

Fisheries Habitat Studies in the Rhode Island Ocean SAMP

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Wind-Energy Science Forum

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Fish Biogeography Study: Objectives

1) Evaluate the fine-scale spatial structure of the demersal fish and invertebrate community



Fish
Community
Biogeography

2) Assess the dietary guild* structure and the flow of energy through the fisheries food web



Trophic
Dynamics

3) Investigate the relationship between fish species assemblage and benthic habitat

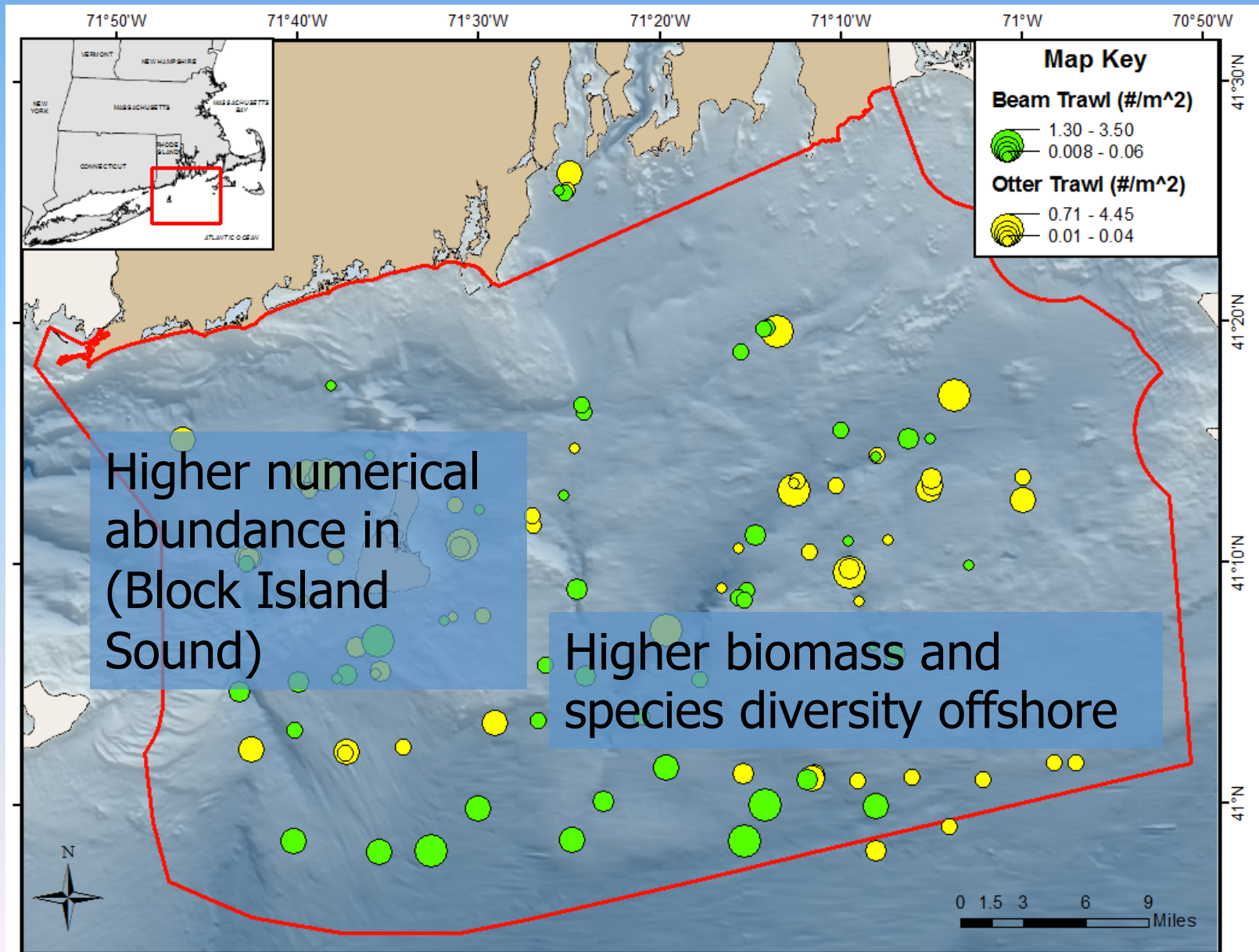


Fish
Community
Biogeography

