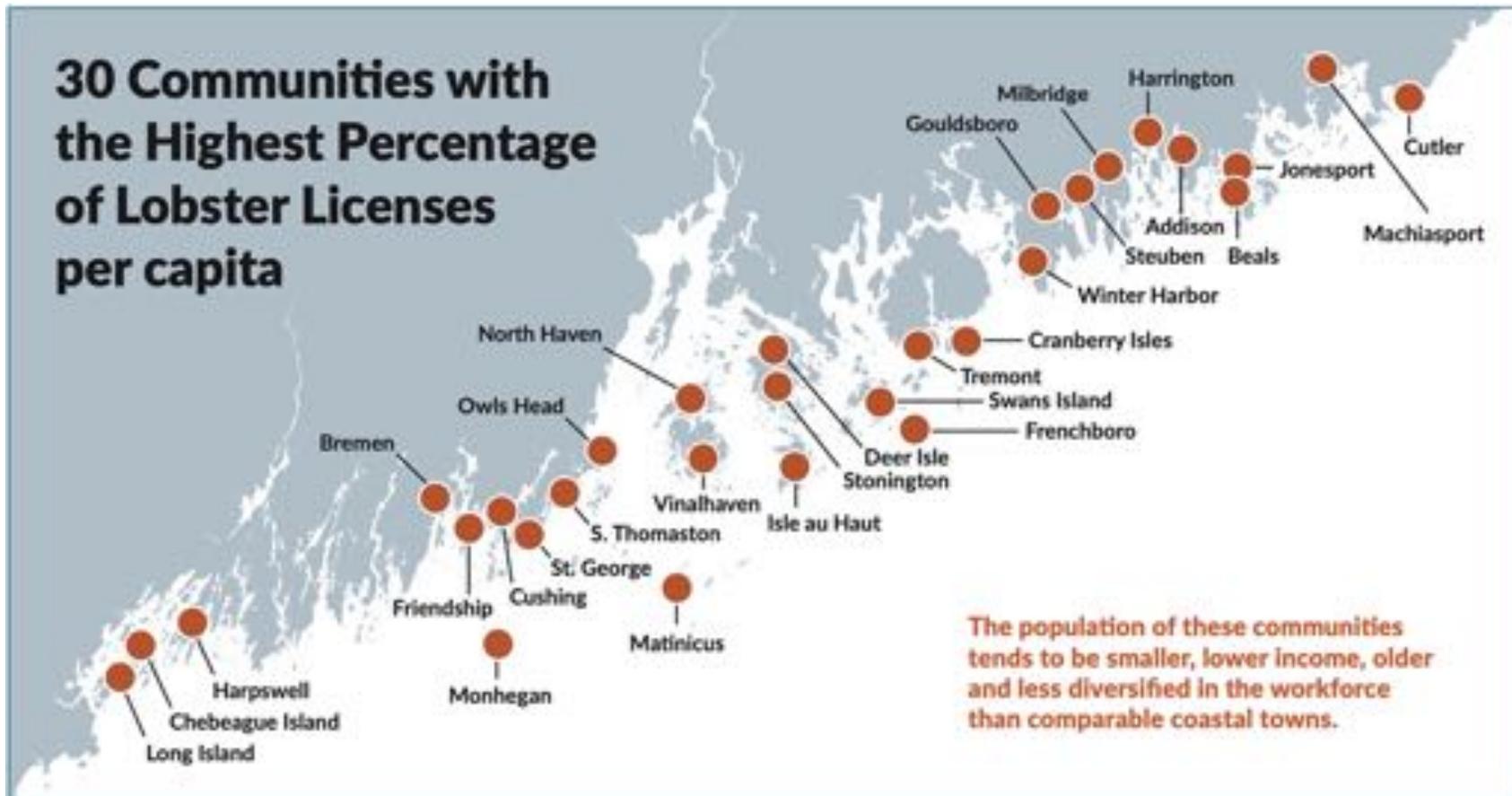
# Lobstering has brought prosperity



Compared to Maine communities with similar demographic profiles, those with high participation rates in the lobster fishery have higher relative incomes and lower levels of poverty.

