

Overview – Tidal resource mitigation projects

# MAILF Program

# What is an In-Lieu Fee Program

- Under Section 404 of the Clean Water Act, the Army Corps of Engineers (USACE) requires mitigation for aquatic impacts
- ILFP (State/Non-profits) approved by USACE allows permittees to make payment rather than mitigate onsite
  - Payment only allowed for impacts remaining after avoidance and minimization
  - USACE decides whether onsite or in-lieu fee mitigation is appropriate
  - ILFP Sponsor uses payments to fund mitigation projects
    - Can take the form of restoration, rehabilitation and preservation projects
- In-kind mitigation, within 3 years is the goal

# Timeline MA ILFP



# Compensatory Mitigation in Public Tidelands/Waterways - Opportunities



Salt Marsh Restoration



Eelgrass Restoration



Artificial Reefs

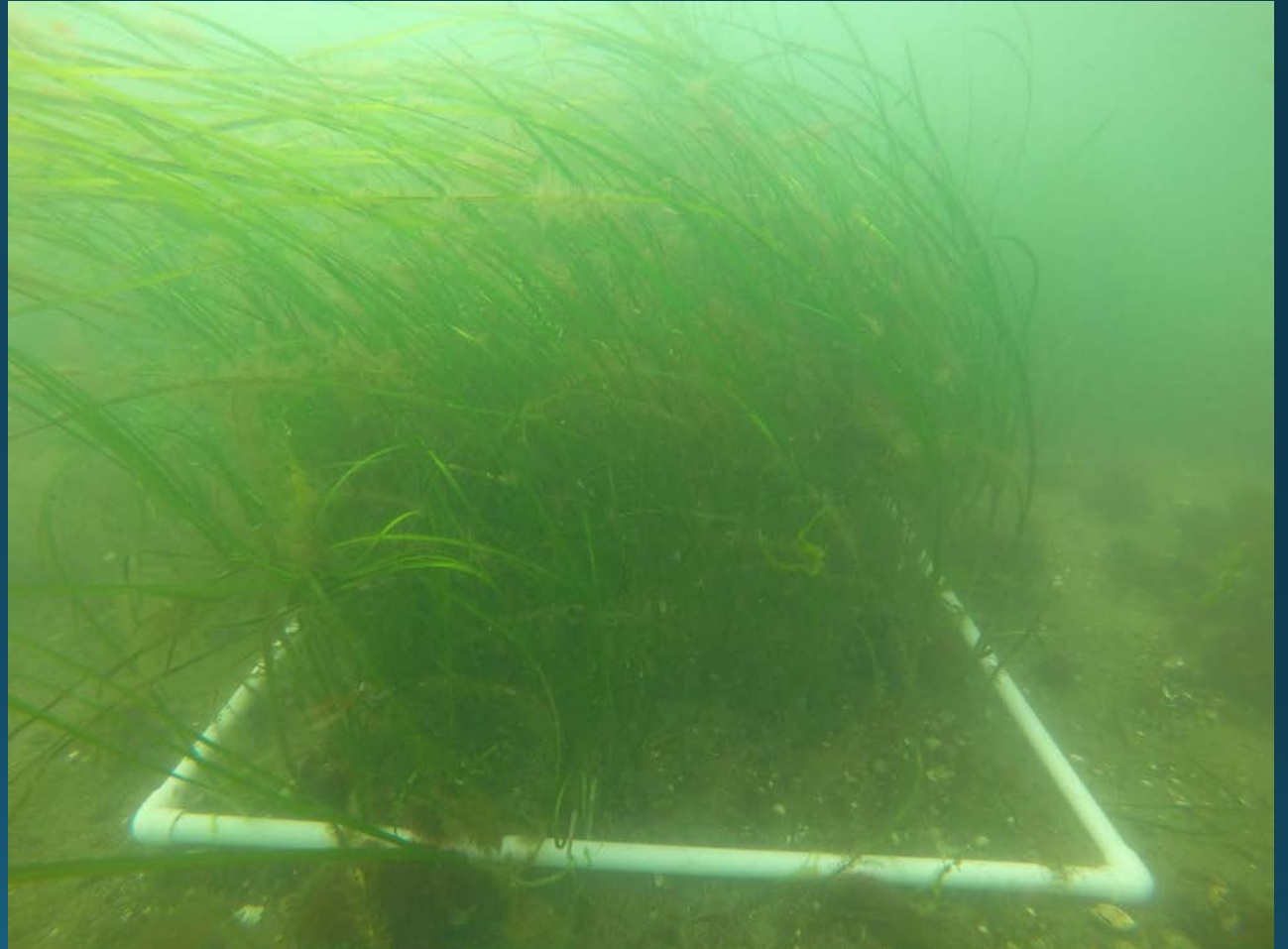


# Shared Missions – Biodiversity



# Salem Sound Eelgrass Restoration

- MA DFG Division of Marine Fisheries (DMF) – project sponsor
- Two 0.25-acre restoration areas
- 5 years monitoring complete, achieving performance standards
- Ecological metrics include survival rates, density, canopy height, persistence and expansion of planted eelgrass





