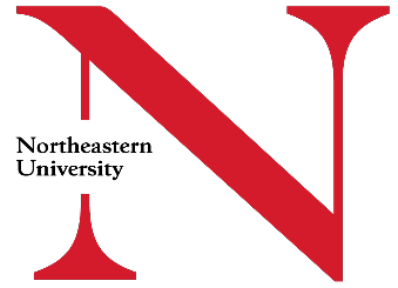


# Addressing constraints to shellfish aquaculture through quantifying public perceptions and attitudes along the Atlantic coast U.S.



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

Narragansett Bay SAMP Webinar Series

April 6<sup>th</sup>, 2022





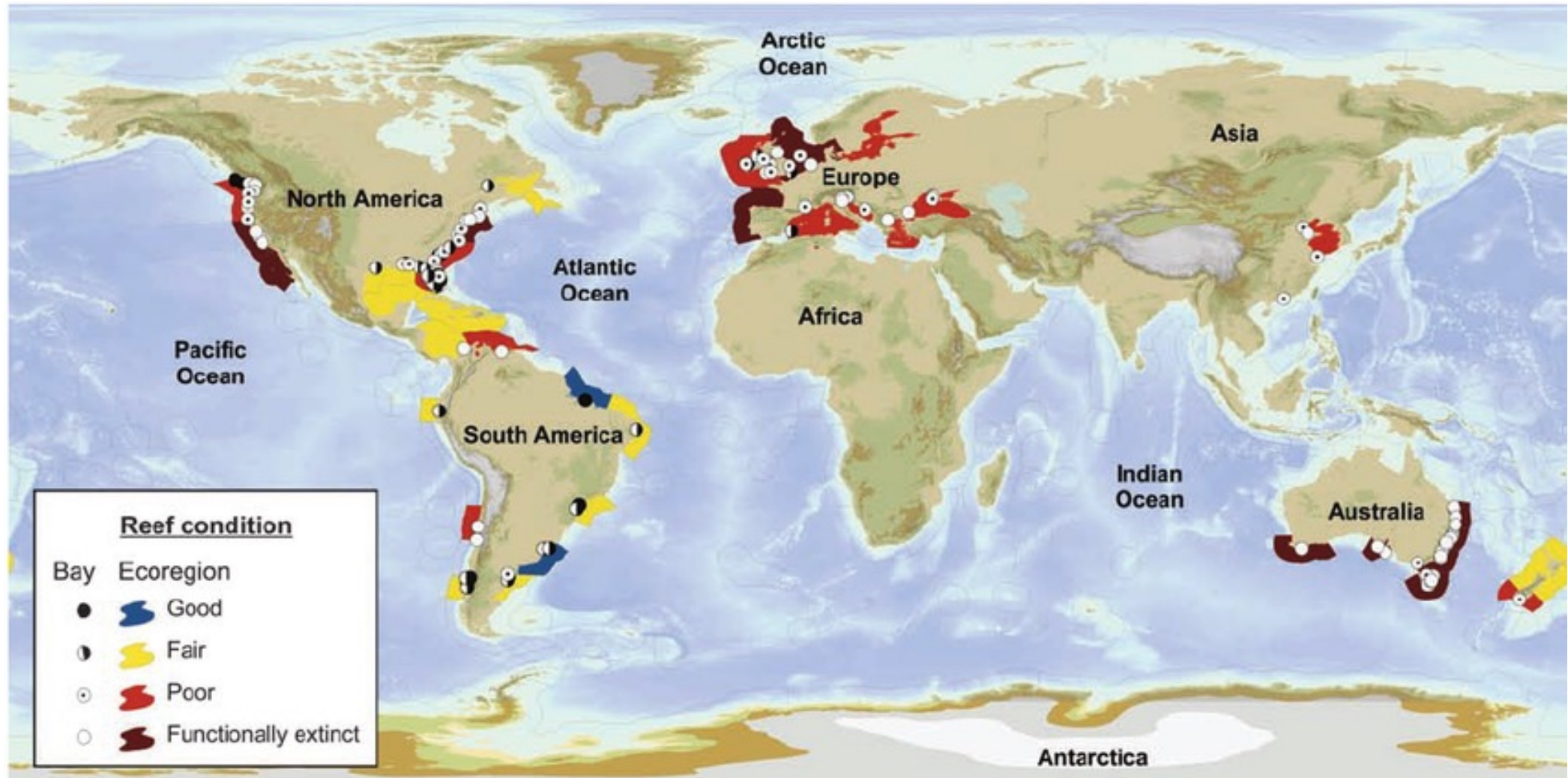
# Estuaries in peril

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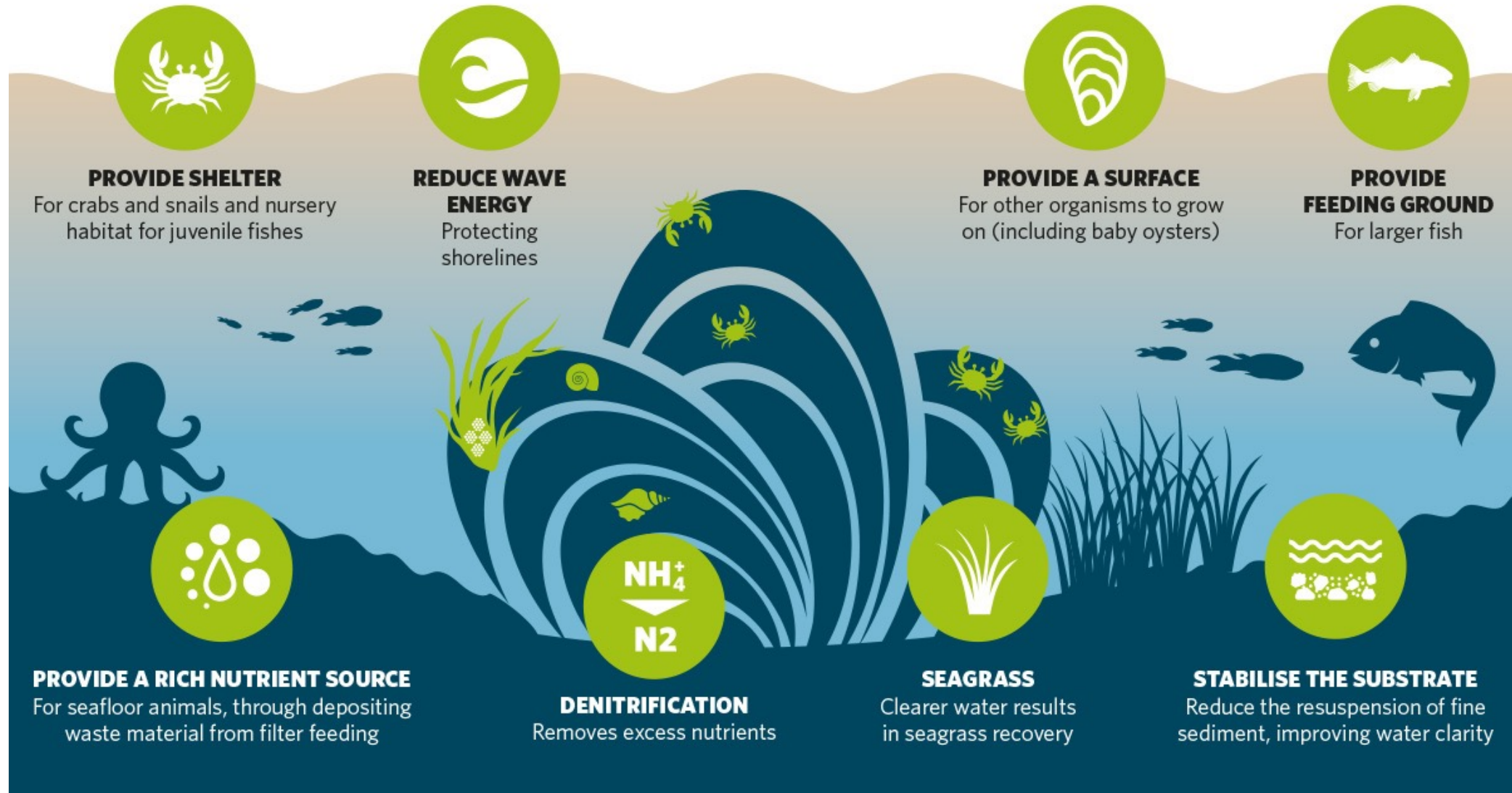




