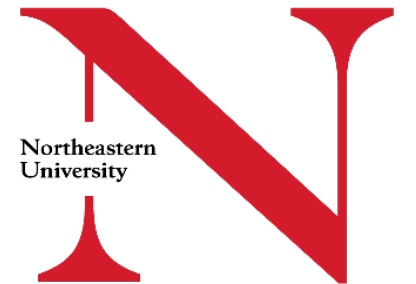


Addressing constraints to shellfish aquaculture through quantifying public perceptions and attitudes along the Atlantic coast U.S.

Kelsey Schultz, Steven Scyphers, Randall Hughes,
David Kimbro, Steve Kirk, Jon Grabowski

MAA 2022

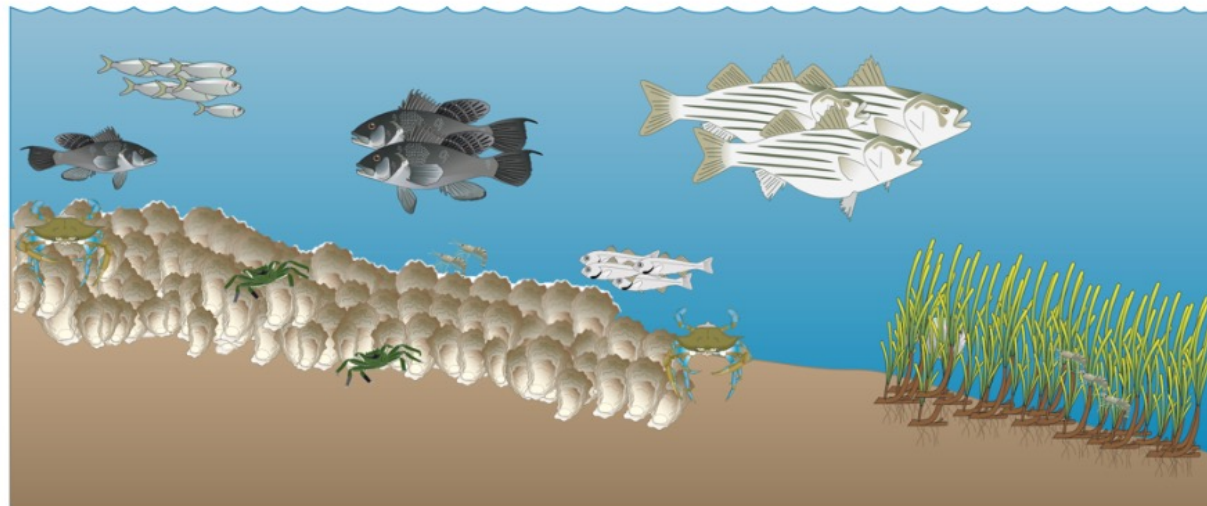


Social ecological systems

Coastal communities



Ecosystem goods & services



