

Southern New England Offshore Wind Energy Science Forum

December 11, 2017

Fish Science

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BLOCK ISLAND
WIND FARM

America's First Offshore Wind Farm

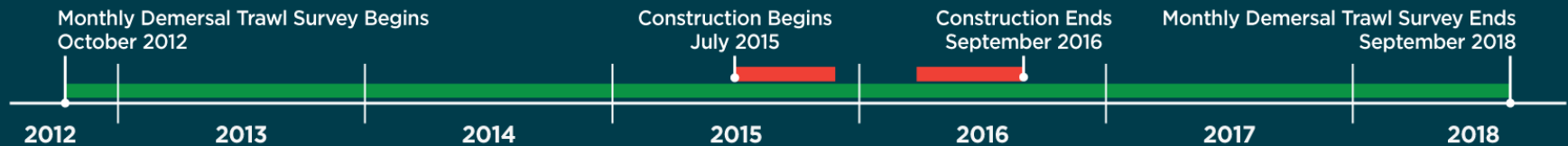
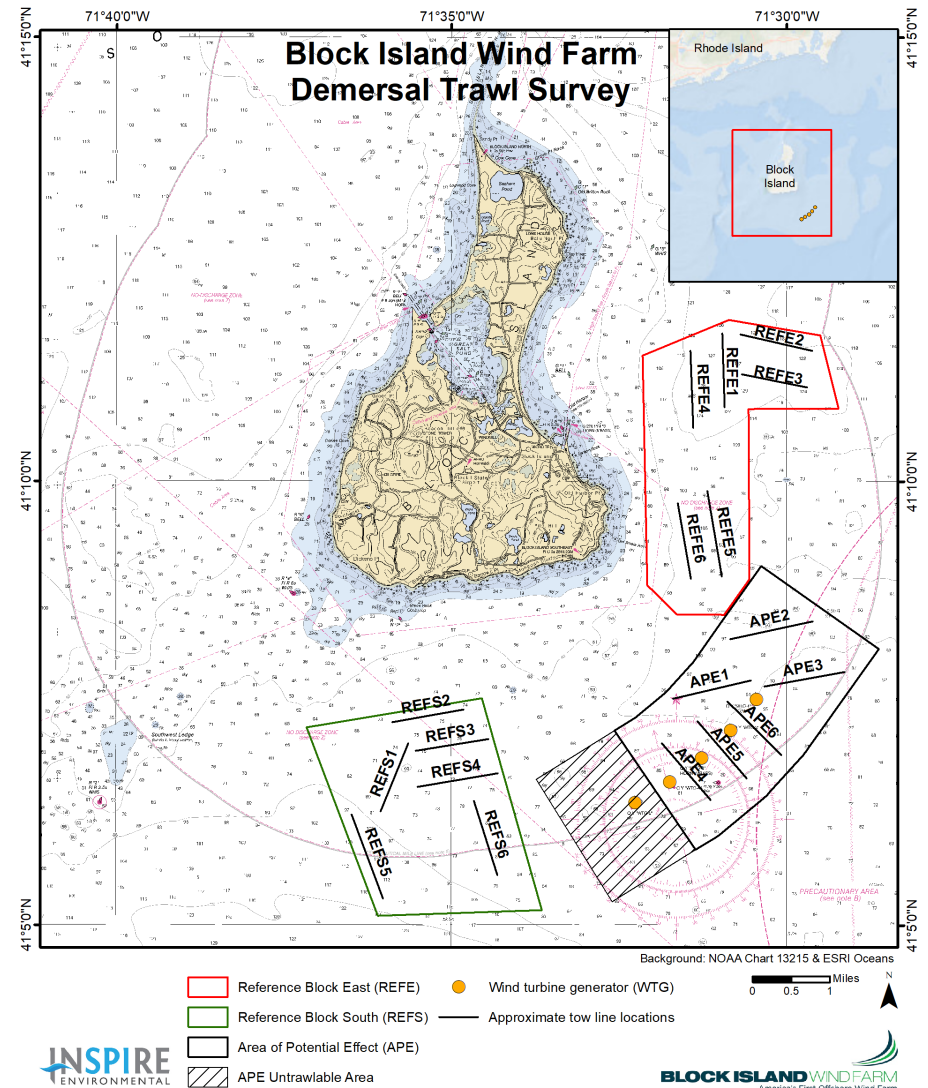