# Oyster reef habitat loss



# Consequences of habitat degradation





# Barriers to Aquaculture Expansion

- Negative perceptions
- Use conflicts
- Scenic value
- Permitting

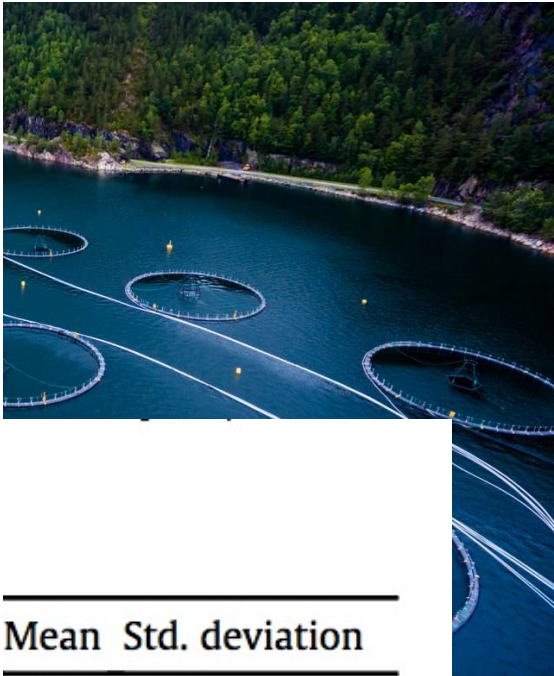


**Table 2**  
Mean scenic value rating

Low-No Human Influe
Moderate Human Infl
High Residential Deve
Industrial/Commercial
Friedmans test (2-way statistically different (N

States with Interagency Permit Review Team Meetings
ME, NH, MA, RI, CT, MD, CA, OR, WA (FL n/a due to State Programmatic Permit)
States without Interagency Permit Review Team Meetings
NY, NJ, DE, VA, NC, SC, GA, AL, MS, LA, TX, AK

States with Joint Federal / State Permit Application
ME, NH, MA, RI, CT, NY, MD, VA, SC, AL, MS, WA, (FL n/a due to State Programmatic Permit)
States without Joint Federal / State Permit Application
NJ, DE, NC, GA, LA, TX, CA, OR, AK



Mean	Std. deviation
1.20	0.55
1.08	0.50
0.25	1.02
-0.74	0.90
tion of mean ranks is	

# Preliminary conclusions

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## **1. What drives whether coastal residents' perceptions of 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

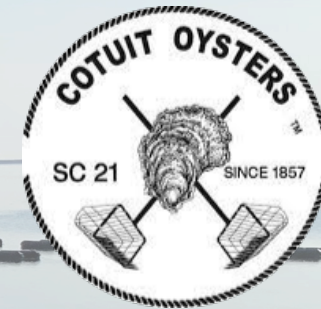
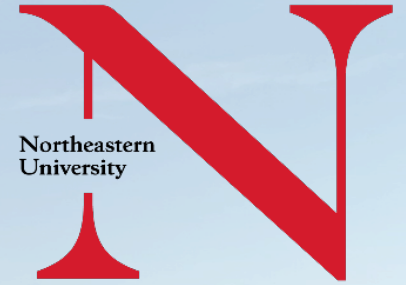
## **2. Does oyster aquaculture gear type influence whether coastal residents support or oppose oyster aquaculture?**