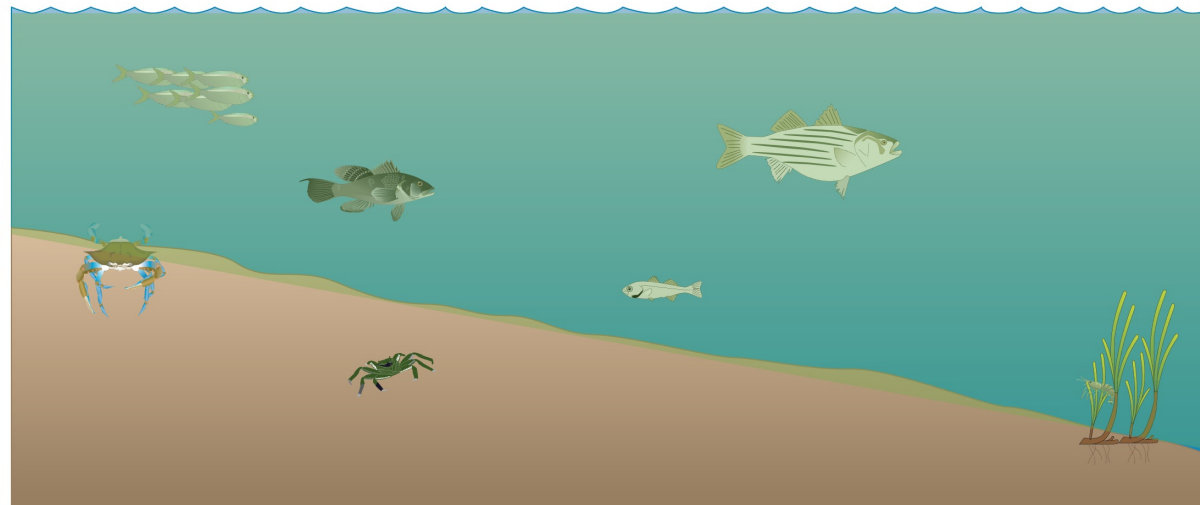
Oyster reef ecosystems

Social ecological systems

Coastal communities



Ecosystem goods & services



Oyster reef ecosystems



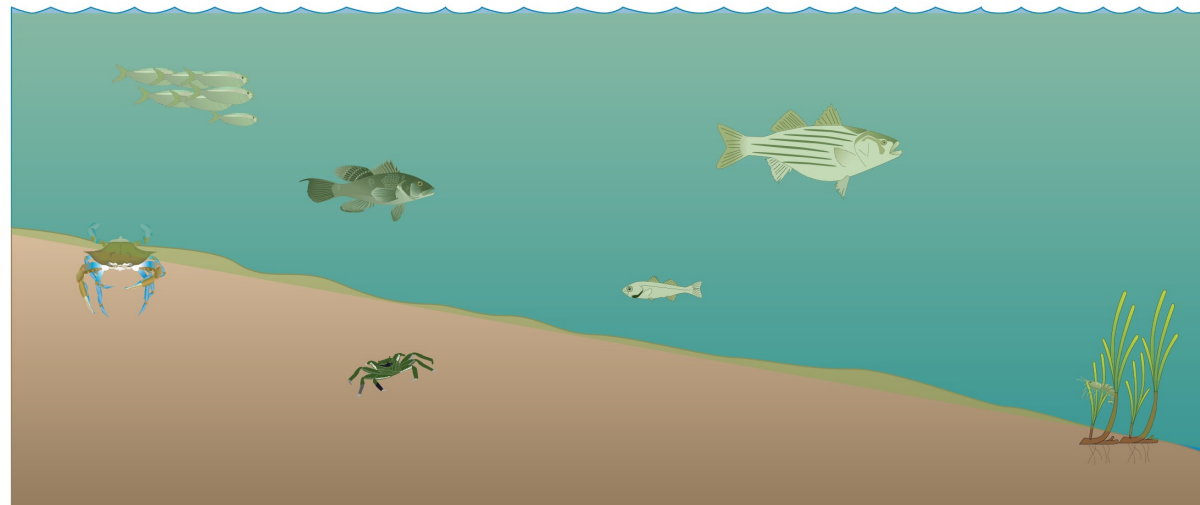
Human impacts & modifying actions

Social ecological systems

Coastal communities



~~Ecosystem goods & services~~



Oyster reef ecosystems



Human impacts & modifying actions