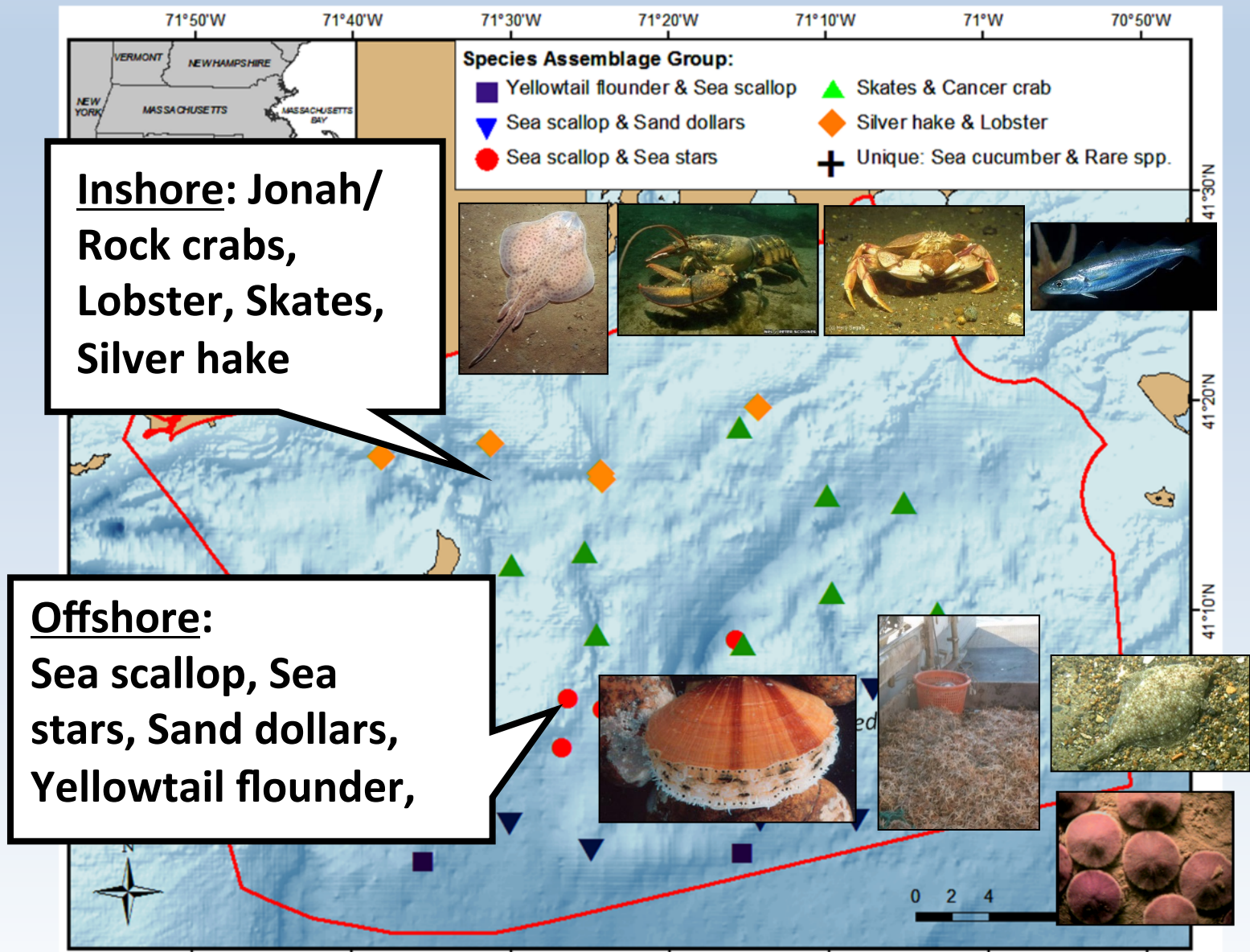
Benthic
Habitat

*A guild is a group of species that eat the same things

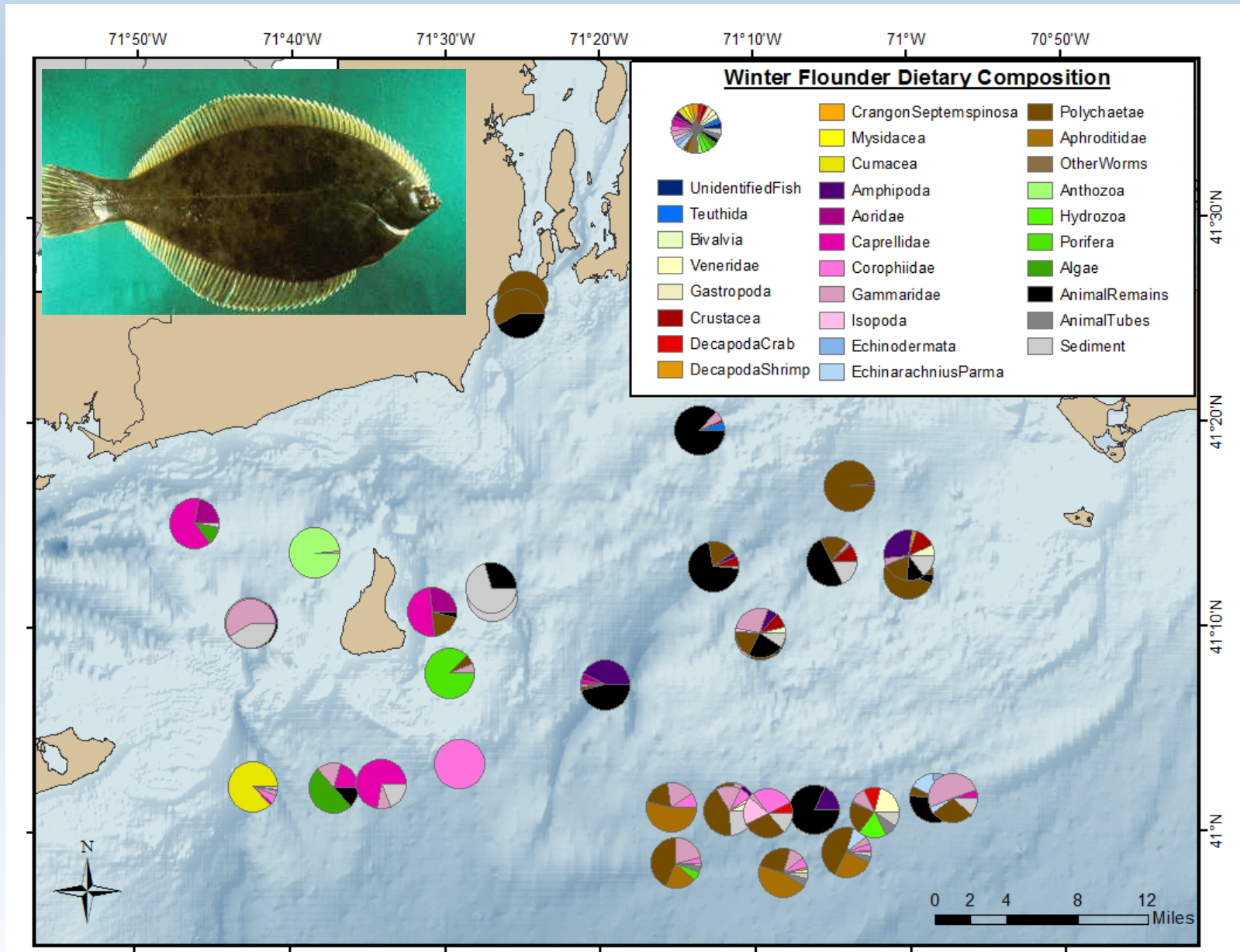
Fish Abundance, Biomass and Diversity



Species Assemblages in Beam Trawl Data



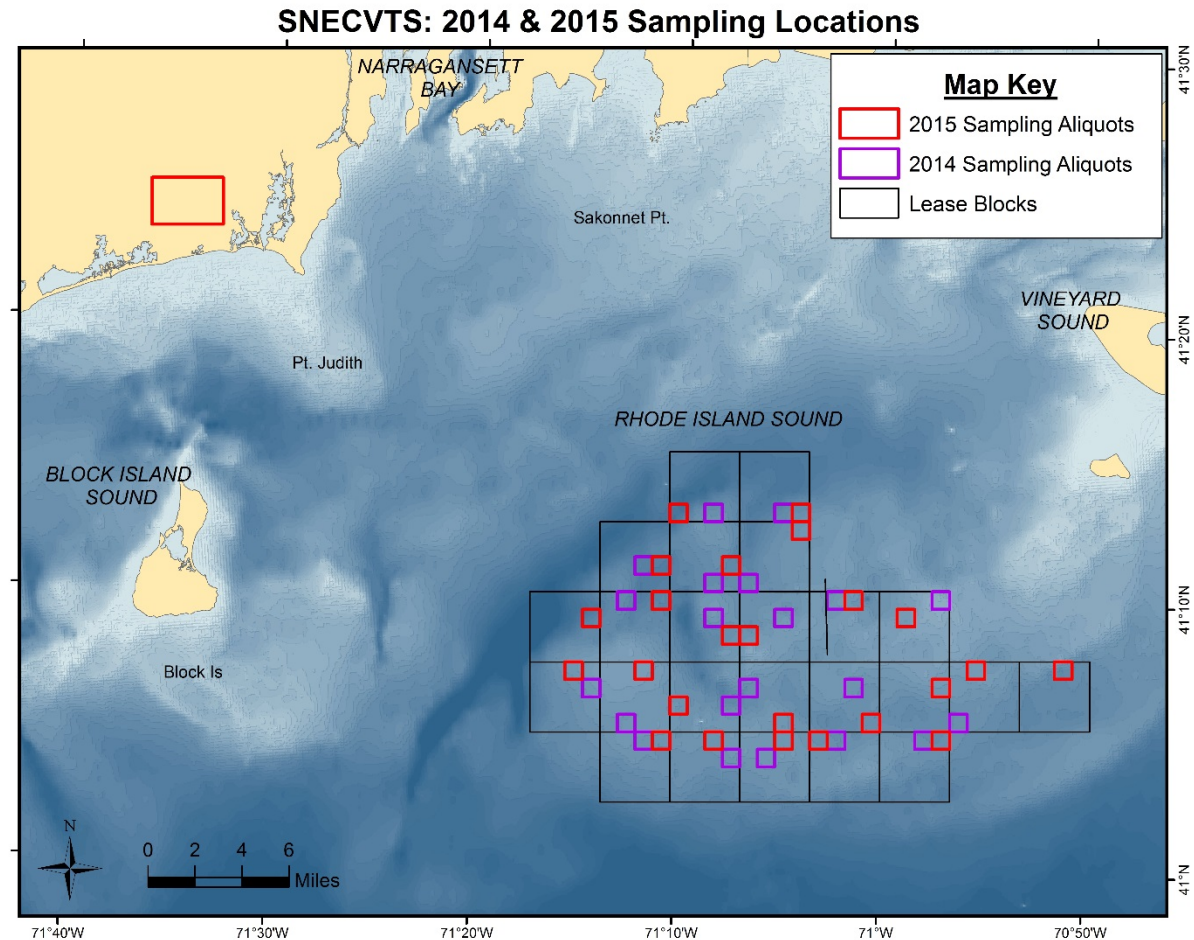
Spatial Patterns in Winter Flounder Diet



