



## Augmenting an offshore wind farm fisheries monitoring survey to incorporate biological condition monitoring

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# Impact Monitoring

- The agenda

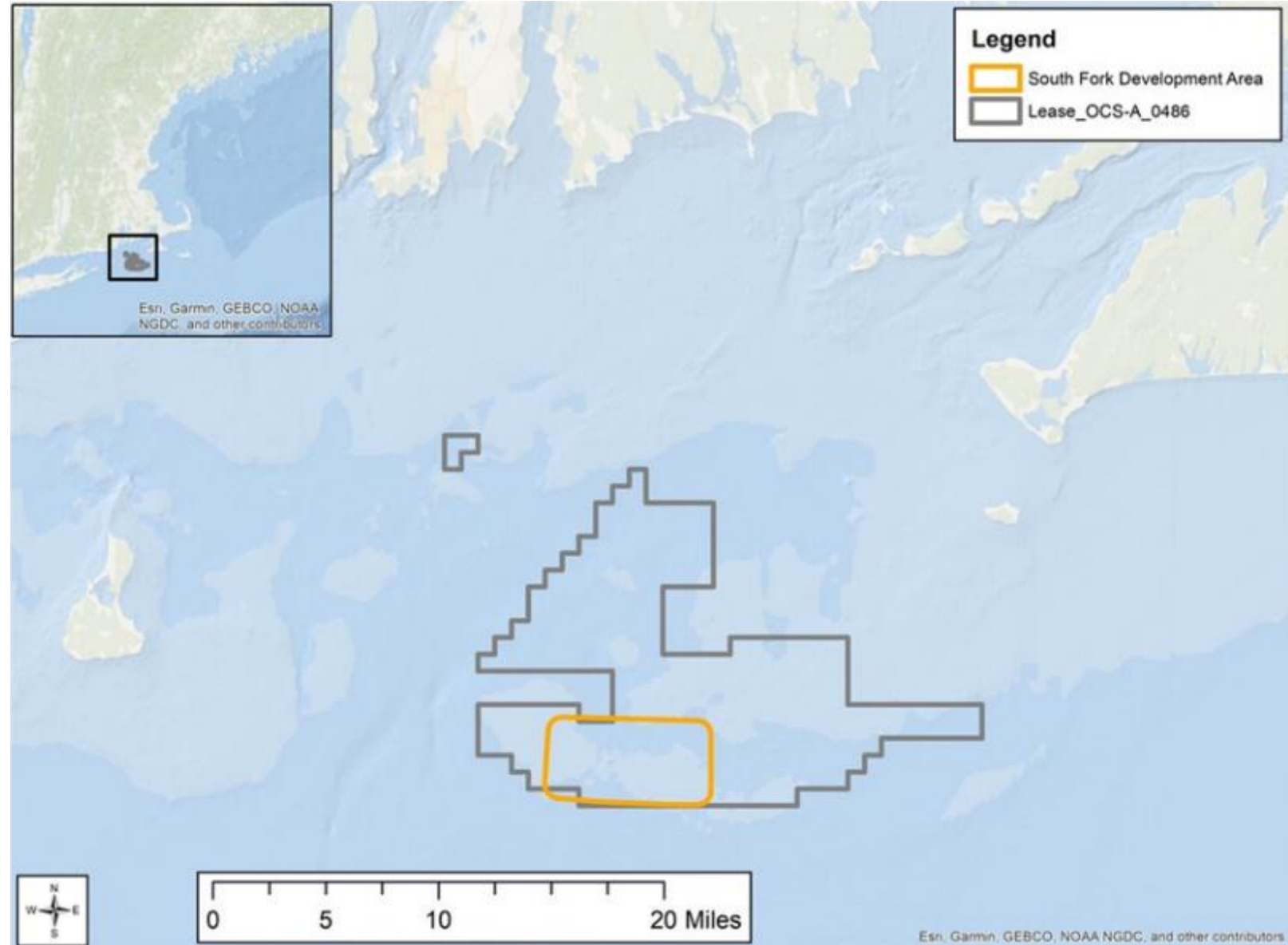
- Fisheries Monitoring
- Involve local fishermen
- Transparency
  - Data sharing
  - Reporting