Vinalhaven Fisherman's Coop

# Lobstering also brings vulnerability

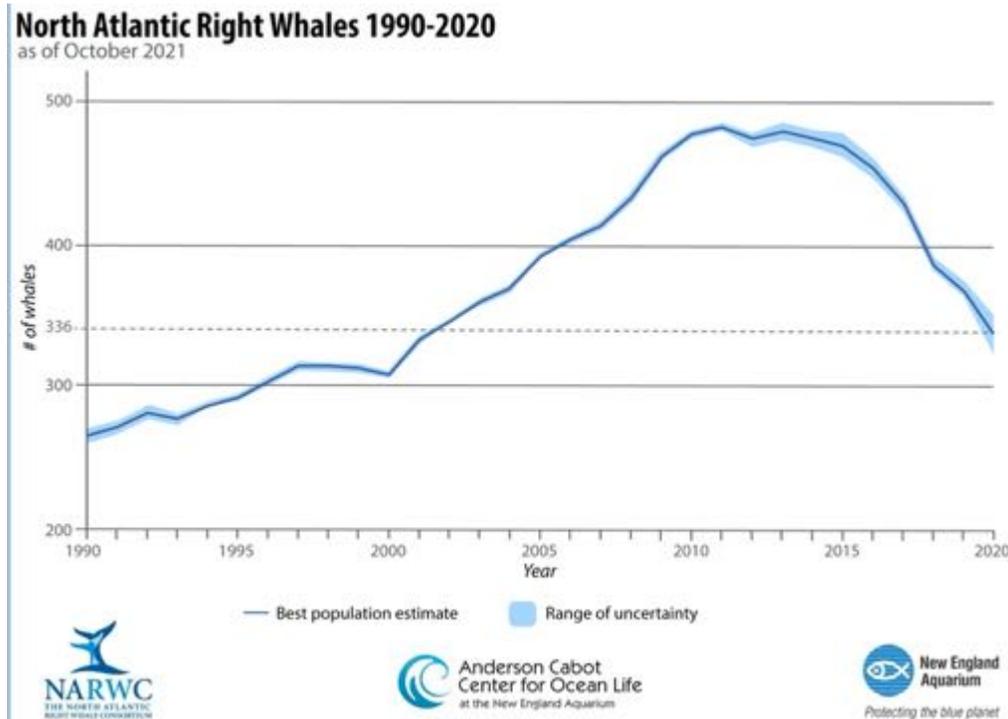


# Climate Change and Right Whales

A MAJOR FACTOR IMPACTING THE FUTURE OF MAINE'S COASTAL COMMUNITIES



# North Atlantic Right Whales are Critically Endangered

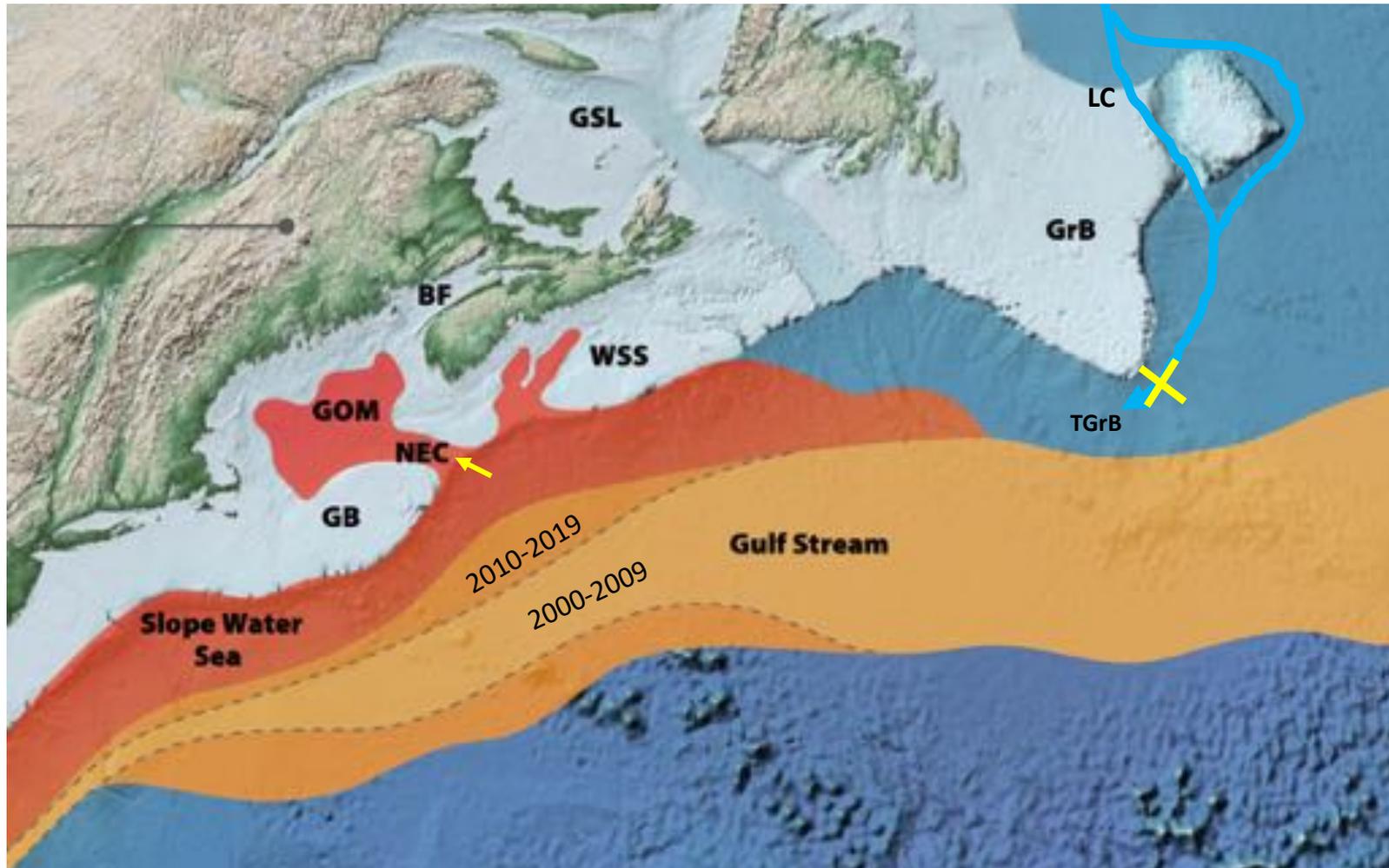


Significant regulatory changes are required to reduce the risk the lobster fishery poses to whales.

Significant risk reduction in the lobster fishery means significant limitations on how, when, and/or where individual lobstermen fish.