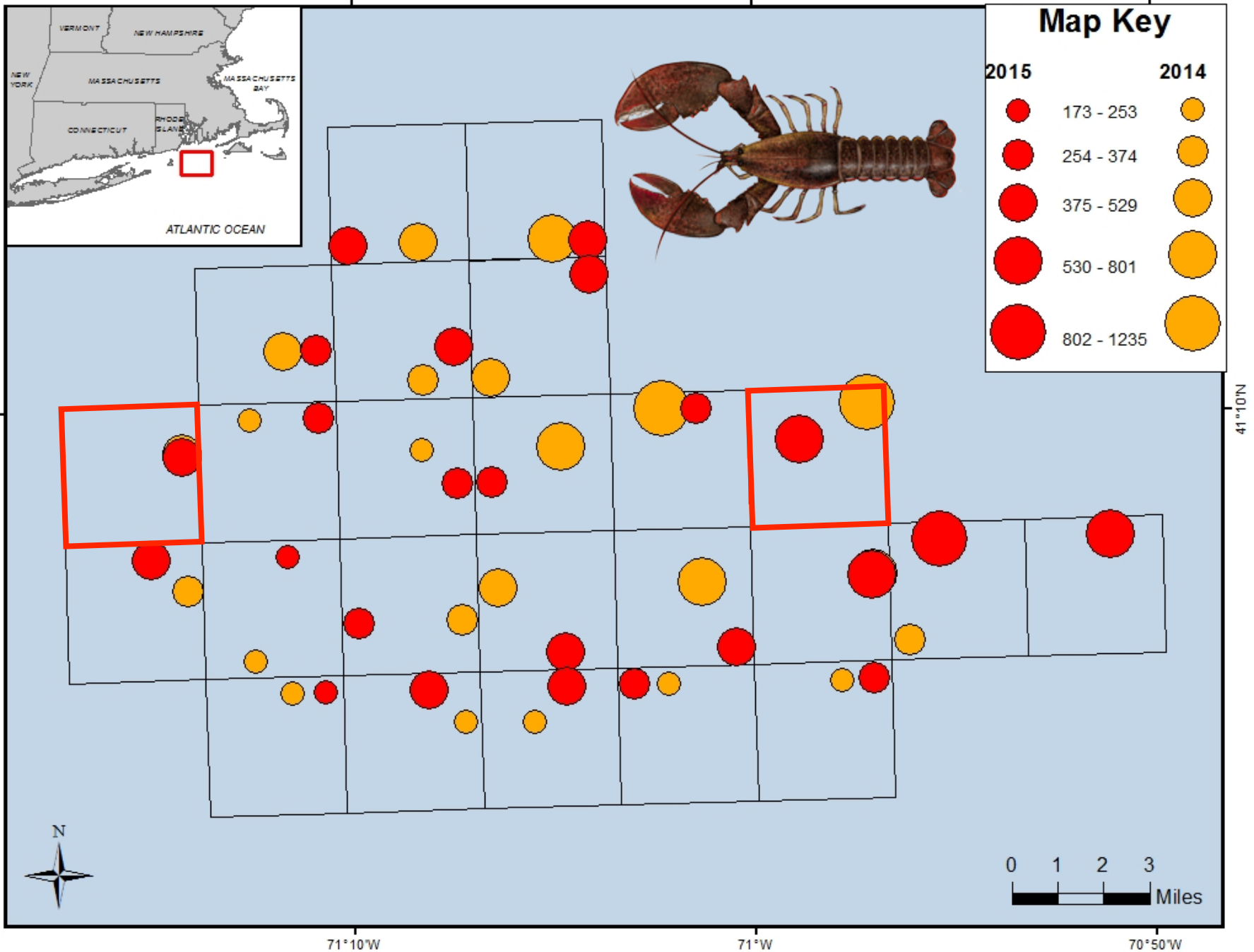
Southern New England Cooperative Ventless Trap Survey

Objectives:

- Establish a ventless trap survey protocol to assess the potential impacts of wind energy development;
- Determine the seasonal and spatial patterns of lobster abundance within this development area;
- Conduct two years of pre-development monitoring that will allow BACI comparisons to be made.