- Challenges

- Protected Species
- Health and Safety

- Outcomes

- Suite of surveys in progress
- Partnerships built





# Beam Trawl Survey

- Benthic Community
  - Scallops
  - Juvenile fishes
- Environment
  - CTD casts
- Co-PIs
  - Mike Marchetti (Mister G)
  - Dr. Jeremy Collie (URI)
- RSA spurred Adaptations
  - Survey Area Redesign
  - Scallops – Beyond Counts

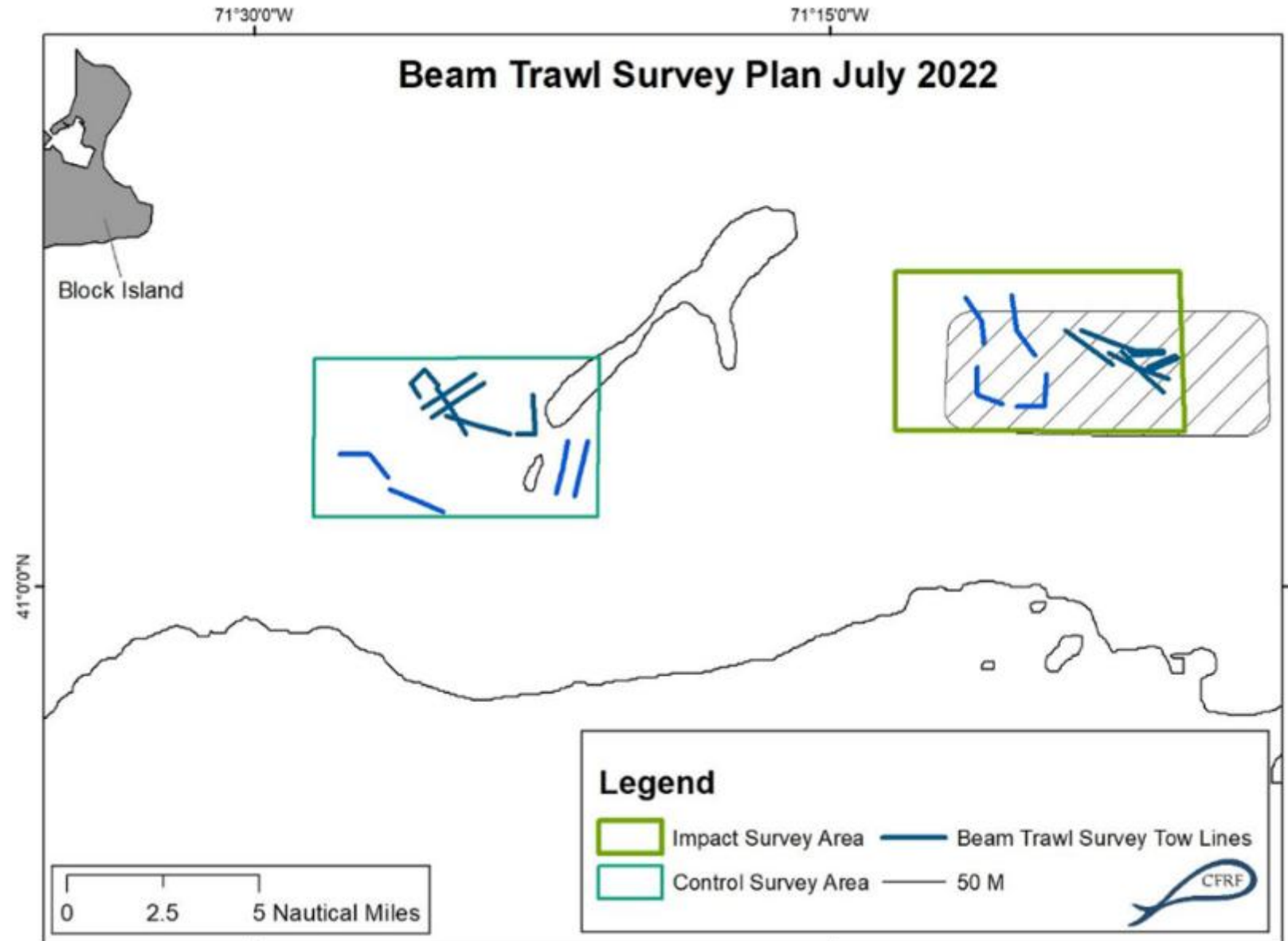






# Survey Area Redesign

- Eastern area different
  - Substrate
  - Benthic Community
- South Fork
  - Missing scallops





