UMaine Commercial Trapping Survey (CTS) at NEAV I site: Methods and Motivations

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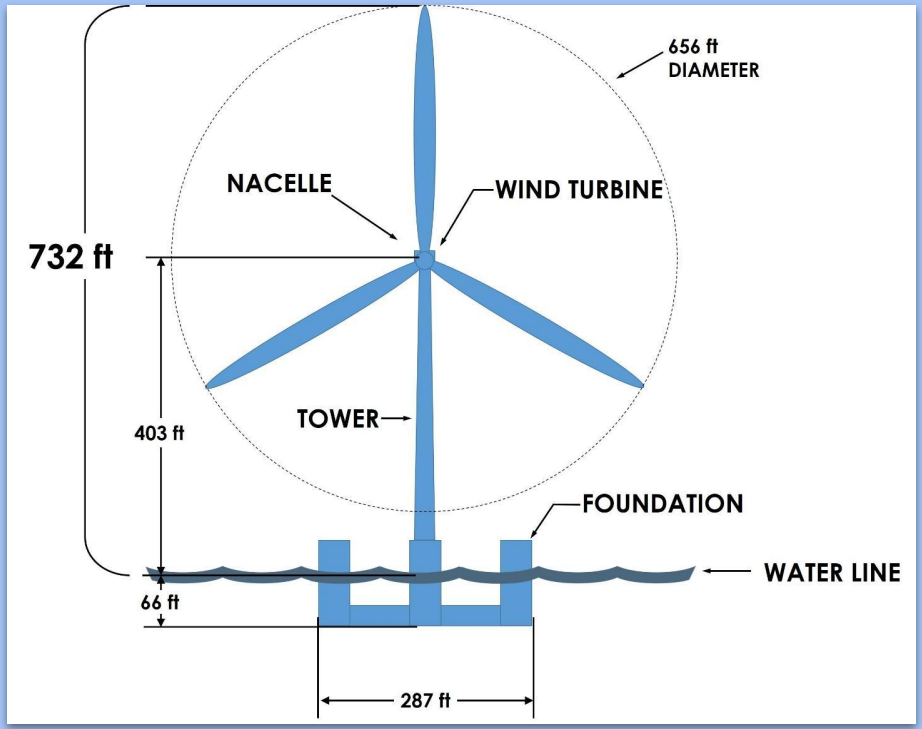
Project Overview

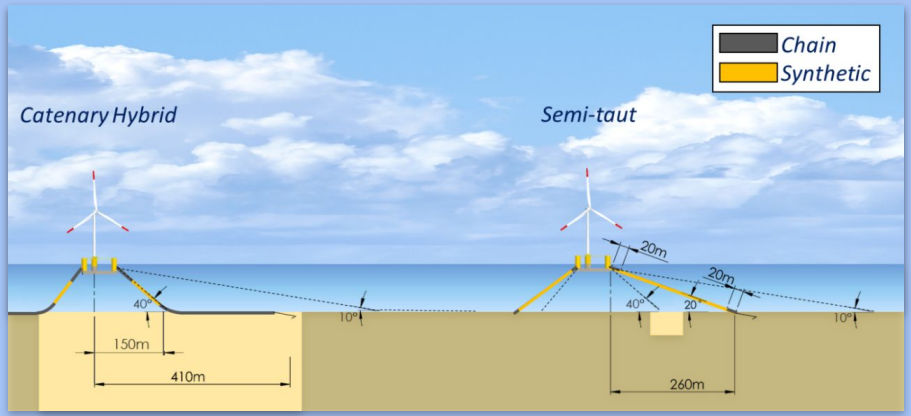
- In 2024, UMaine ASCC will deploy a floating wind turbine with a semi-taut mooring system ~ 2 nm south of Monhegan Island.



Floating wind turbine schematic.

Significance

- This will be the first floating turbine in the Western hemisphere and represents great research opportunity.



Comparison of catenary and semi-taut mooring systems.

CTS Purpose

- Primary objective: determine the impact of turbine installation and operation on commercial lobster catch.