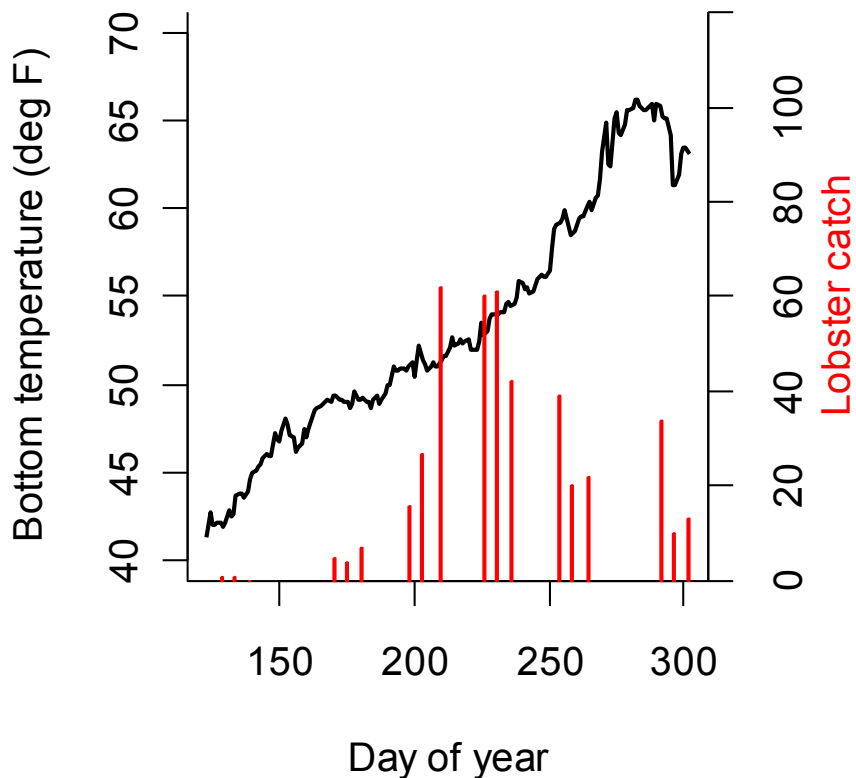
SNECVTS: 2014 and 2015 Lobster Abundance by Aliquot