# More than Counting and Measuring

- Scallops are special
- Non-lethal impacts
  - Meat size
  - Meat quality
  - Gonad size
  - and More
- Broader applicability
  - Optical surveys
  - Stock assessment



## Meat Quality Guide

Normal, white scallop coloration, firm texture. Scallops with orange meats if firm should be in this category too.

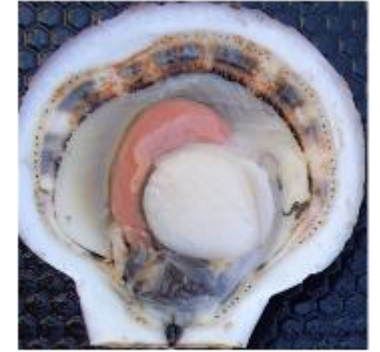
Muscle starting to degrade, slight brown discoloration, slightly smaller than expected, noticeable change in texture, softer

Gray meat, muscle is soft and flaccid, and degraded. The meat is shrunken and often difficult to separate from other tissues.

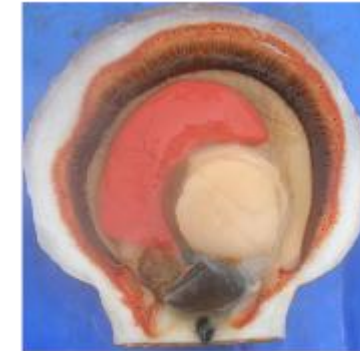
## Staging Guide: Females



**Female: Resting**  
Nearly Clear, small and flaccid females have a slight pink hue.



**Female: Developing**  
Pink, eggs beginning to grow, small, Liner is tight to tissue



**Female: Ripe**  
Large and thick, ready to burst, glossy and firm. Brightest color.



**Females: Spent**  
Pink, patchy clear areas, starting to deflate



# Developing Sampling Protocols

- RSA Funding
  - Extra tows
  - “Low-impact” protocols
- Visual assessment
  - Meat quality
  - Sex
  - Reproductive stage
- Meat & Gonad Weight
  - Comparisons
  - 6 months



Scallop tissues were either weighed with a Marel M1100 PL2262 Marine Platform scale or WPL Industries R10 M3 Marinescale at sea



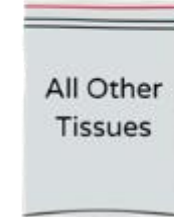
Vs.



Scallop tissues were then either stored combined in a single bag or the gonad or meat was stored separately in a different bag and frozen before being weighed on land



Vs.





# Developing Sampling Protocols

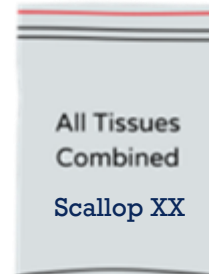
- Comparison Results

- Meat weight
  - No significant difference
  - Bias heavier land
- Gonad weight
  - No difference land vs. sea
  - Bagging Difference
    - No bias
    - Accuracy?