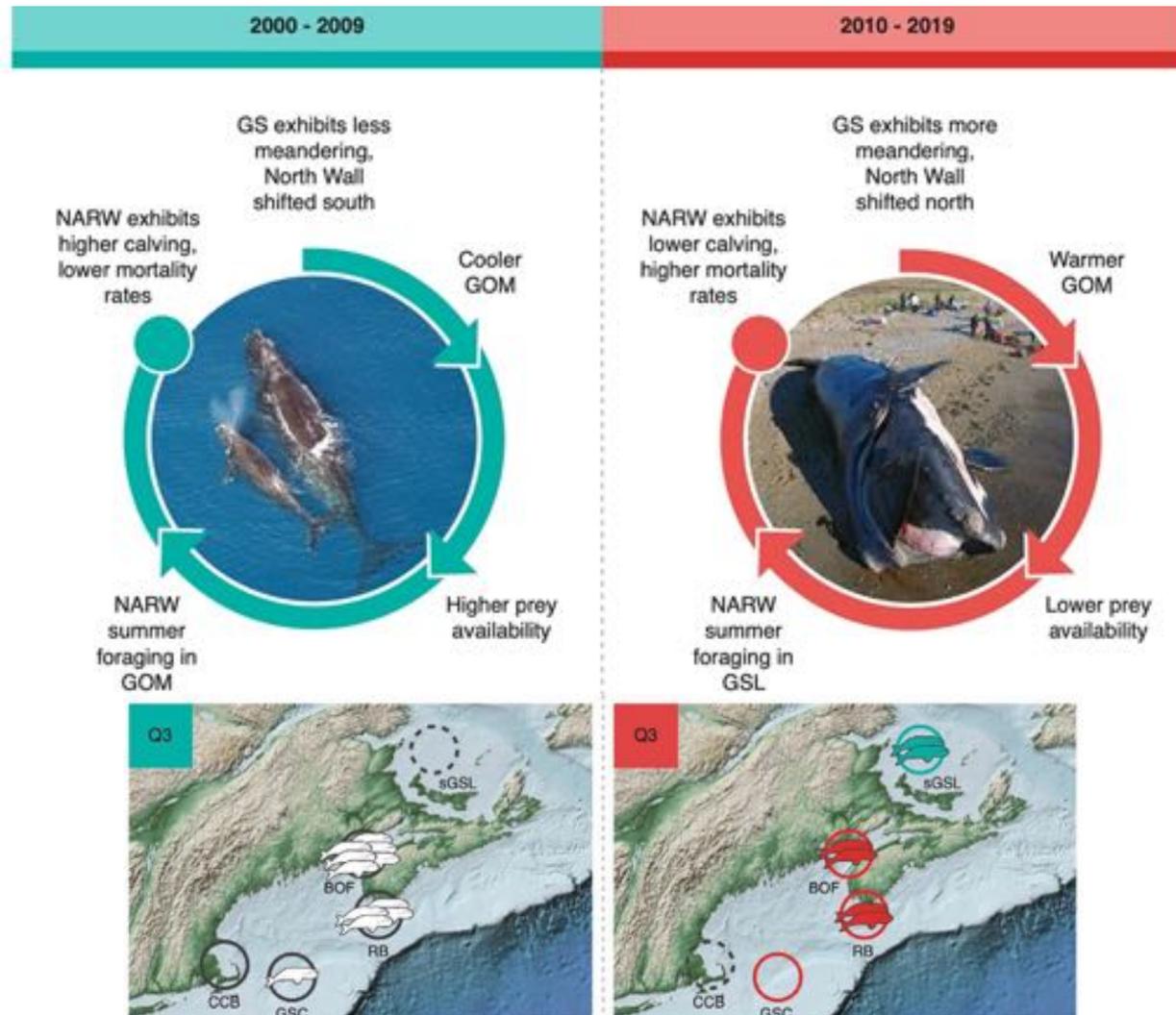
**There is a strong climate signal driving this decline.**

Changes in Ocean Circulation = warmer water entering the Gulf of Maine