Social ecological systems

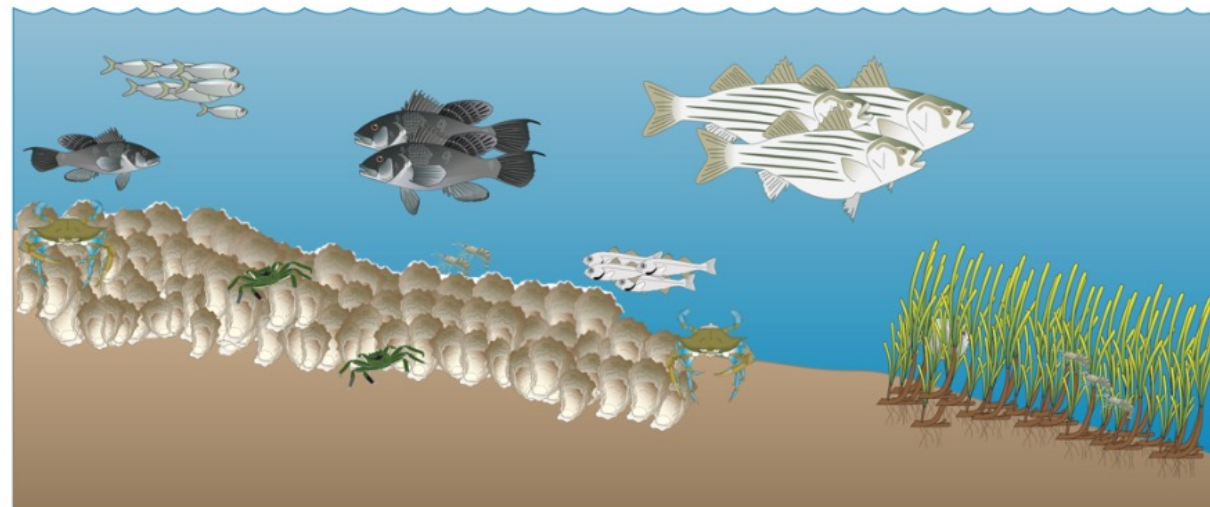
Coastal communities



Ecosystem goods & services



+ Human impacts & modifying actions



Restored oyster reef ecosystems

Social ecological systems

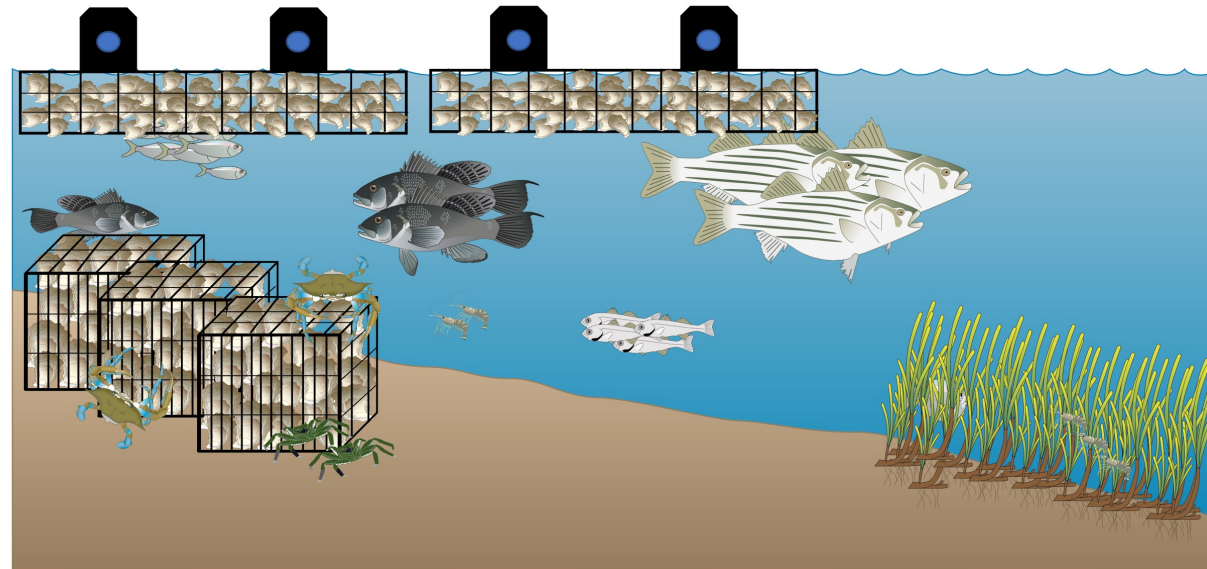
Coastal communities



Ecosystem goods & services



Human impacts & modifying actions



Oyster aquaculture ecosystems

SES Approach