- Final Protocols

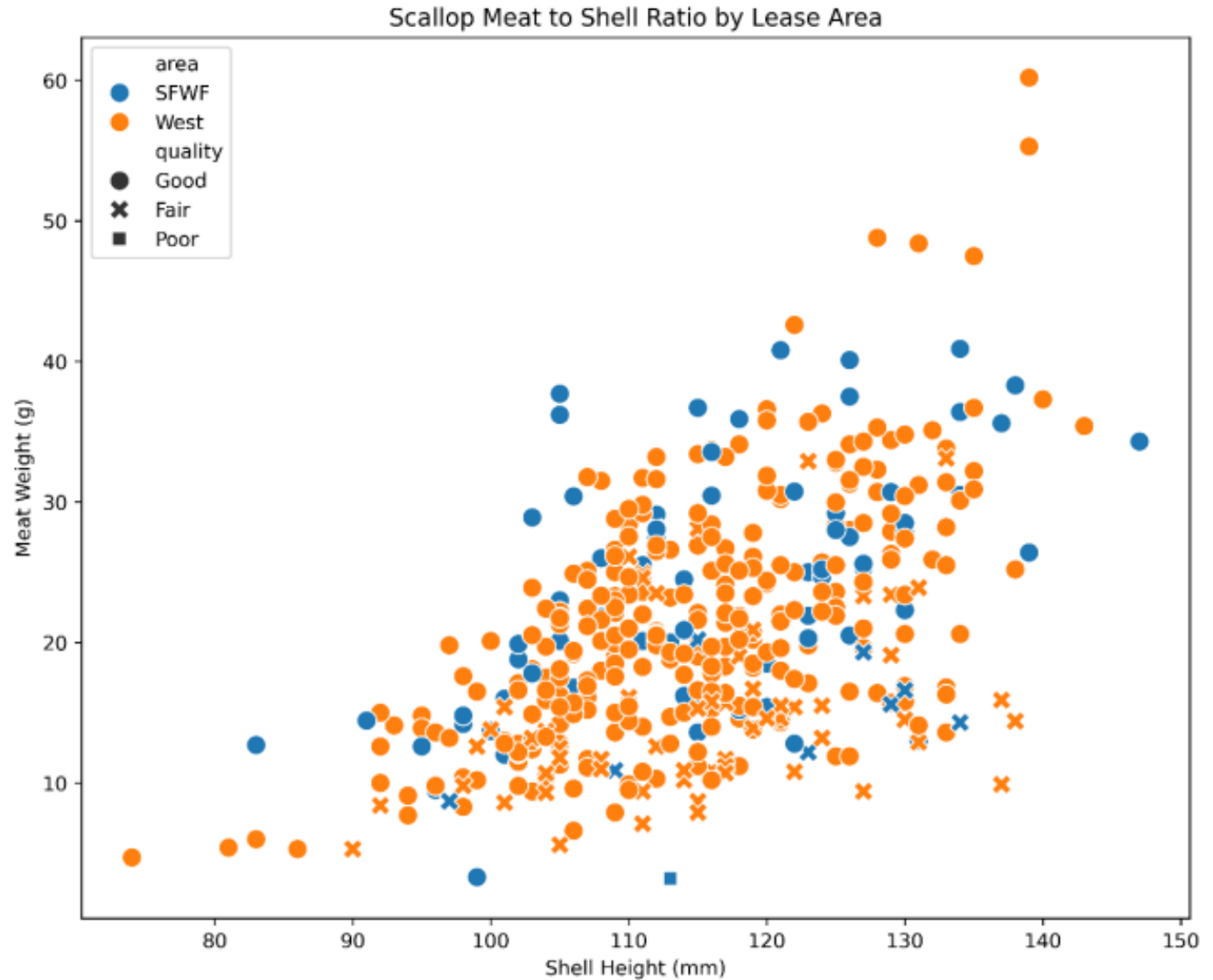
- 30 scallops per area
- Over 60 mm
- Grade at sea
- Weigh on land