(modified from Meyer-Gutbrod et al. 2021)

# Impacts of Changing Ocean Conditions on the North Atlantic Right Whale

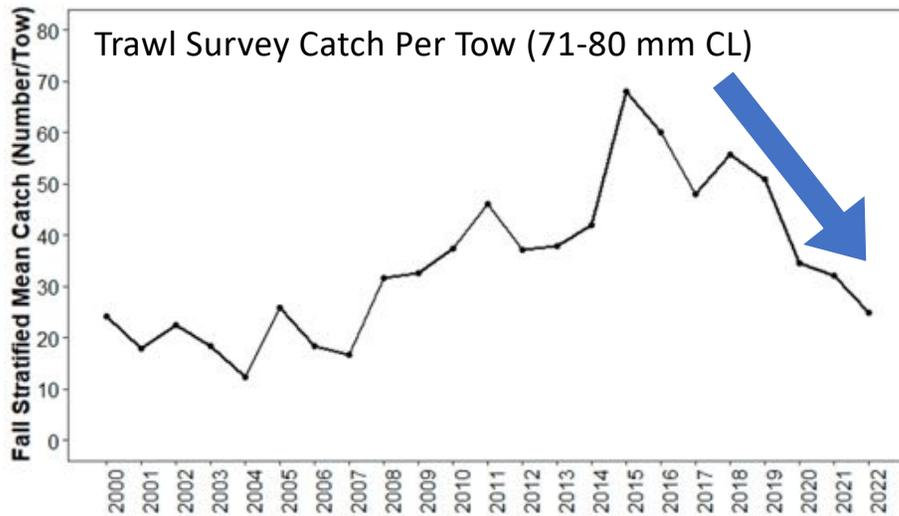
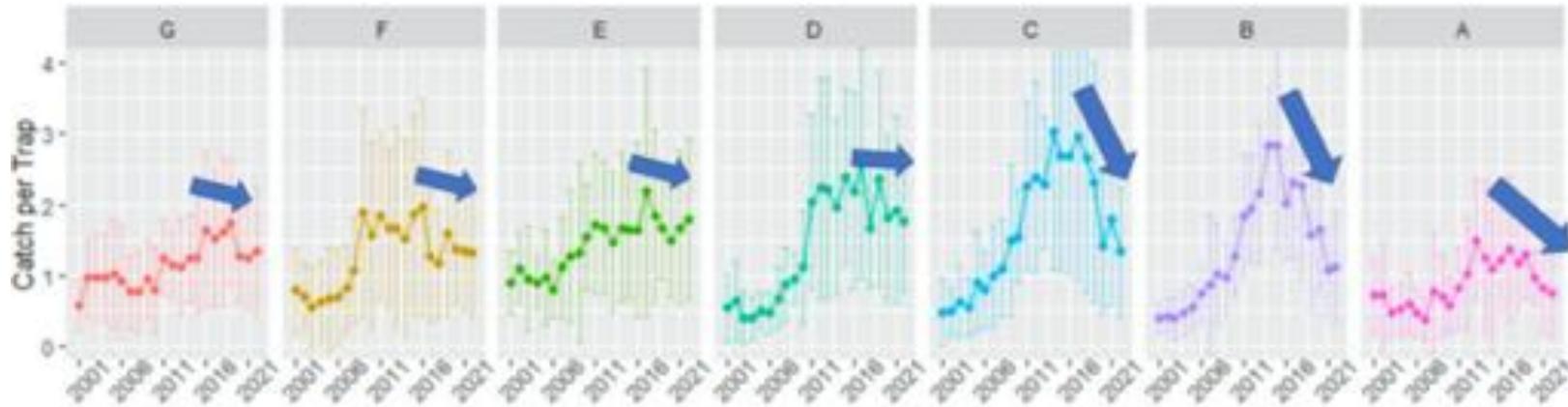