- a. Prefer low relief gear >>> high relief gear



# Acknowledgements

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

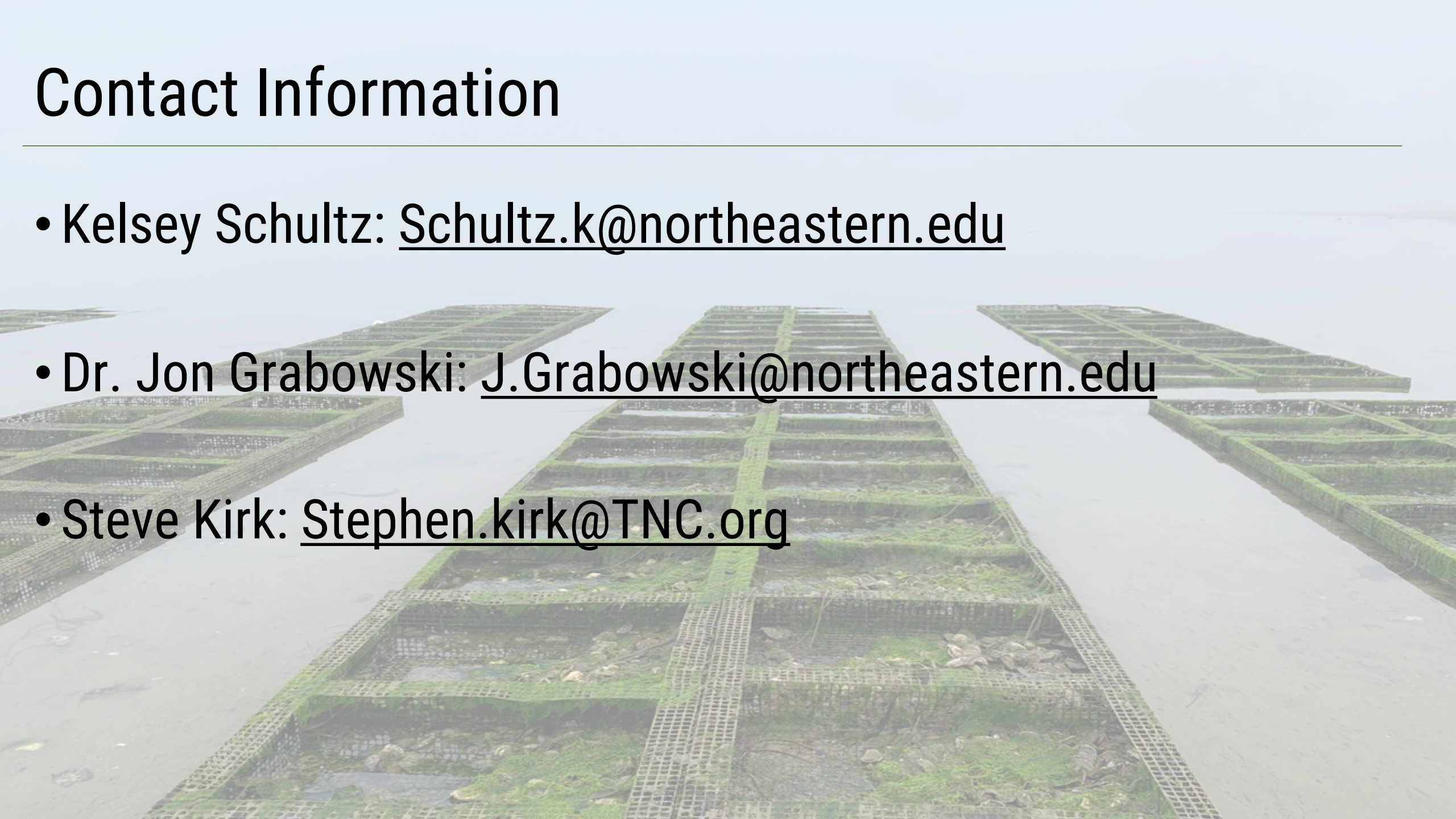




# Contact Information

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# SOAR: Supporting Oyster Aquaculture and Restoration



CRC Narragansett Bay SAMP Webinar Series  
Steve Kirk Coastal Program Manager TNC MA  
April 6, 2022