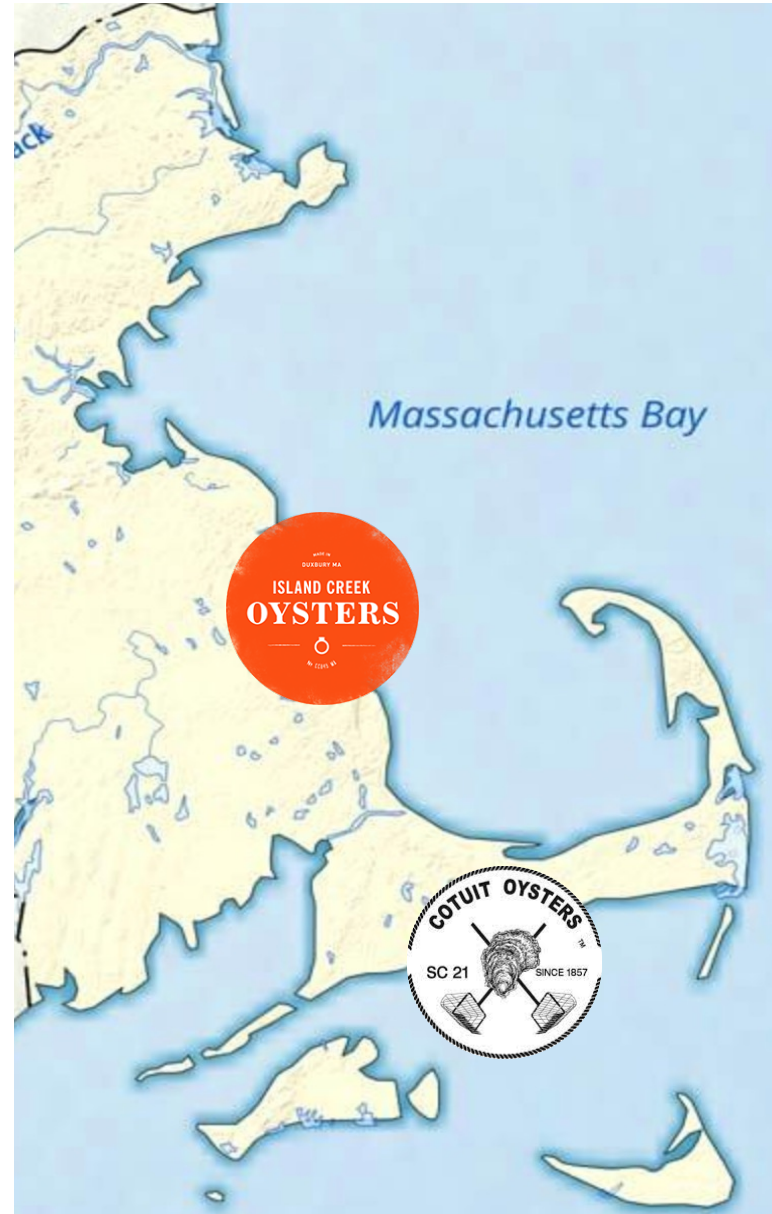
Project 1: Fish and crustacean use of oyster aquaculture gear in comparison to natural habitats north and south of Cape Cod

Project 2: Denitrification and nitrogen removal at oyster aquaculture farms in comparison to natural benthic habitats

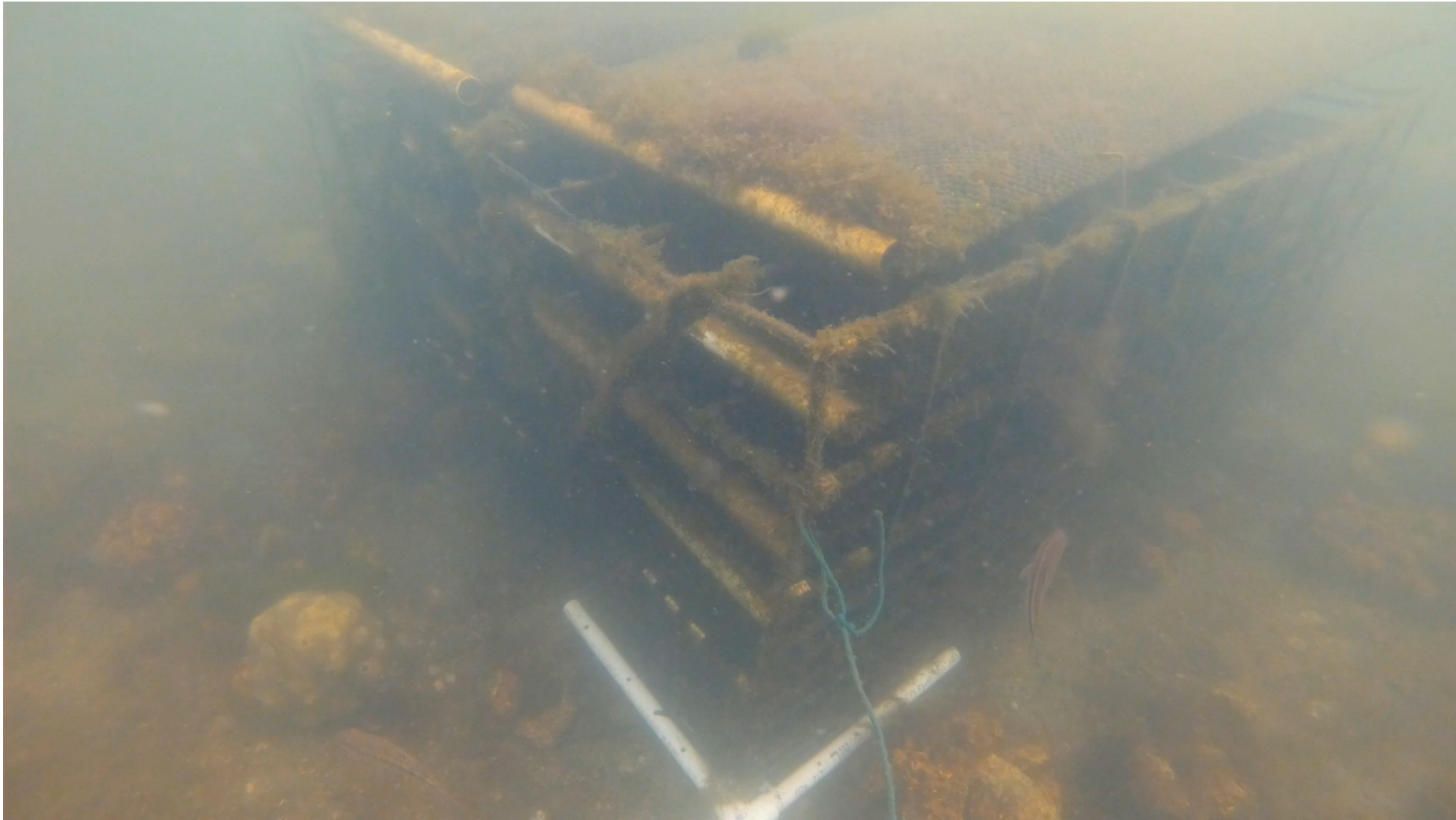
Project 3: Quantifying public perceptions of oyster aquaculture along the Eastern U.S.