# Outcomes

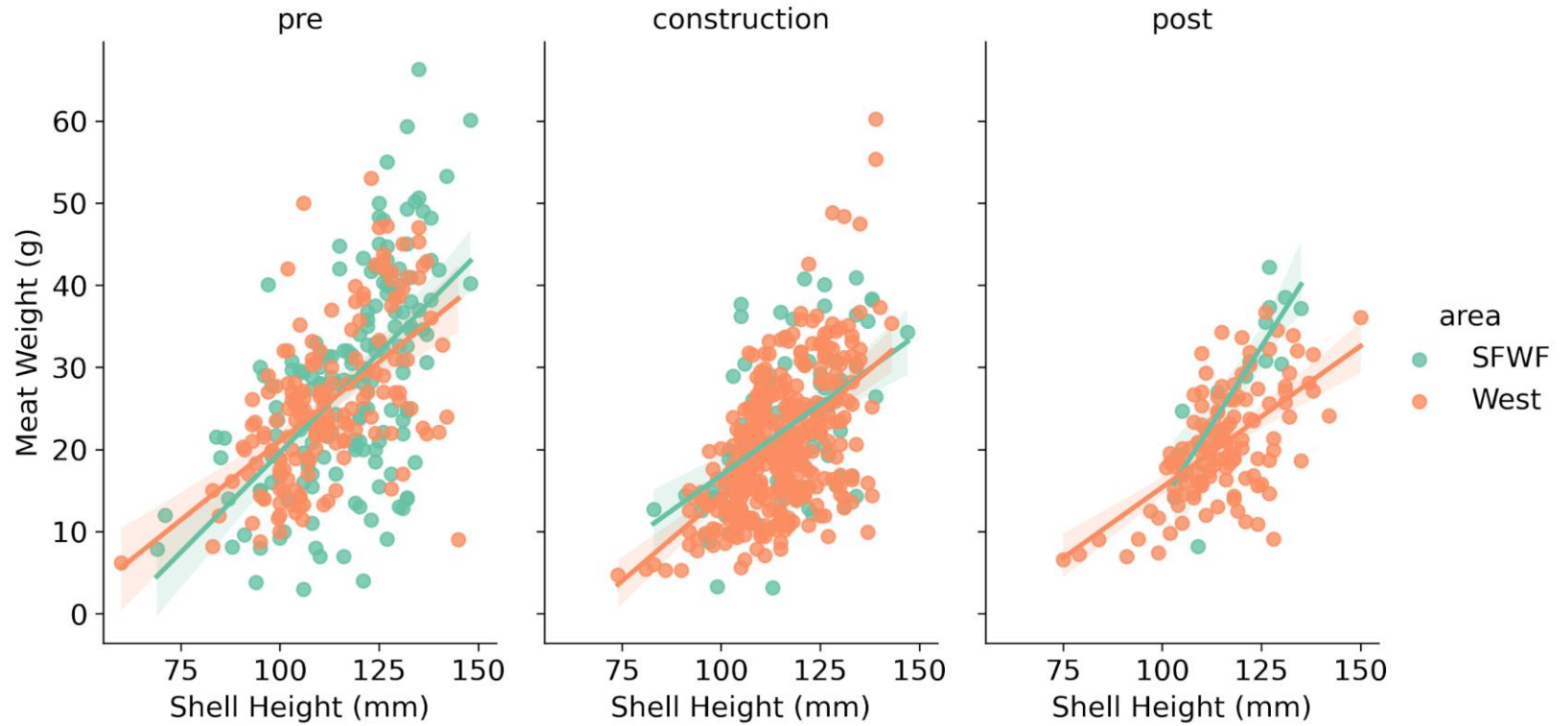
- Added to survey protocols
  - Construction and postconstruction (2023-2026)
  - Funded by developer