Block Island Wind Farm Research Demersal Fish and Lobster Surveys



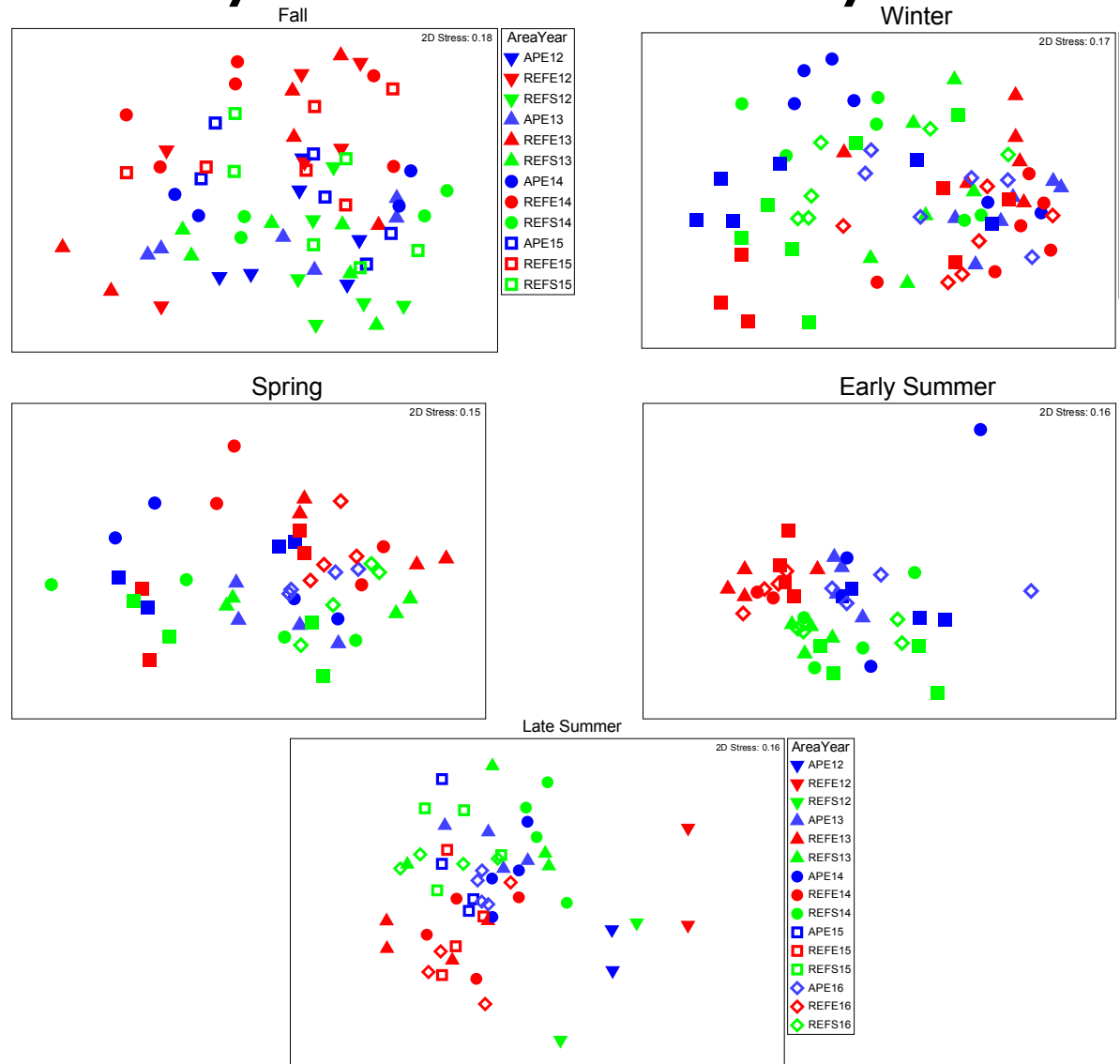
Demersal Trawl Survey

- Conducted on commercial trawler from Pt. Judith
- Otter trawl consistent with other regional studies
- 20 minute tows, once a month
- Three Study Blocks
 - Reference South – 2 tows
 - Reference East – 2 tows
 - Area of Potential Effect – 2 tows
- Six Years of Surveys
 - 2 years before construction
 - 2 years during construction
 - 2 years after construction