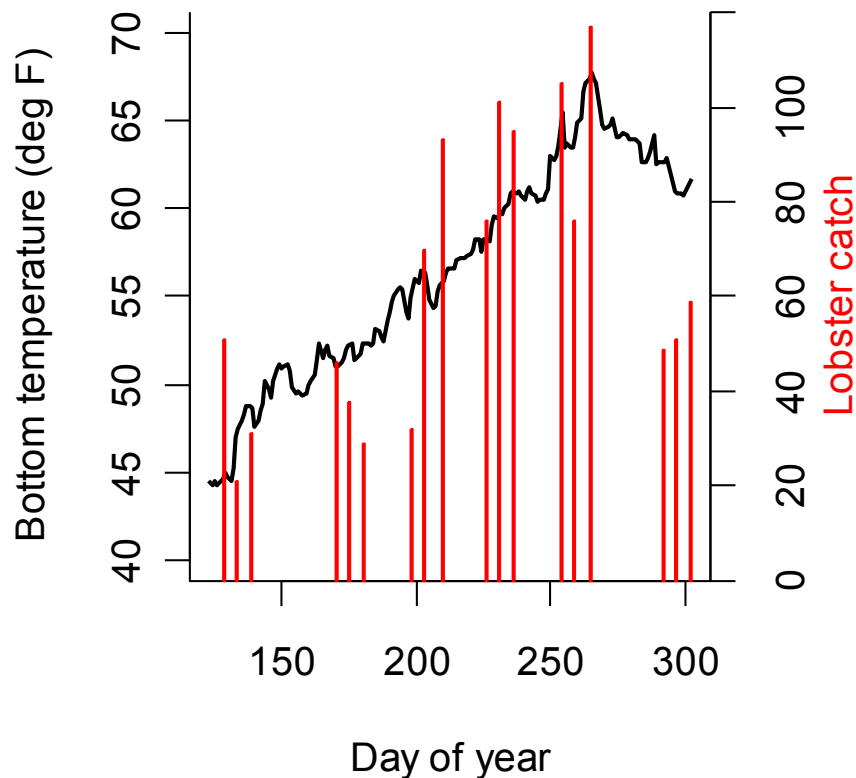
2014 Lobster Statistics



Aliquot 6

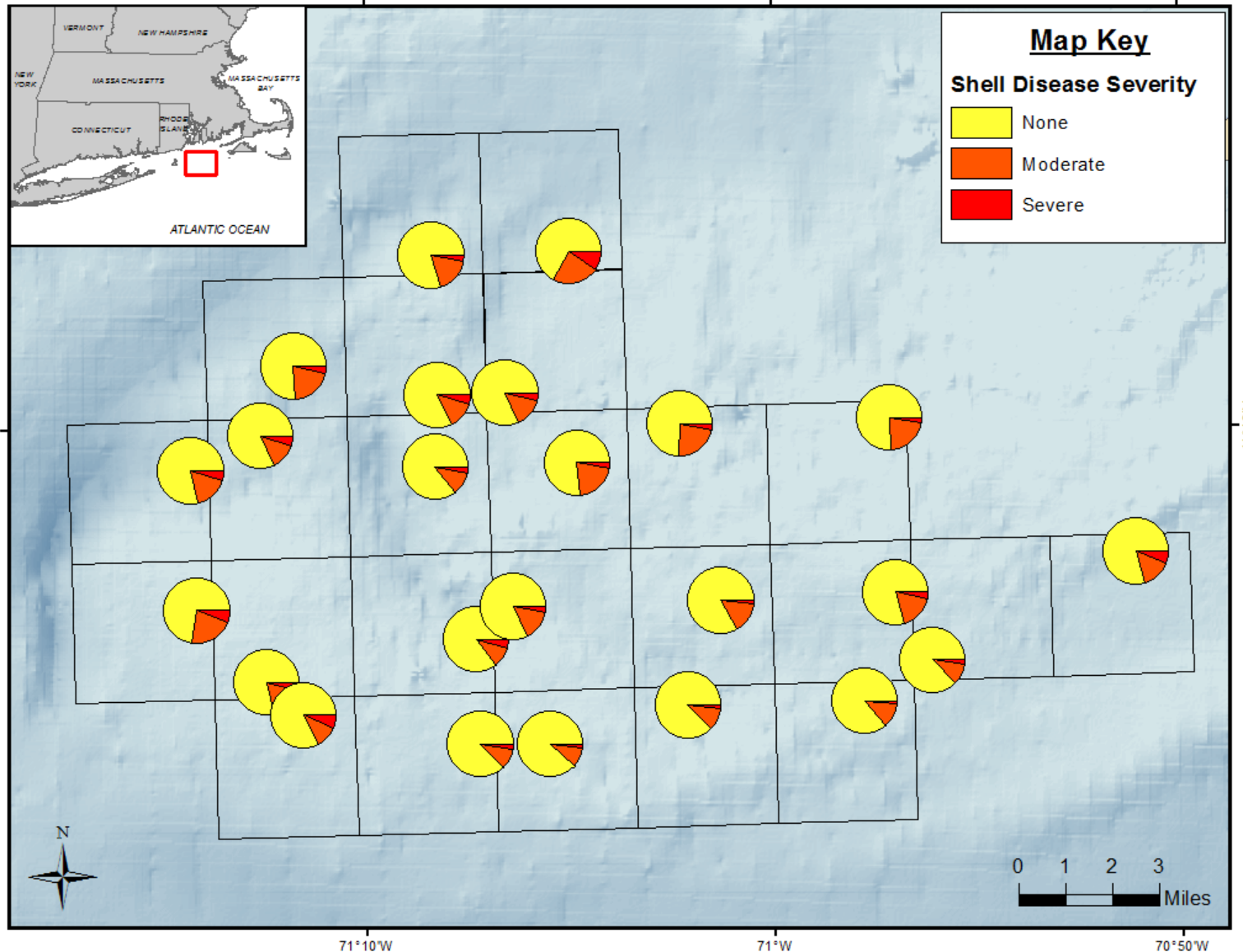


Aliquot 11



Incidence of Shell Disease

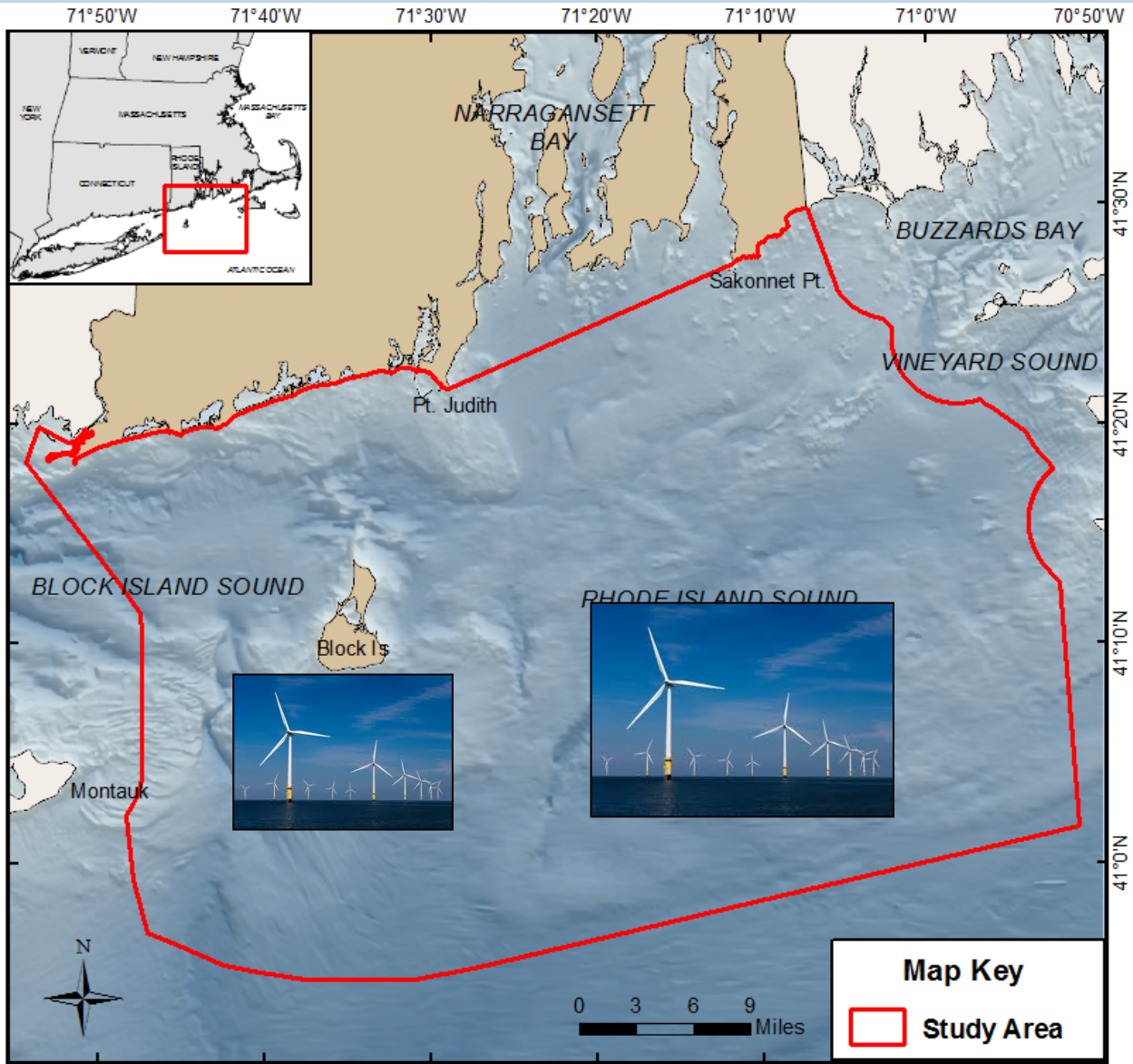
SNECVTS: 2014 Shell Disease by Aliquot



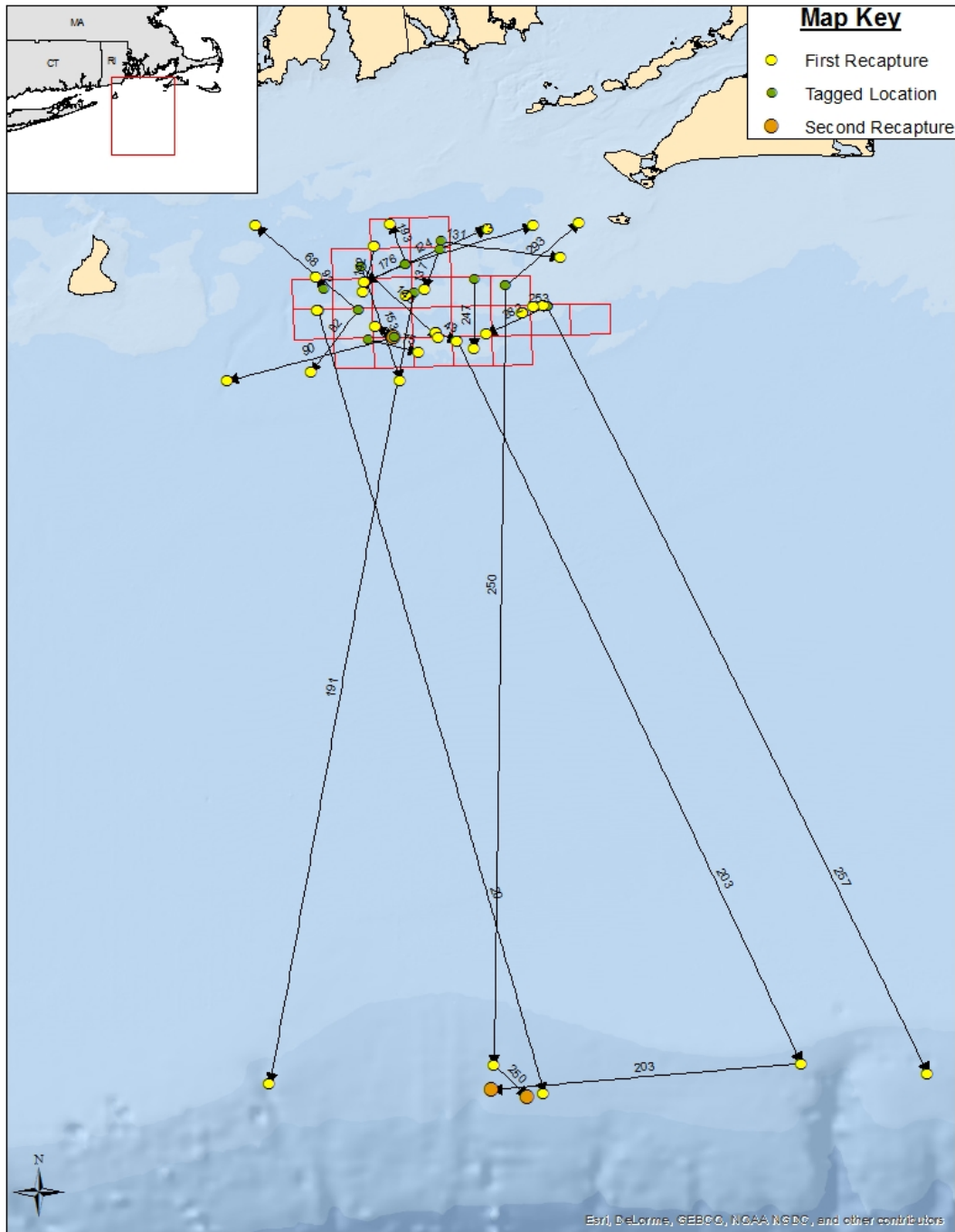
Summary of Findings

- Consistent patterns in fish biodiversity at spatial scales of lease-block areas (~ 10 miles);