Project 4: Comparisons of networks and perceptions among oyster aquaculture stakeholders along the Eastern U.S.

Fish and crustacean use of oyster aquaculture gear in comparison to natural habitats north and south of Cape Cod

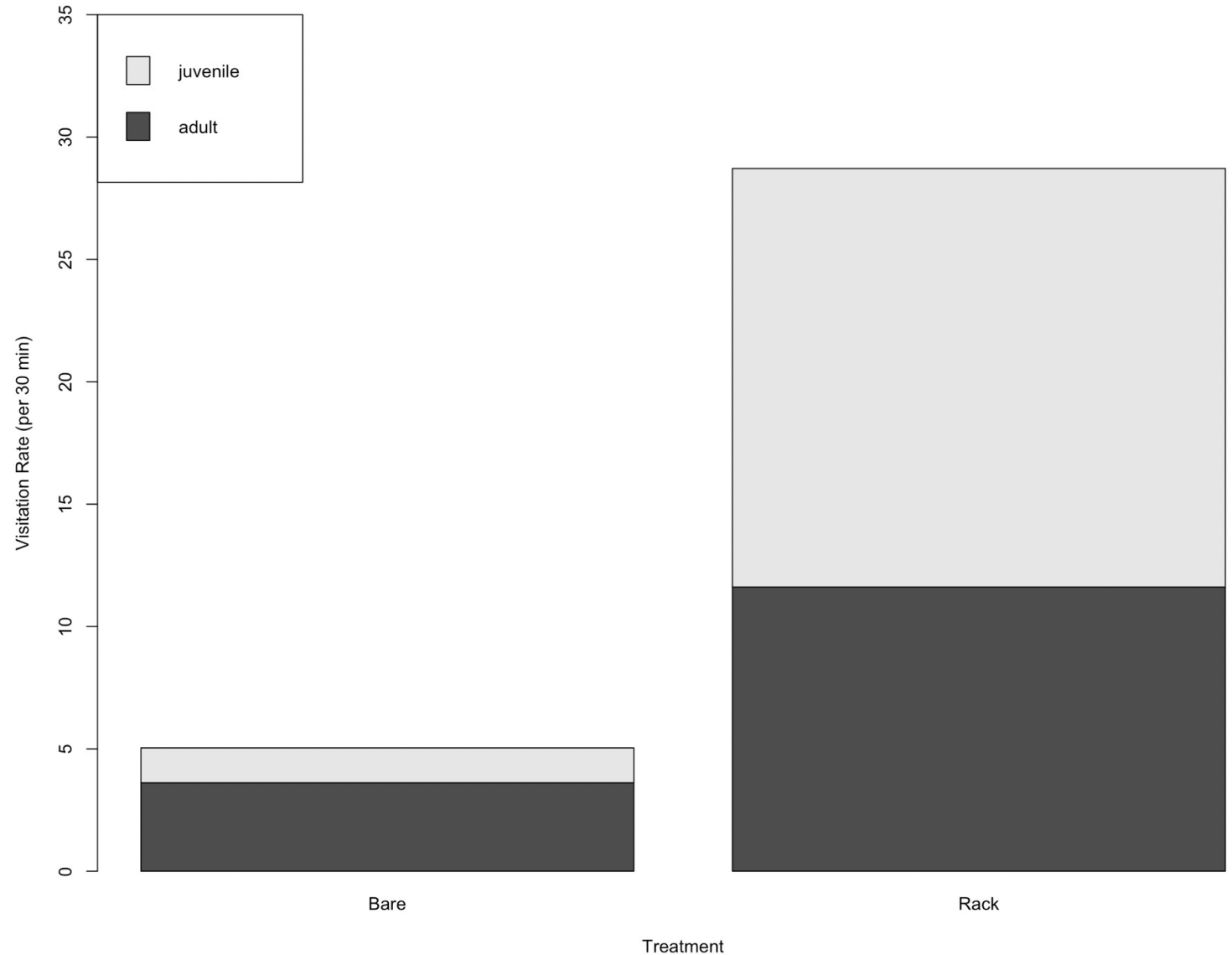


Fish and crustacean use of oyster aquaculture gear in comparison to natural habitats north and south of Cape Cod

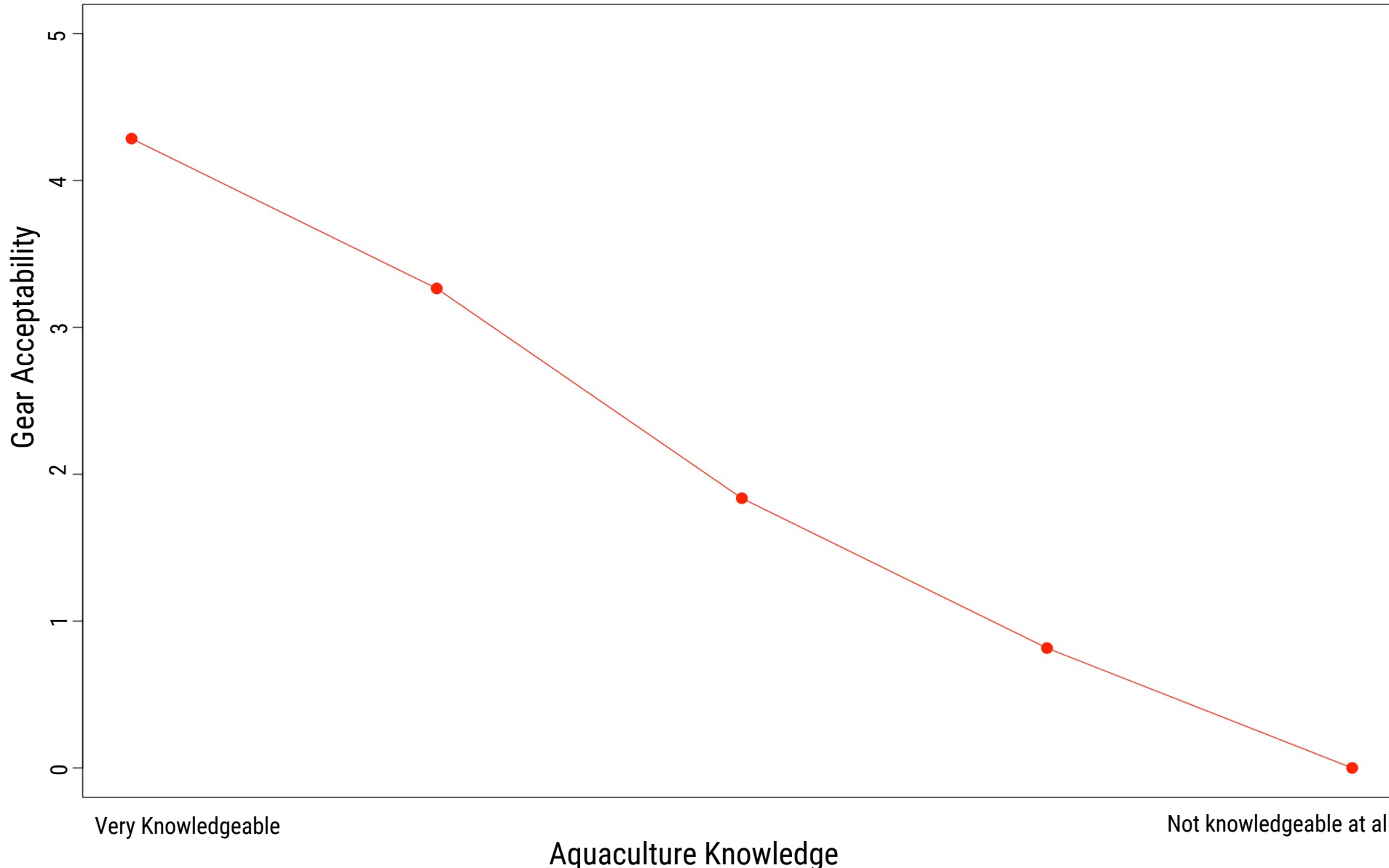
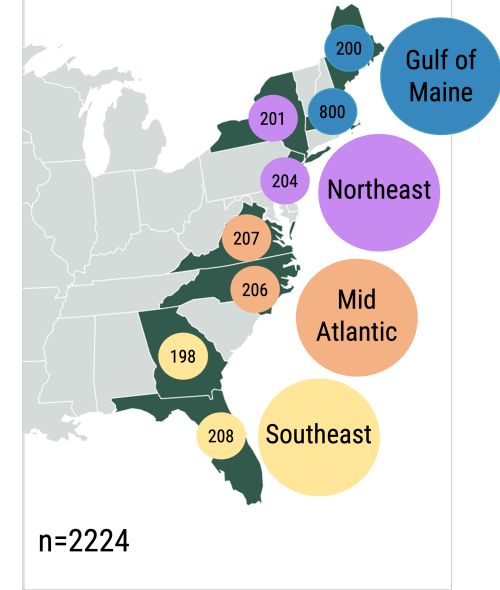


