



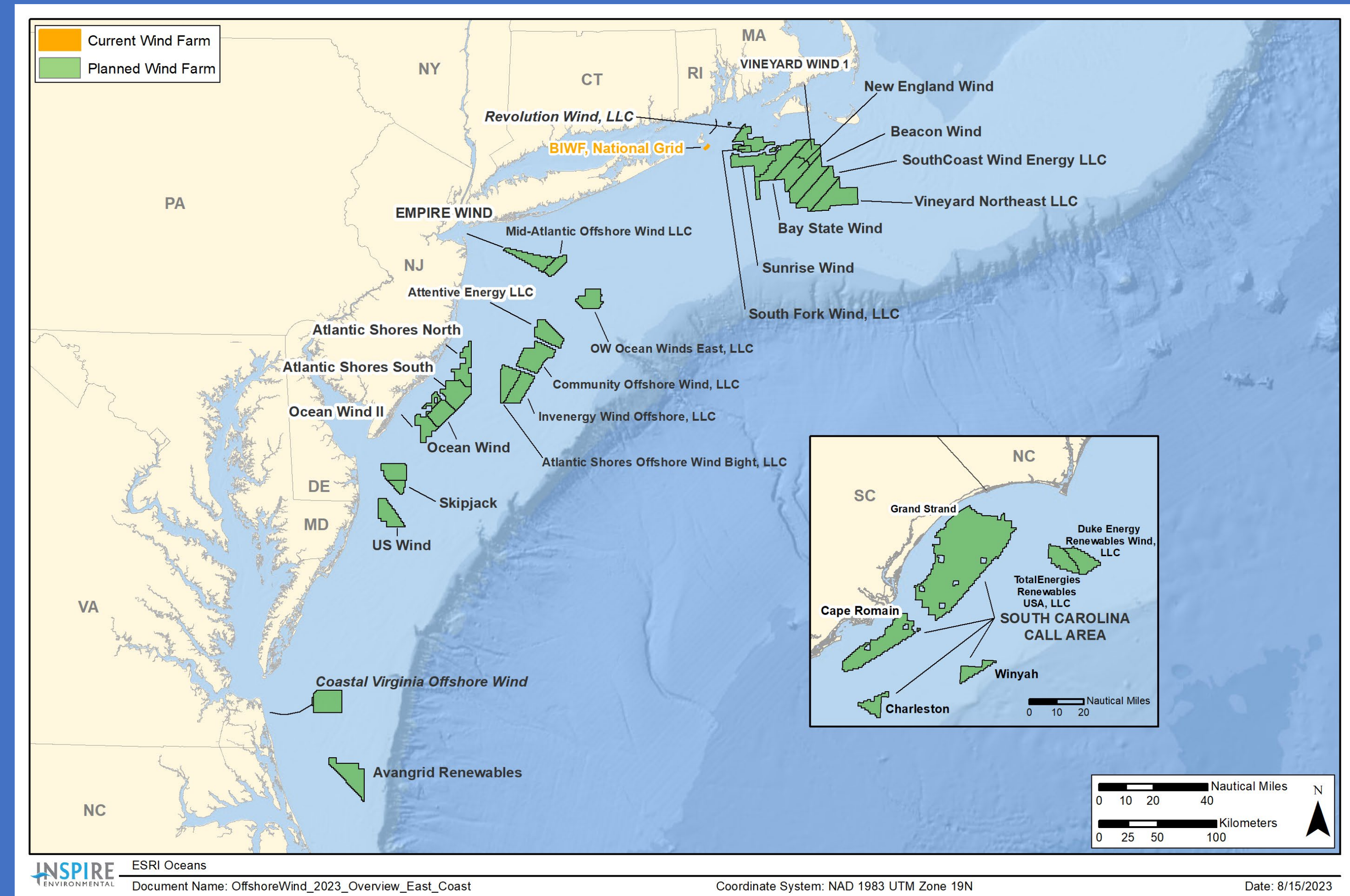
N. David Bethoney¹ & Brian Gervelis²

¹Commercial Fisheries Research Foundation, dbethoney@cfrfoundation.org

²INSPIRE Environmental, brian@inspireenvironmental.com

Wind Farm Development in the U.S.