Demersal Trawl Survey – results from 4 years

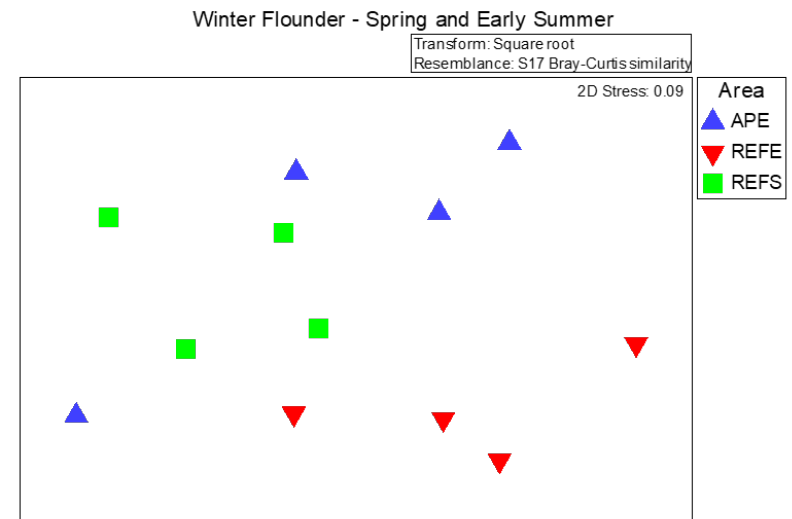
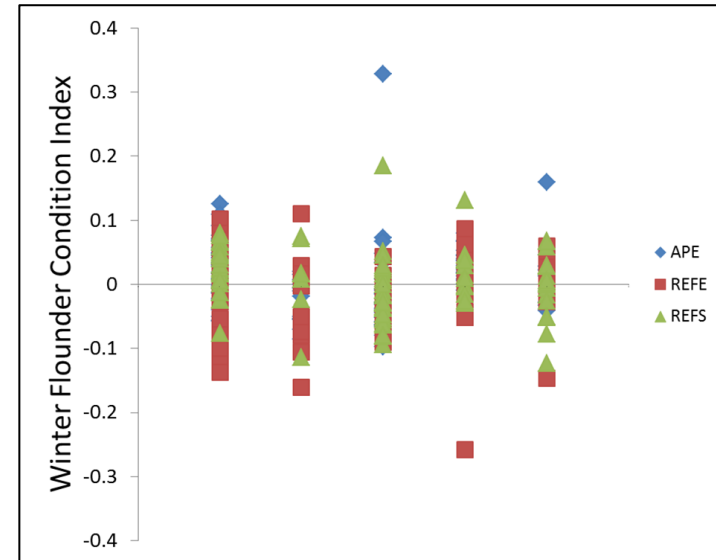
- Baseline (filled symbols) vs. Construction (open symbols)
- No change in catch except scup, skate, and dogfish higher during construction, longfin squid lower
- REFE significantly higher catch than REFS
- No consistent difference between APE and Reference Sites
- APE different from baseline to construction only in Late Summer