Fish and crustacean use of oyster aquaculture gear in comparison to natural habitats north and south of Cape Cod

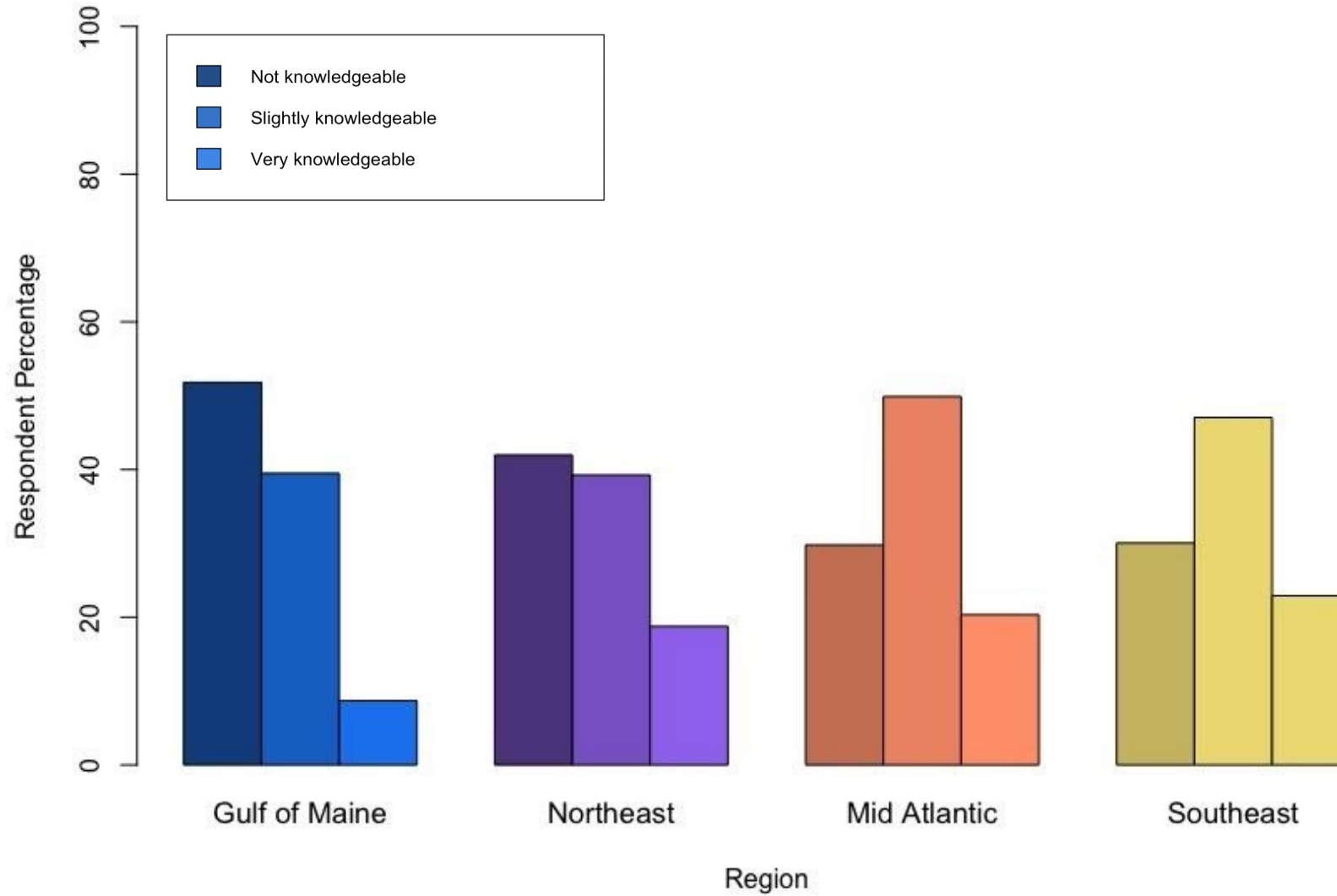
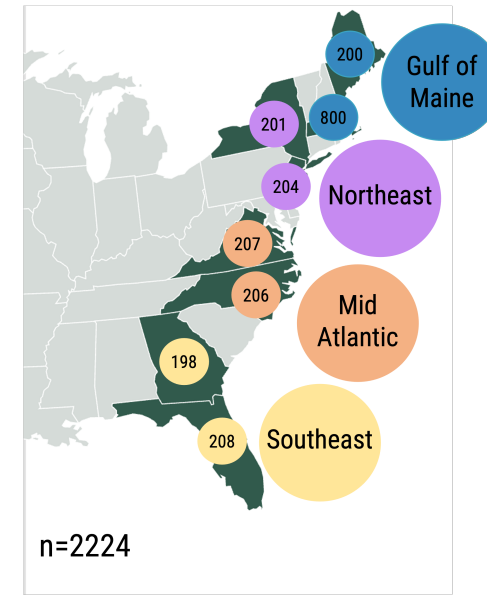
- **Island Creek Oysters:**
Mostly striped bass & horseshoe crabs
- **Cotuit Oyster Company:**
Adult & juvenile black sea bass, tautog, scup, striped bass, and blue crabs