- Rapid Expansion
- Projected 1,000-fold increase by 2030
- Primary Concerns
 - Environmental Impacts
 - Space Conflicts with Existing Users



Here we look at an area of concern:
Inability of federal fish population surveys to occur with wind farms
Can developer funded impact assessments fill the gap?

Environmental Impact Assessment

- Identify and measure environmental effects of a project
- For fisheries impacts in the U.S. the result is:
 - Project specific scope and design
 - Short term studies – 6-7 years
 - High sampling intensity
 - Surveys are only input

Stock Assessment

- Predict changes in populations and yield of specific species
 - Complex modeling
 - Surveys are one input of many
 - Fishery-independent surveys
 - Regional scope with standard design
 - Long-term - Decades

Scale – Site vs Region

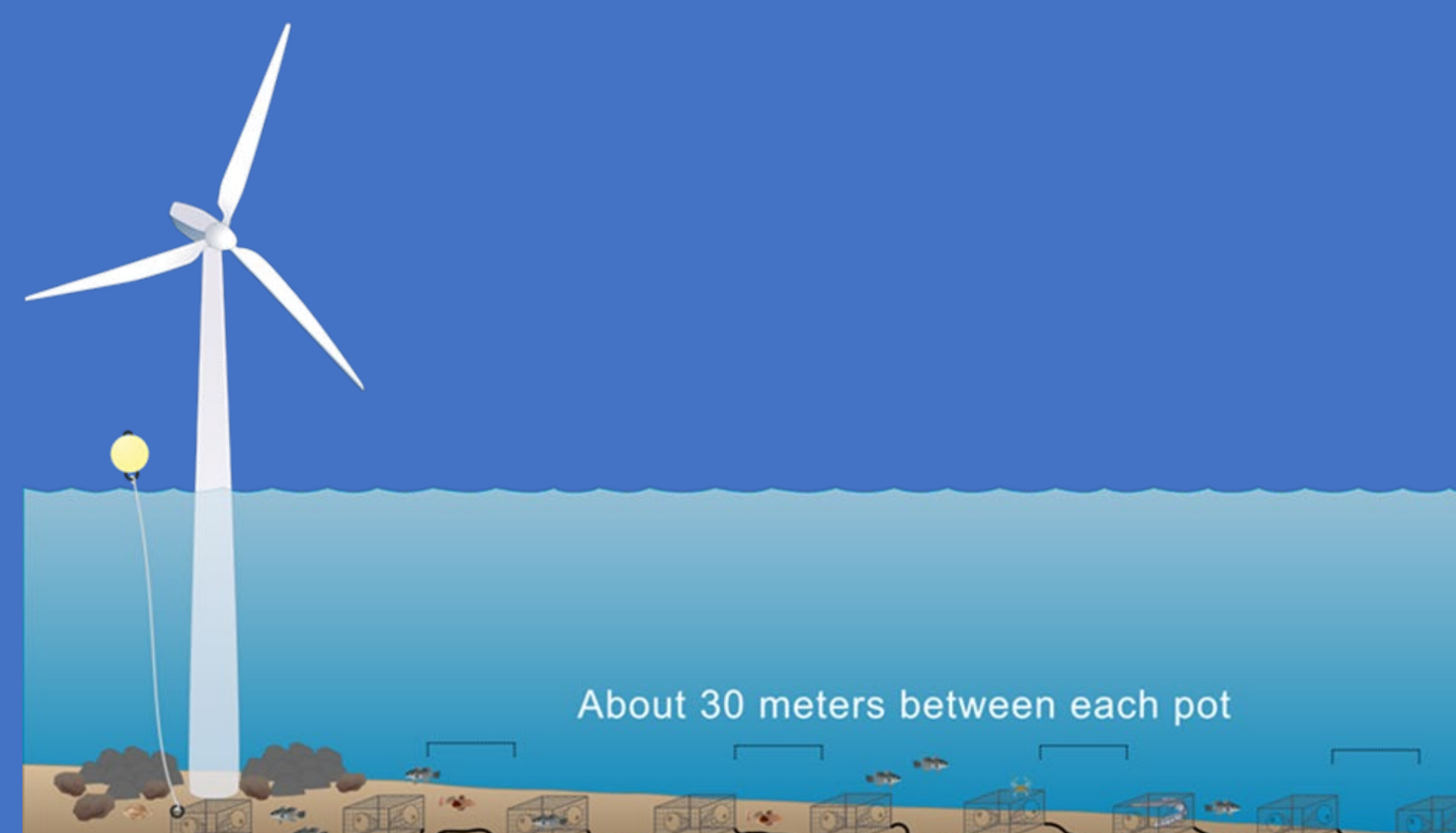
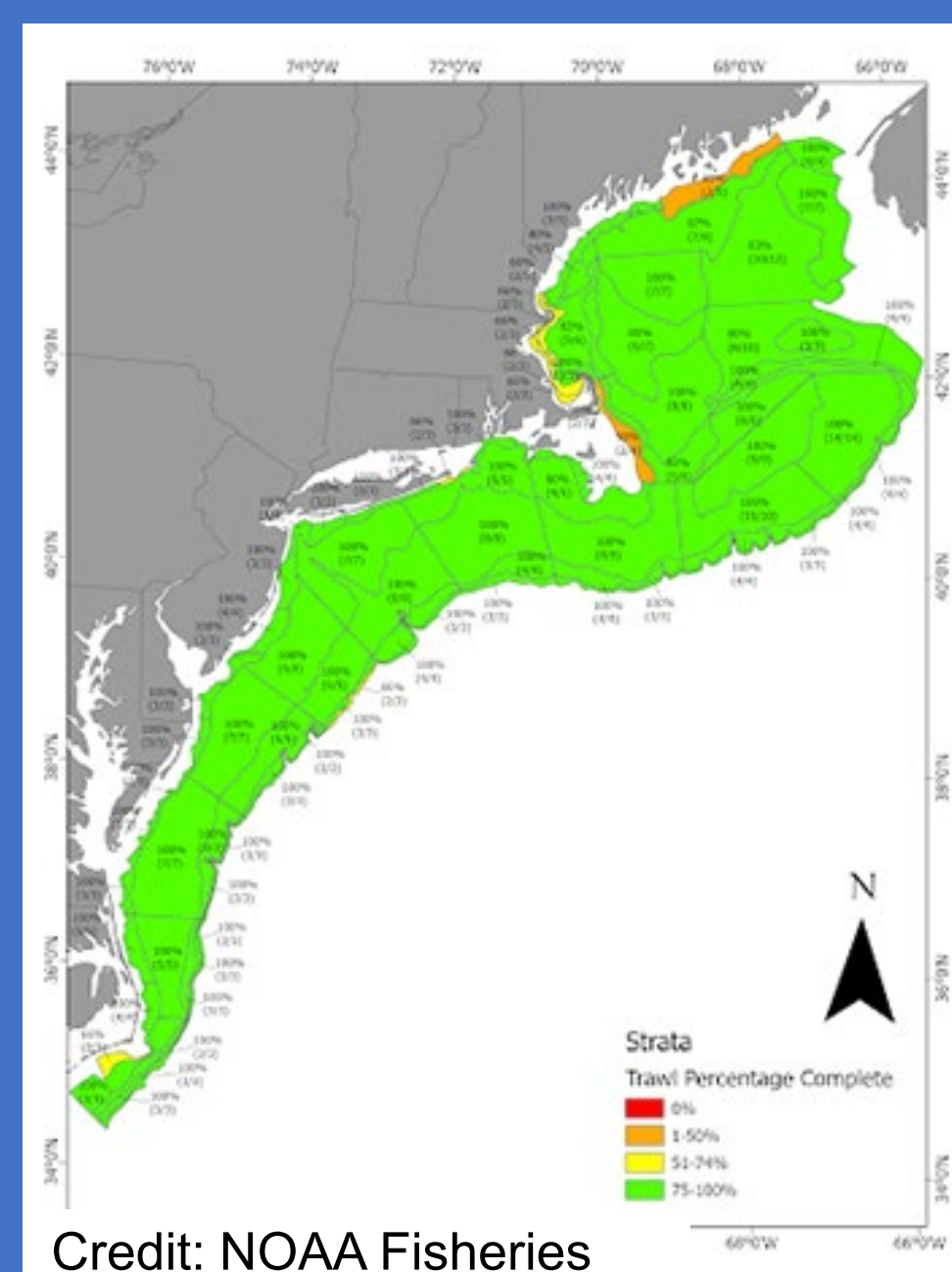
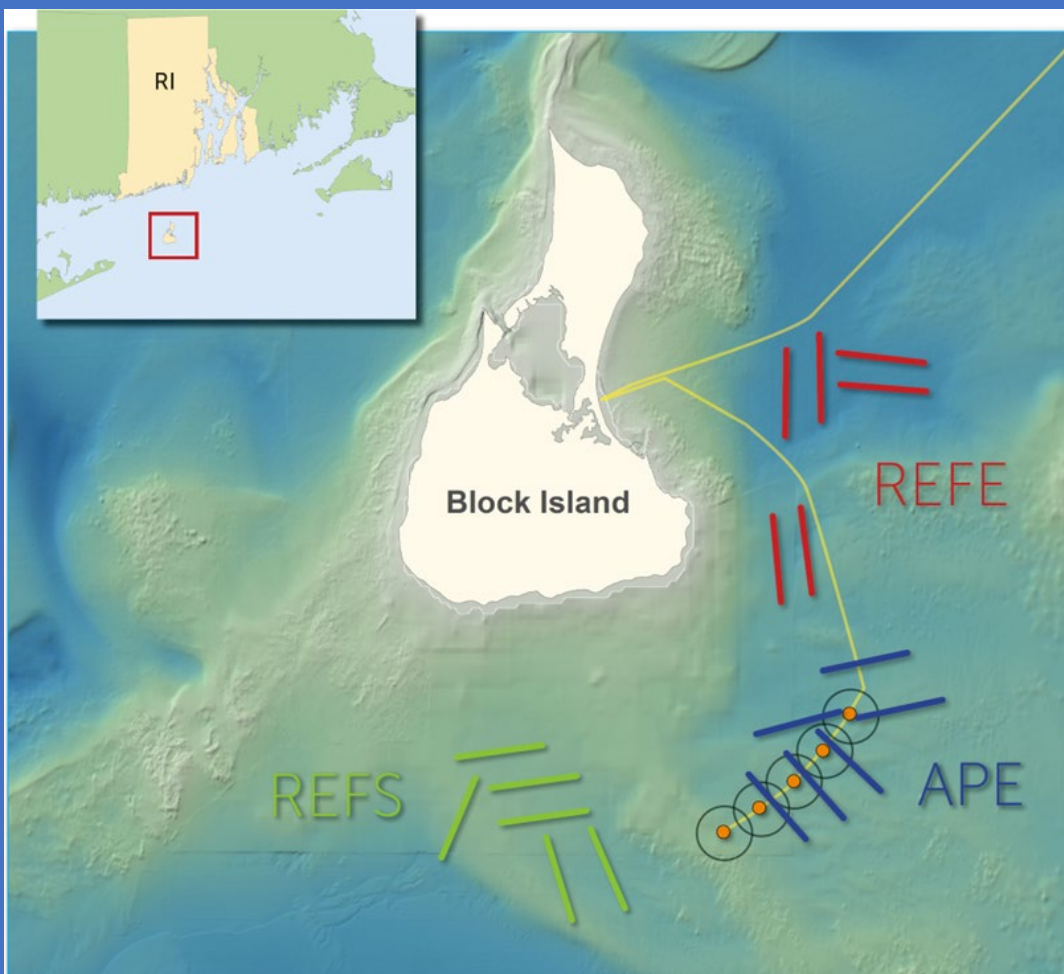
- Block Island Wind Farm Trawl
- 6 tows monthly for 7 years
- Federal bottom trawl survey
- 3 tows fall & spring for 60 years

Intensity – Effects of Interest

- Before-After Gradient
- Detect “Reef Effect”
- Impact distance
- Biased for population assessment

Gear Selection

- Beam trawl
- Best tool for project site
- Not used elsewhere
- Ventless lobster trap
- Links to state and other developer surveys



South Fork Wind Farm fish pot survey



Site-specific gear



Regional gear

Permitting: A push towards non-extraction

- Established assessment methods create mortality & protected species interactions
- Concerns over increases in these effects
- Permitting delays and conditions pushing developers towards unestablished monitoring methods

Conclusions

- Fundamental difference in purpose
- Unrealistic to expect synergy
- Methratta et al 2023 10.3389/fmars.2023.1214949
- Integration would require federal intervention
- Current dynamic pushing divergence