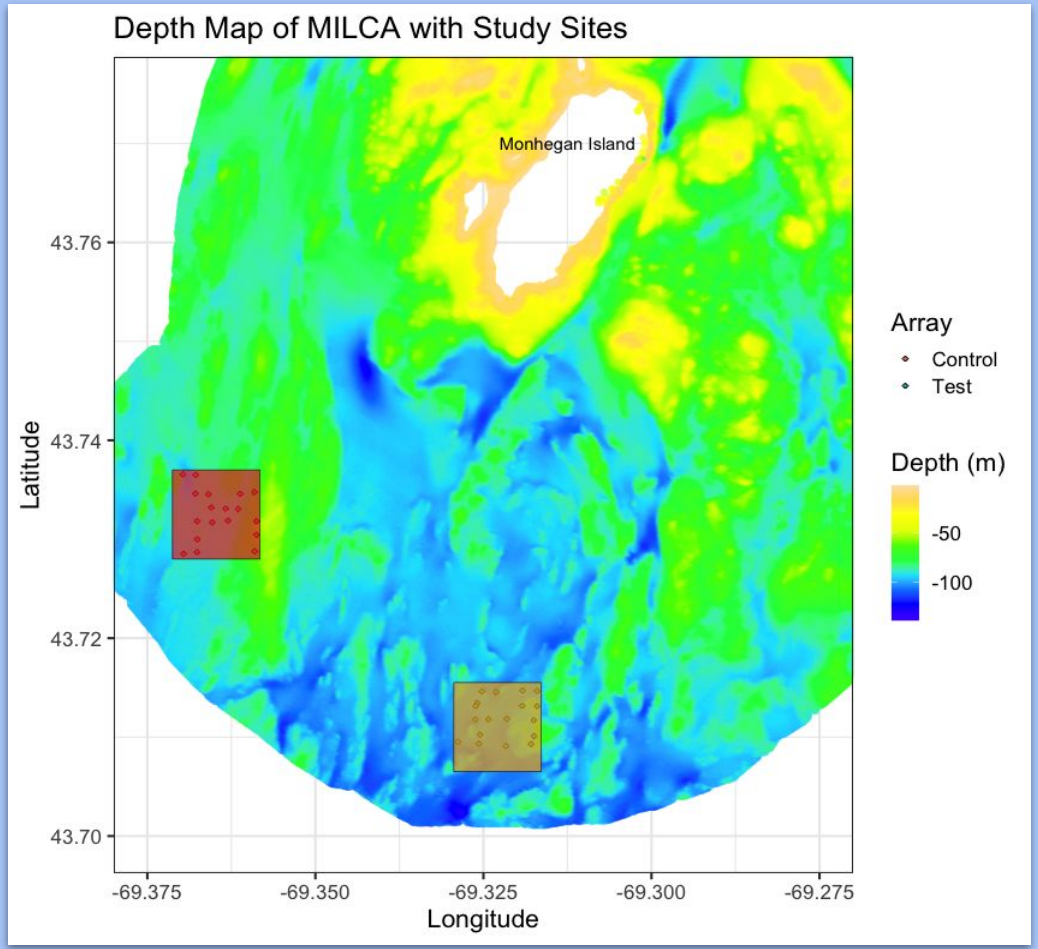
- Secondary objective: model lobster population in the test site from mark-recapture capture history data.

Cartoon turbine schematic.

Methods

- Before-After Control-Impact (BACI) study of lobster population dynamics.

- Random stratified grid sampling with integrated mark-recapture analysis using paired vented and ventless traps.