(Meyer-Gutbrod et al. 2021)

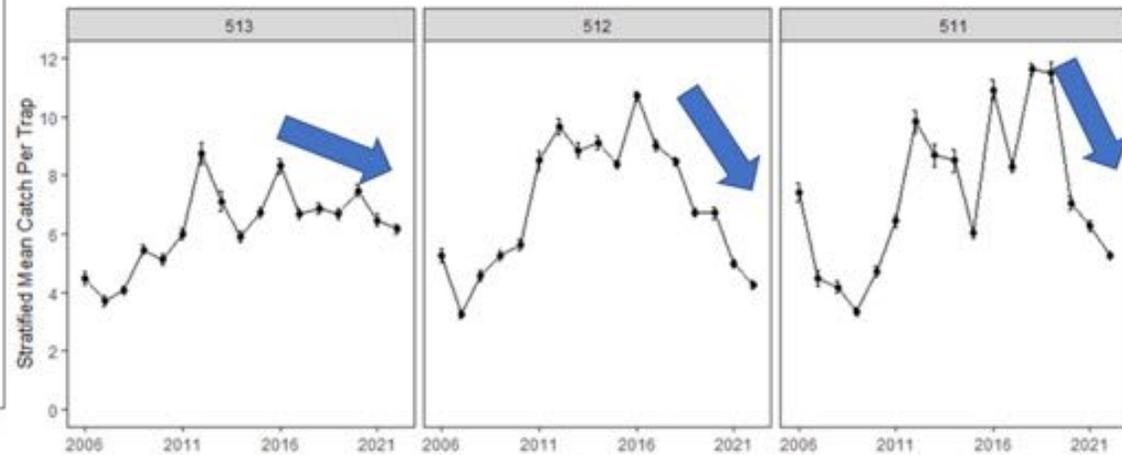
# Sublegal Lobster Survey Results Over Time- Downward Trends

Commercial Sea Sampling: Catch Per Trap by Zone (71-80 mm CL)

(data from Maine DMR)