# COVID-19 Impacts on Oyster Aquaculture in the United States

Large-Scale  
Restaurant  
Closures

Decreased  
Demand –  
up to 90%  
decrease in  
sales

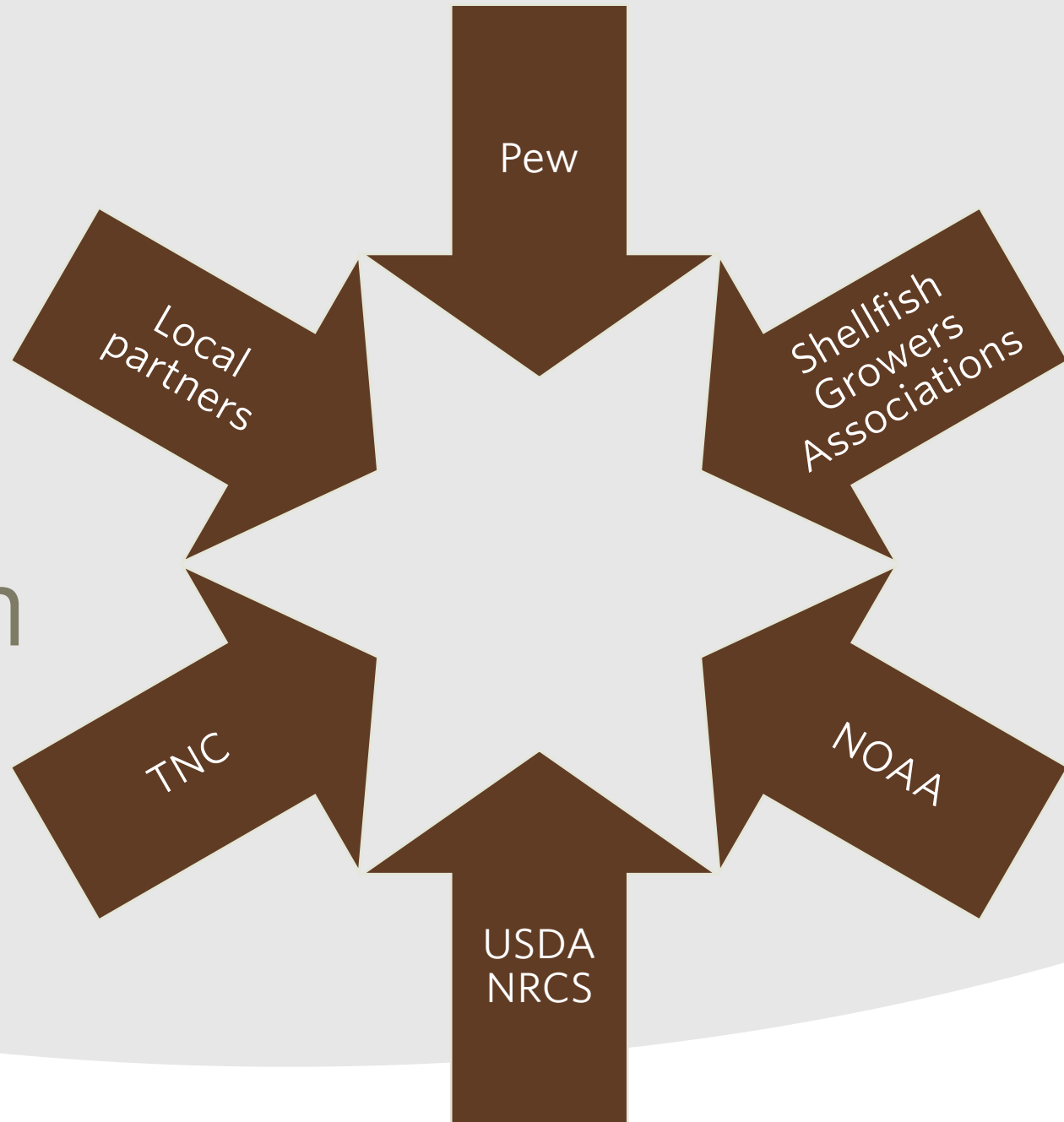
Increased  
Surplus

Oversized  
Oysters on  
Farms

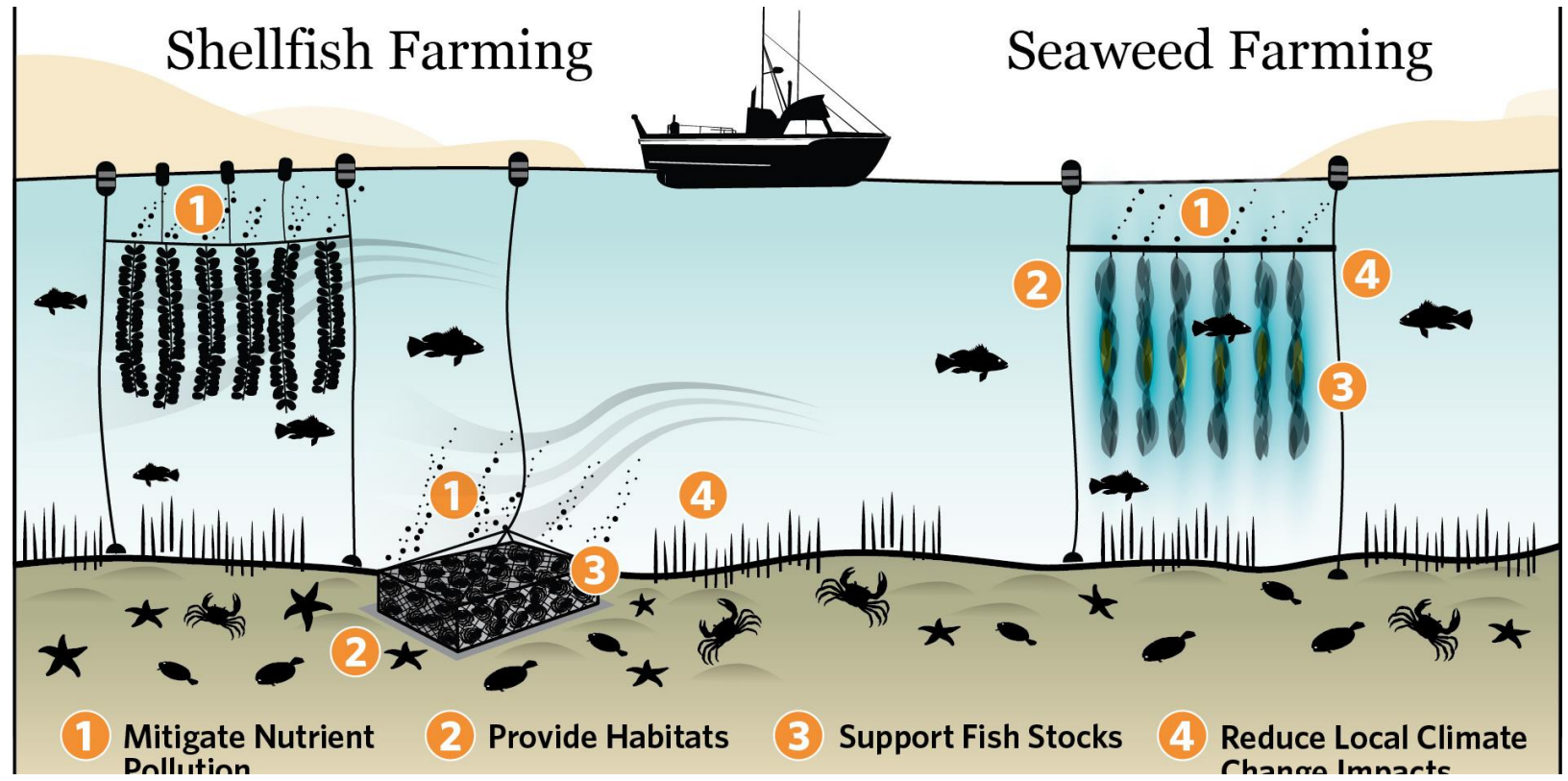




# SOAR Collaboration



# Why do we care?



## Restorative Aquaculture Strategy

Collapse of the oyster aquaculture industry would mean losing the valuable ecosystem services that oyster farms provide



# Oyster Restoration

- 200 marine restoration projects globally
- Created foundational resources and guidance on oyster reef restoration deployed around the world
- History of collaborating with oyster aquaculture industry on restoration projects
- TNC & partners need oysters for restoration projects!



# Conservation Impact

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**3.5+ million**  
oysters  
purchased