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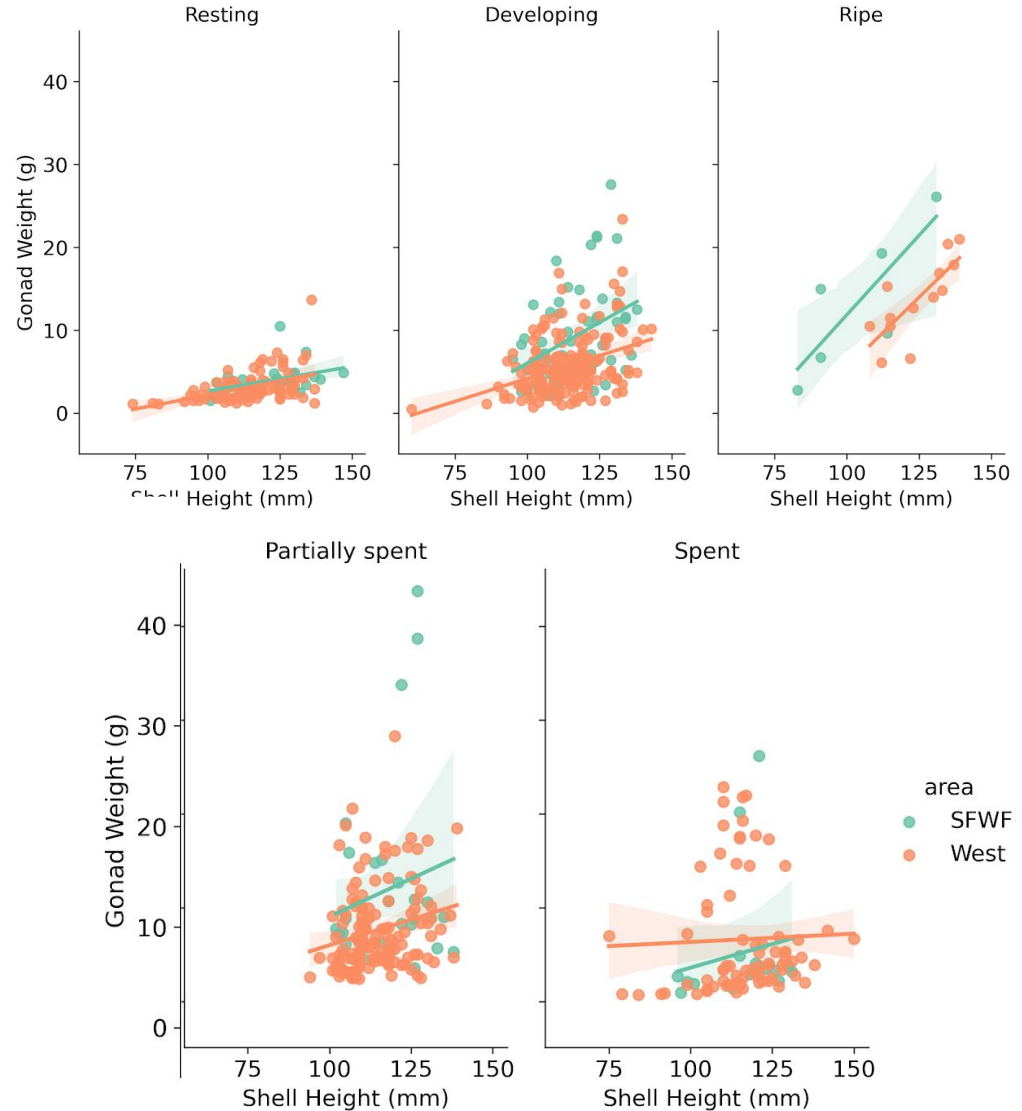
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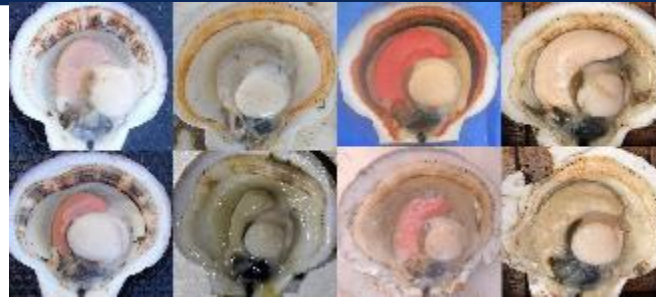