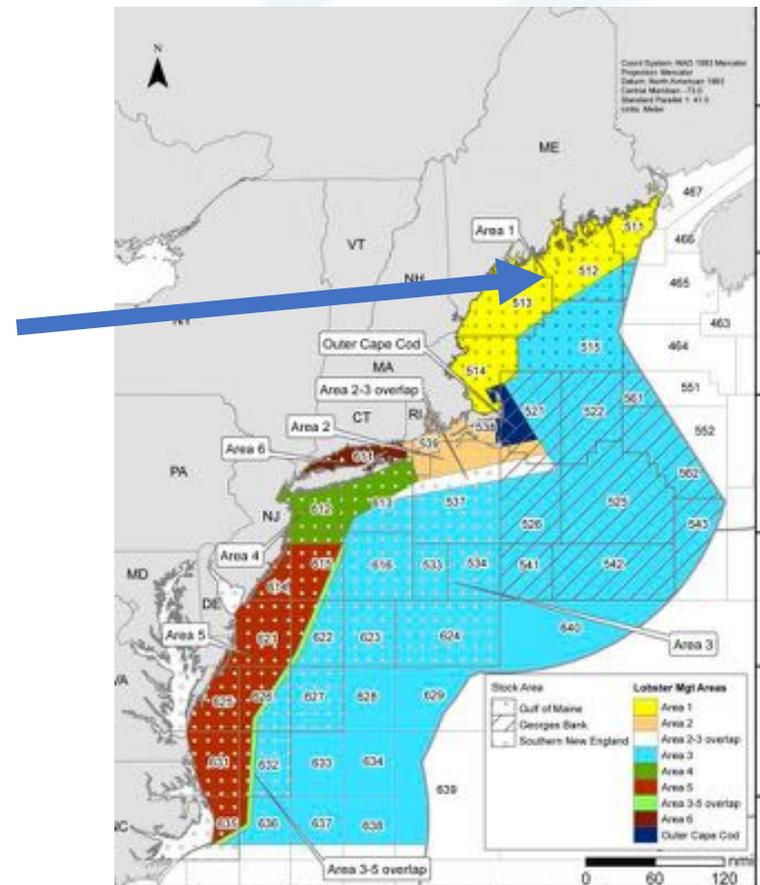


Ventless Trap: Catch Per Trap by Area (71-80 mm CL)



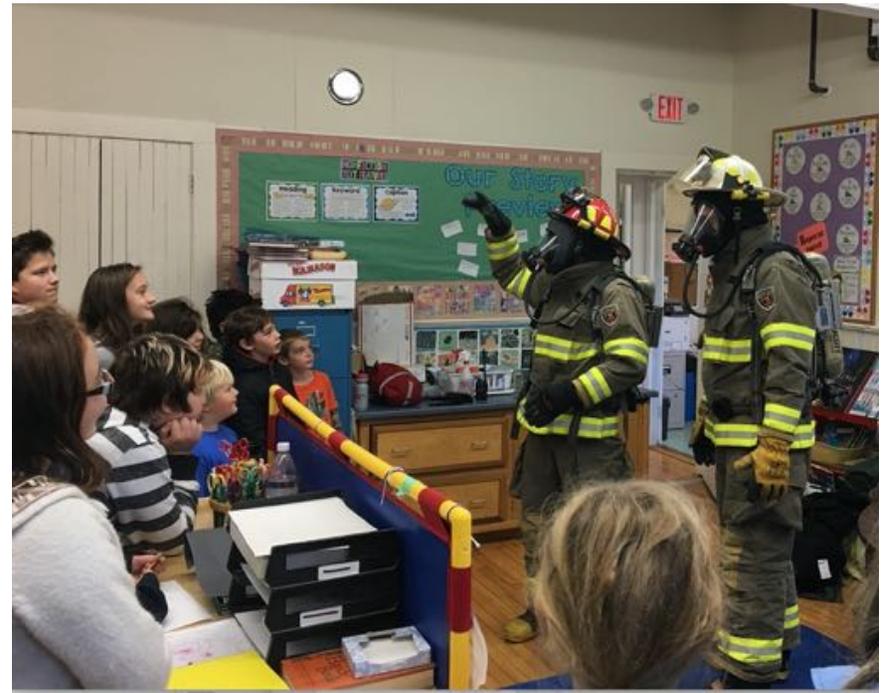
# Lobster Management Connects Science to Communities

- Lobster is managed at the State and Federal level and must comply with all federal laws
- Maine fishermen fish in the yellow area
- Over 80% of all lobsters caught in the US comes from the yellow area
- Interactions with whales triggers
  - Endangered Species Act
  - Marine Mammal Protection Act



# Lobstermen and their families play key roles in coastal communities

- Lobstermen often play multiple formal or informal roles in communities - select board, school board, town committees, local nonprofit boards, etc.
- Some volunteer fire and EMS departments have a lot of fishermen.
- Fishing families often have kids in local schools.