**~40 acres** of  
oyster reef  
supported

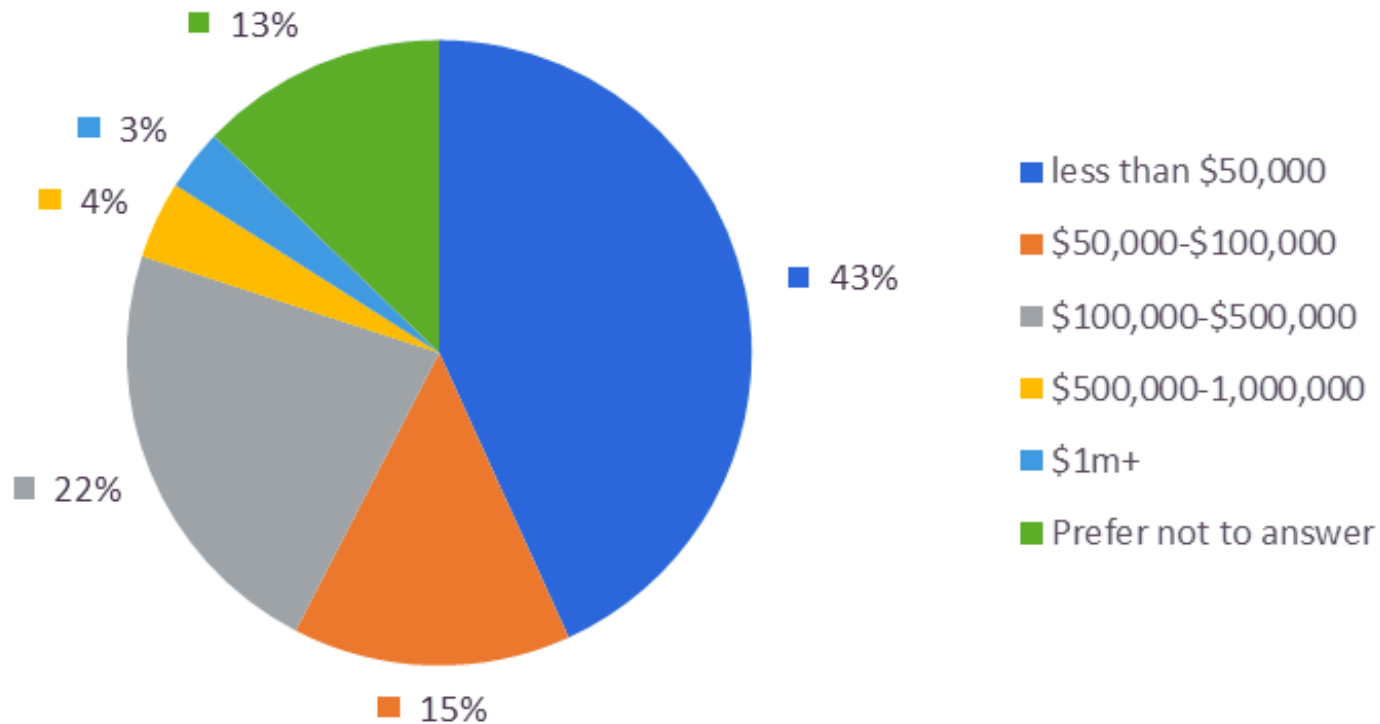
**25 restoration**  
sites



# Economic Impact

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Approximate gross revenue from oysters (sales) in 2019



**125 growers**  
participated

**450+ jobs**  
sustained

**\$13,000** average  
purchase price

**1/4** of annual revenue  
supported for nearly half  
of farmers

**2/3** reported "very  
beneficial" to sustaining  
their businesses



# SOAR Shellfish Growers Resiliency Fund





# The Priorities

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## Small Award

- Farmer engagement in shellfish restoration, marine conservation, or broader environmental outcomes
- Efficient farming operations
- Product marketing to increase demand
- New products and species
- Diversity, equity, and inclusion in the shellfish aquaculture industry

## Large Award

- Advancing payments for ecosystem services
- Long-term markets for restoration
- Product marketing to increase demand
- New products and species
- Supporting infrastructure and services
- Regulation of shellfish aquaculture





SMALL AWARD  
28 projects

LARGE AWARD  
8 projects

# Going Forward

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## Scale Up!

- Farmer engagement in shellfish restoration, marine conservation, or broader environmental outcomes
  - Address Barriers
    - More Restoration sites
    - Social License
  - Product marketing to increase demand
  - New products and species
  - Diversity, equity, and inclusion in the shellfish aquaculture industry
- Advancing payments for ecosystem services
  - Long-term markets for restoration
  - Product marketing to increase demand
  - New products and species
  - Supporting infrastructure and services
  - Regulation of shellfish aquaculture





[www.nature.org/massaquaculture](http://www.nature.org/massaquaculture)

[www.nature.org/soar](http://www.nature.org/soar)

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SOAR  
Massachusetts  
Video

<https://youtu.be/tKoJKVUAIVo>