- Significantly different species assemblages inshore and offshore;
- Diet composition is linked to benthic habitats;
- We found a healthy lobster population with low incidence of shell disease;
- Lobster abundance was consistently higher in the eastern lease blocks;
- Lobster abundance was related to habitat type, depth, and temperature.

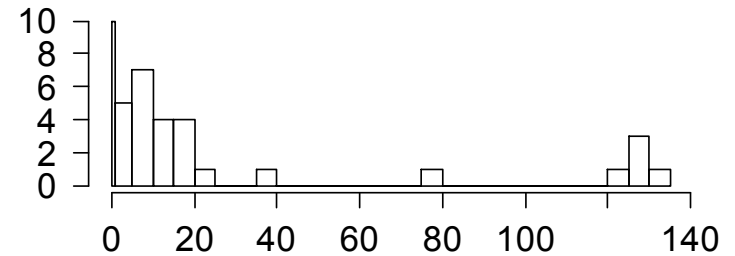
Implications for Offshore Wind Development



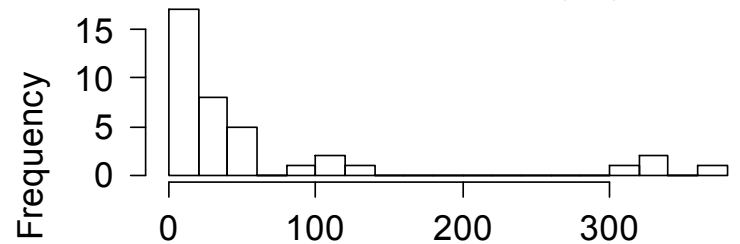
SNECVTS: 2015 Lobster Tracking



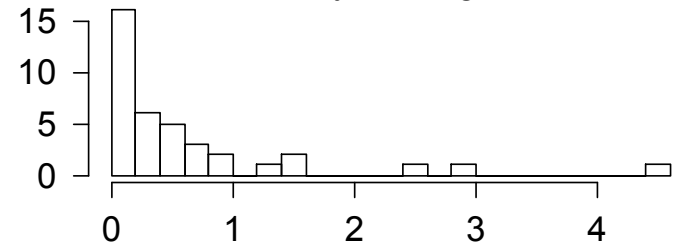
- Most recaptures were in the vicinity of the lease area;
- Five lobsters travelled over 120 km to the edge of the continental shelf.



Distance traveled (km)



Days at large



Velocity (km/day)

**Thank you!
Questions?**