Condition and Stomach Contents

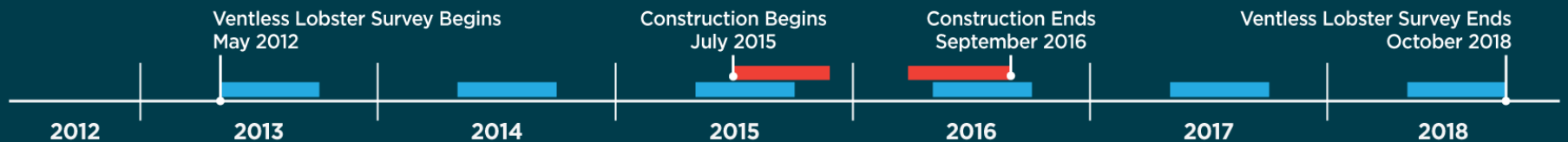
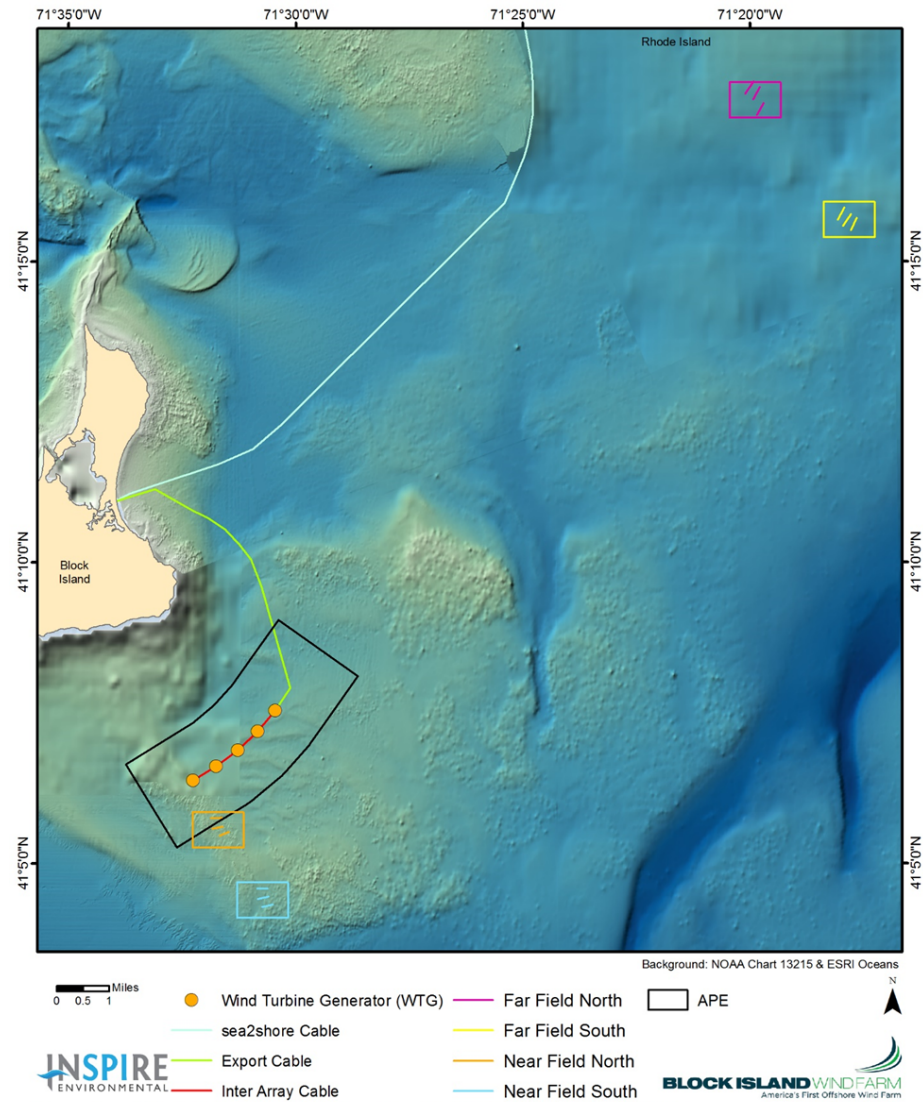
- Species
 - Winter flounder
 - Summer flounder
 - Silver hake
 - Red hake
 - Spotted hake
 - Atlantic cod
- Condition not affected by construction activity
- Prey availability not affected by construction activity

nMDS plot of mean proportional contribution of prey in stomachs of winter flounder after spawning season for 2015-2016.