Quantifying public perceptions of oyster aquaculture along the Eastern U.S.



Quantifying public perceptions of oyster aquaculture along the Eastern U.S.



Conclusions

1. Do aquaculture farms provide habitat for fish and crustaceans similar to natural benthic habitats?

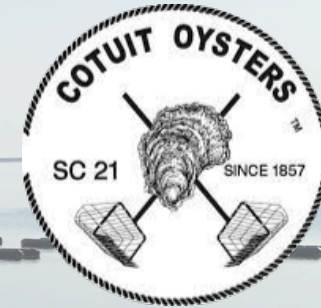
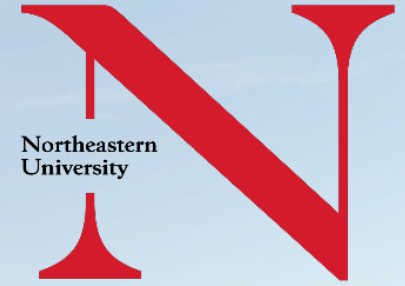
- a. Racks have higher fish visitation rates for both commercially and recreational important species
- b. Black sea bass juveniles visitation rate is significantly higher at racks

2. What drives coastal residents' perceptions and support for oyster aquaculture?

- a. Support for aquaculture was high; little regional variation
- b. Aquaculture knowledge and support for aquaculture expansion were associated with a higher acceptance of various visual representations of aquaculture farms
- c. Gulf of Maine residents have the lowest scores for knowledge, with knowledge increasing in the south

Acknowledgements

- Dr. Jon Grabowski
- Dr. Steven Scyphers
- Dr. Randall Hughes
- Dr. David Kimbro
- Dr. Forest Schenck
- Dr. Julie Rose
- Steve Kirk
- Elizabeth Conley



Contact Information

- Dr. Jon Grabowski: J.Grabowski@northeastern.edu
- Kelsey Schultz: Schultz.k@northeastern.edu
- Steve Kirk: Stephen.kirk@TNC.org