Data Collection

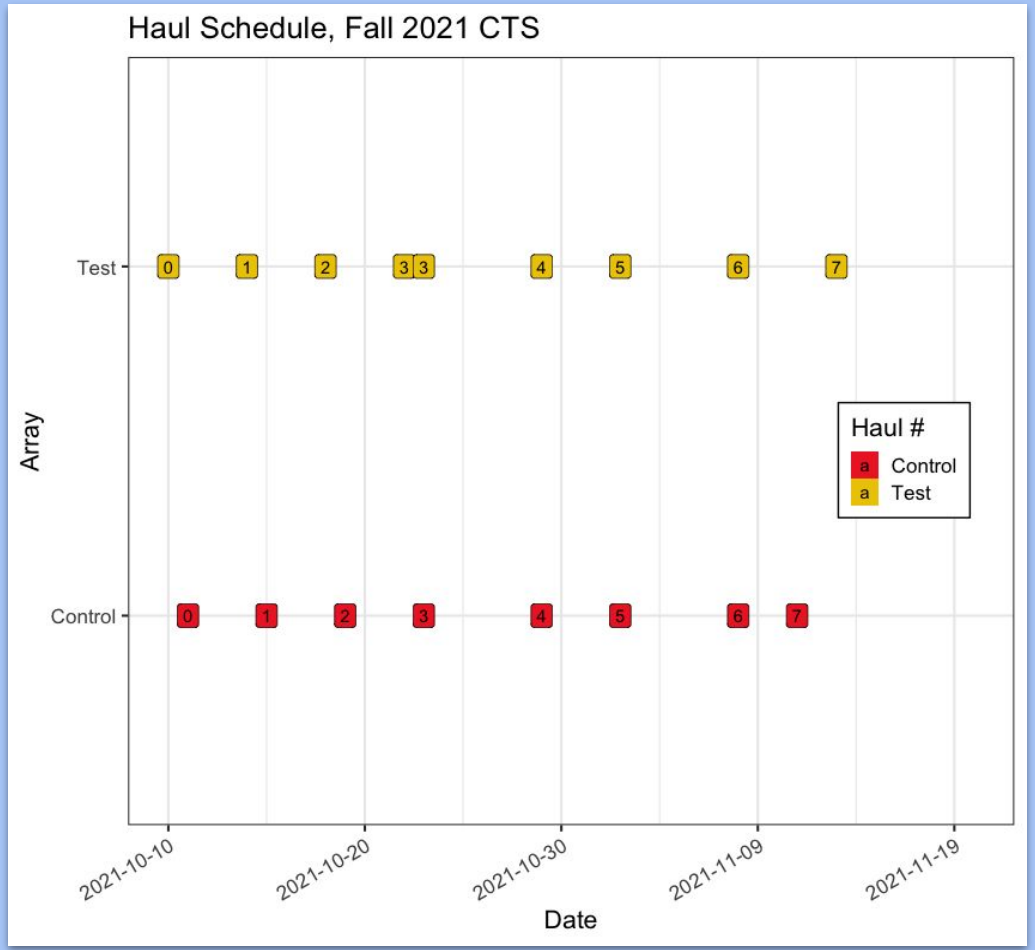
- Biological data collected for each lobster captured.
- Each lobster is tagged.
- Commercial tag reporting is encouraged and incentivized.

Tagging tool, tag clip, and calipers.

Tagged lobster.