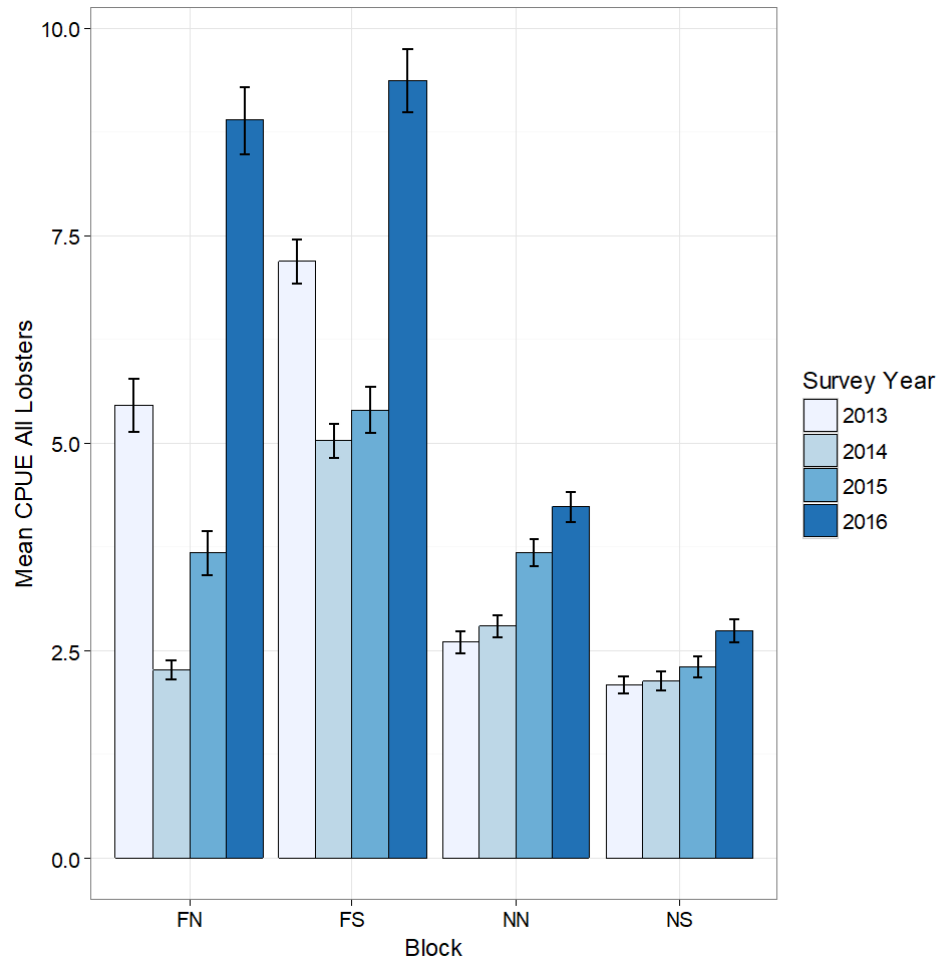
Lobster Trap Survey

- Commercial lobster boats from Pt. Judith and Newport
- Design consistent with other regional studies
- 5 night soak, twice a month
- Vented and ventless traps
- Four Study Blocks
 - 2 Near Field
 - 2 Far Field
- Six Years of Surveys: May – October 2013-2018
 - 2 years before construction
 - 2 years during construction
 - 2 years after construction



Lobster Trap Survey

- Preliminary – completed first post-construction survey in October 2017
- No negative impact on lobster abundances in the vicinity of the wind farm from construction
 - Catch higher during construction than before at near field
- Catch highest in 2016 at all sites
- Far field higher catch than Near field



Lessons learned

- Study design should balance fishing community interests and science interests
- When possible, conduct power analysis to determine ecologically meaningful difference
- Site-specific designs and results
- Be flexible about timing and duration, projects can change

Apply to future

- Engage as broadly as possible to ensure design meets information needs
- Manage expectations: small changes may not be meaningful
- Regional data necessary to interpret site-specific data
- Regional funding and cooperation would leverage efforts