# Scallop Biological Sampling

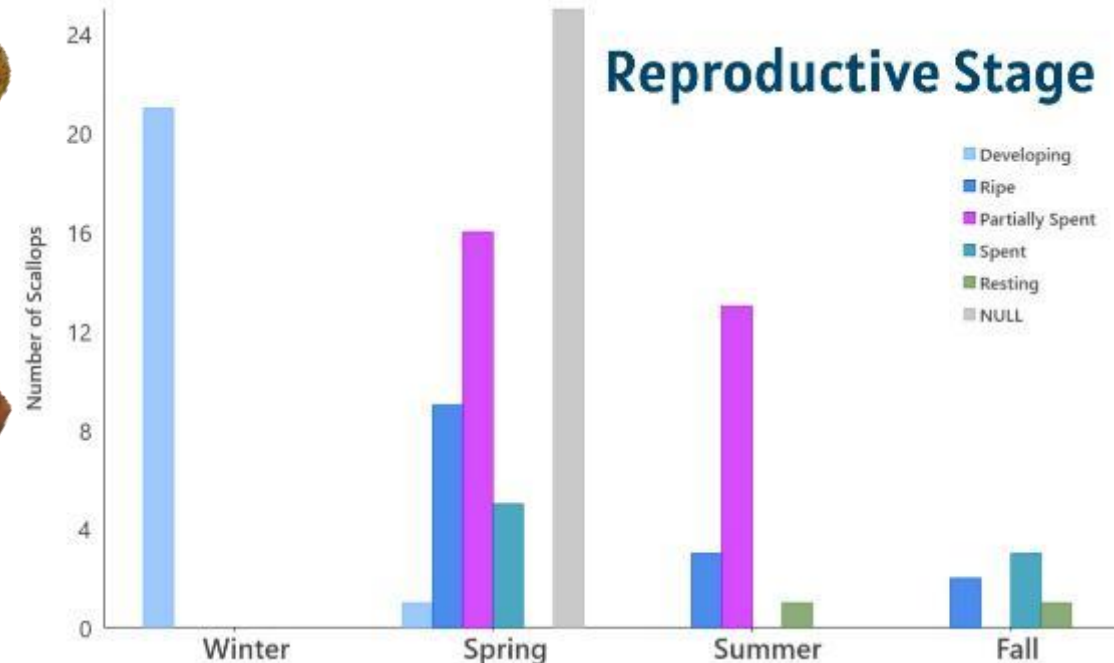
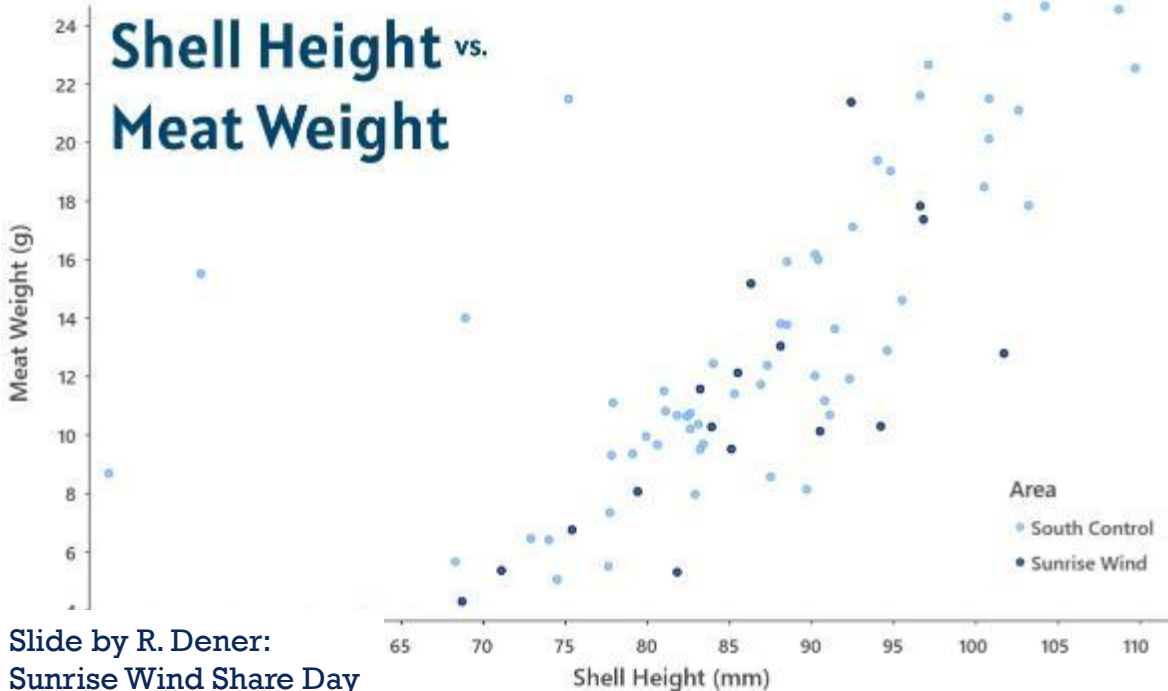
## Protocol

- Modeled after CFRF's Beam Trawl Survey sampling protocol
- Sample first 30 scallops caught per area, shell height >60mm



## Parameters

- Shell height (mm), sex, reproductive stage, meat quality
- Meat, gonad, and tissue weights recorded on land





# Thank you

- All crew and staff who have worked on the beam trawl survey
- CFRF Community Reports & Project Final Report available publicly



Beam trawl survey



South Fork  
Wind

Powered by  
Ørsted &  
Eversource





# Questions?