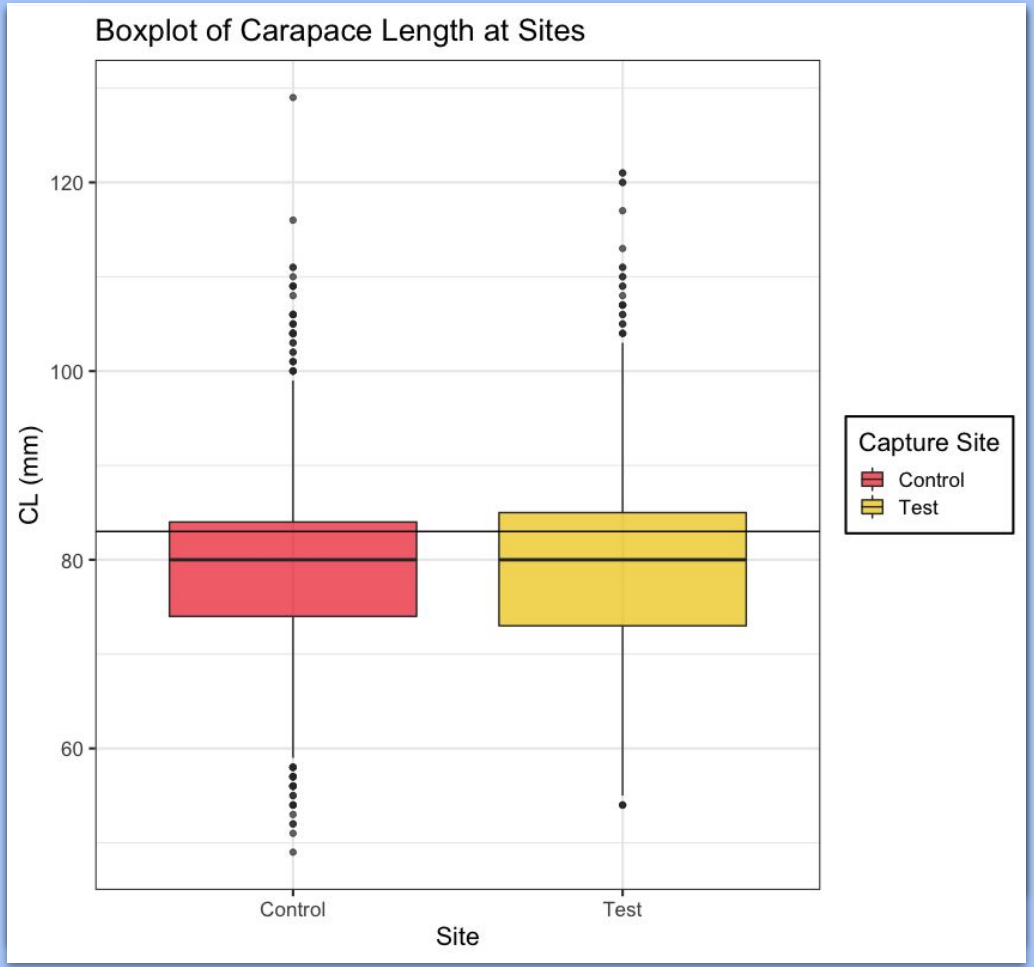
Haul Schedule

- Target of 4 night soaks, but weather extended to 6 nights twice.



Size Distributions

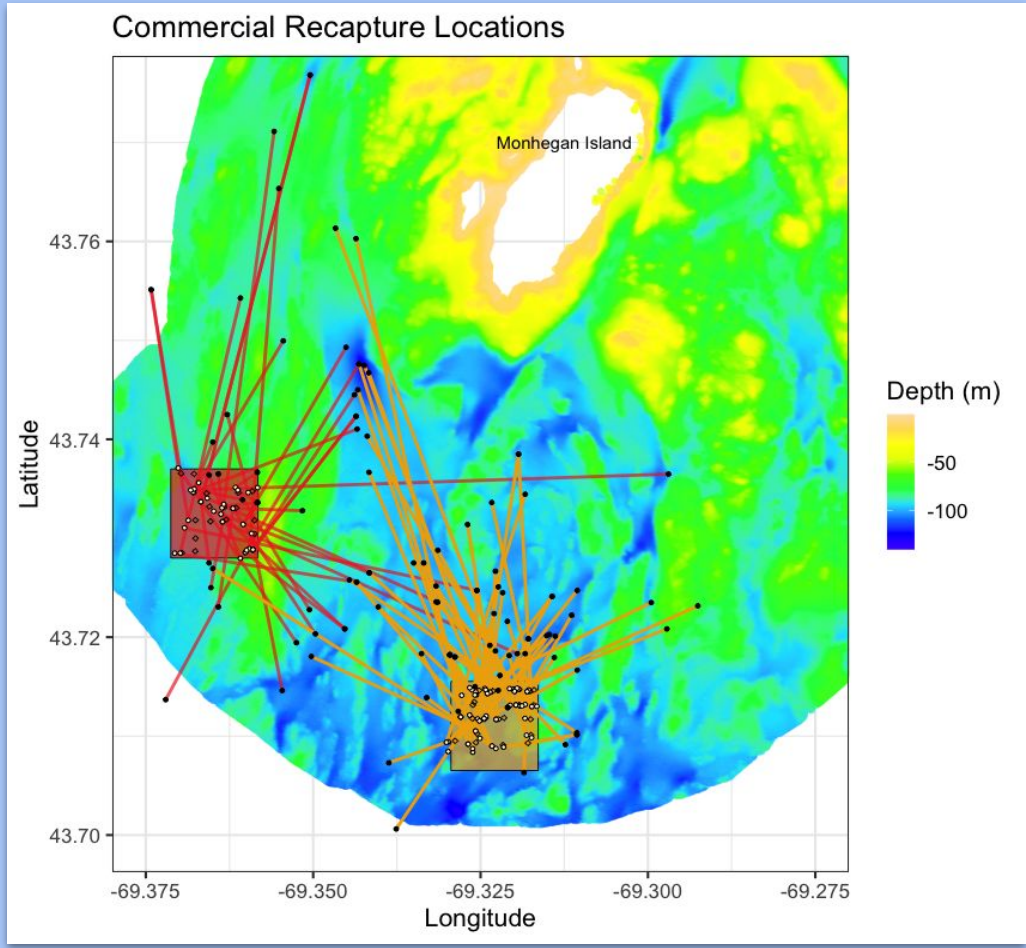
- Size distribution is similar between sites, test site slightly greater variance.
- Mean CL, sex ratio show no significant difference between sites.



Commercial Recaptures

- 110+ commercial recaptures provided with location.

- Recaptures largely occur North of release in deep locations ≥100 m.



Summary and next steps

- Finish Fall 2021 sampling, prepare for Spring 2022
- Continue catch analysis
- Mark-recapture analysis

She’s producing! A rich egger.

Acknowledgements

Chris Smith, F/V Alice B

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Resetting a pair on the F/V Mule.