Little Cranberry Island/Islesford, School



# Snapshots of the Future

If Given a chance, Maine's Communities can be resilient



## Working Waterfronts

Coop, Little Cranberry Island/Islesford



J.O. Brown, North Haven



Community Shellfish, Breman



# Shellfish and Seaweed Aquaculture

Adam Campbell, North Haven (Pulpit Harbor)



Krista Tripp, Aphrodite Oysters, Spruce Head

Instagram post header with a blue background and white text.

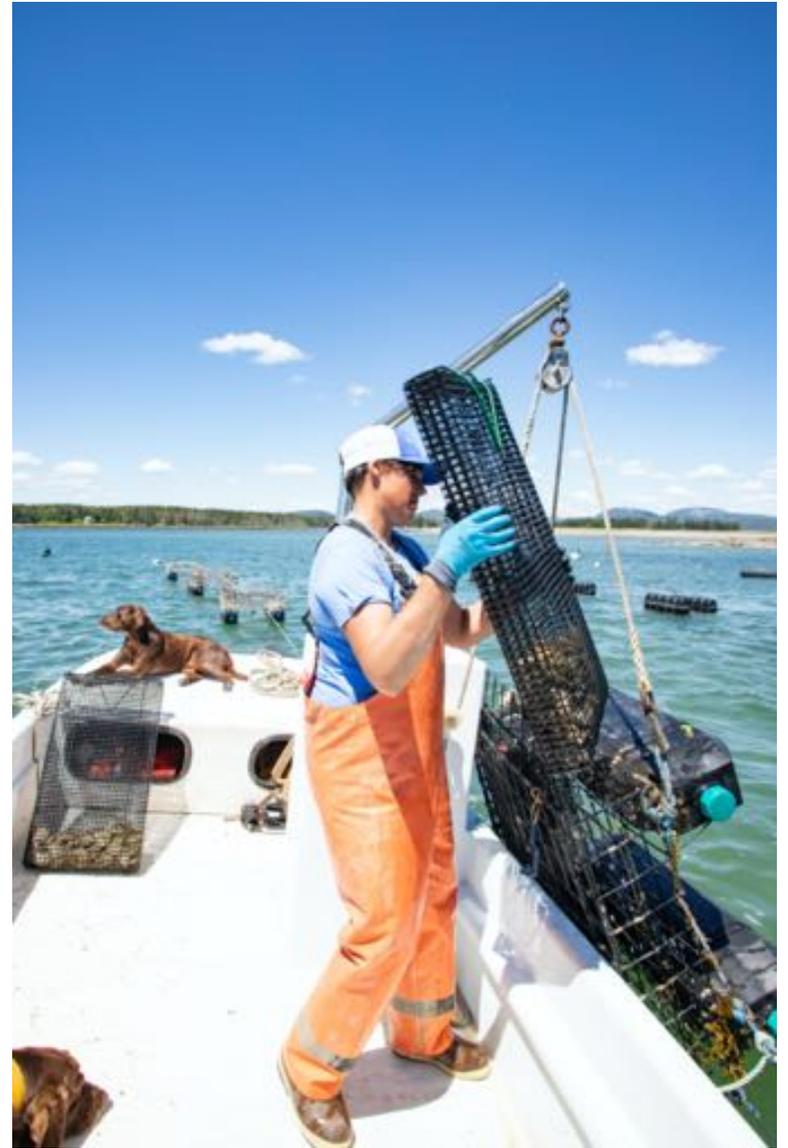


cranberryoysters

4m



Lauren Gray, Cranberry Oysters







Bob Baines, Kelp, Spruce Head



Bob Baines, Kelp, Spruce Head



## Electric outboards?

Spruce Head Coop

Learn more about electric outboards through a free 90 minute short course provided by the Island Institute, Kennebec Valley Community College, MidCoast School of Technology and other partners .

<https://www.islandinstitute.org/priorities/strong-leadership/workforce-pathways/electric-boat-course/>





*See Take Charge* – in real life on Islesboro

Pendleton Yacht Yard, Dark Harbor