# Nantucket Harbor Eelgrass Restoration

- Nantucket Land Council – non-profit partner/project sponsor
- ILF-funded project , two half-acre restoration sites
- 1<sup>st</sup> Year monitoring underway
- Site protection measures in place
- Ecological metrics include plant survival, shoot density, canopy height, persistence and expansion of planted eelgrass area

# Yarmouth Artificial Reef

Marine Habitat Enhancement: 2.1 acres (0.7 acres structure)



<https://www.youtube.com/watch?v=oJt7sWsBqGA>



# Ecological Metrics

## Ecological Performance – Diversity

- Species diversity, mobile and sessile

*The resident mobile [or sessile] species assemblage shall have a species richness similar to natural reefs in the region.*

## Ecological Performance-Production

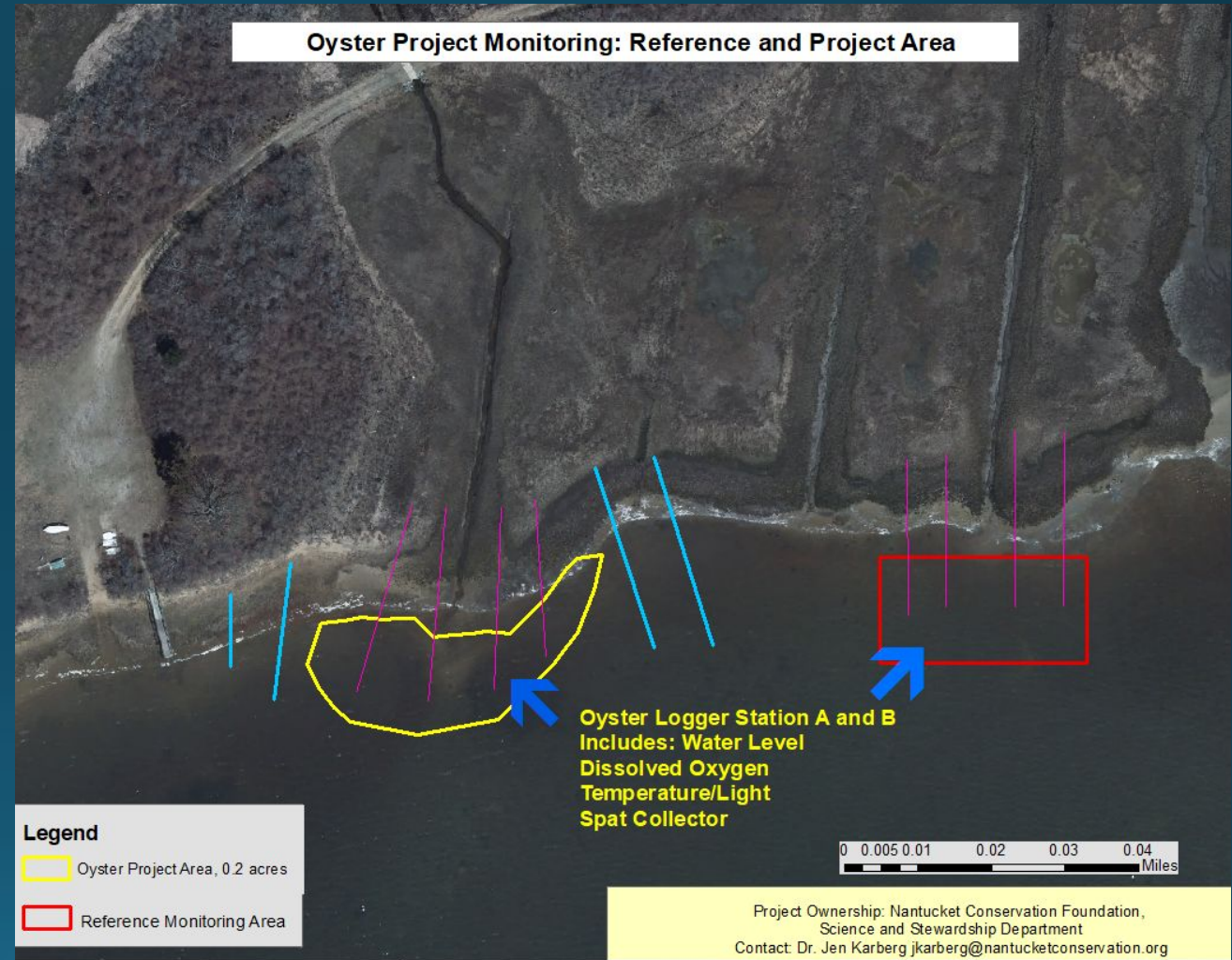
- Size/age class similarity of mobile and sessile species

*Mobile species size class distribution on the artificial reef shall be similar to natural reefs within the region*

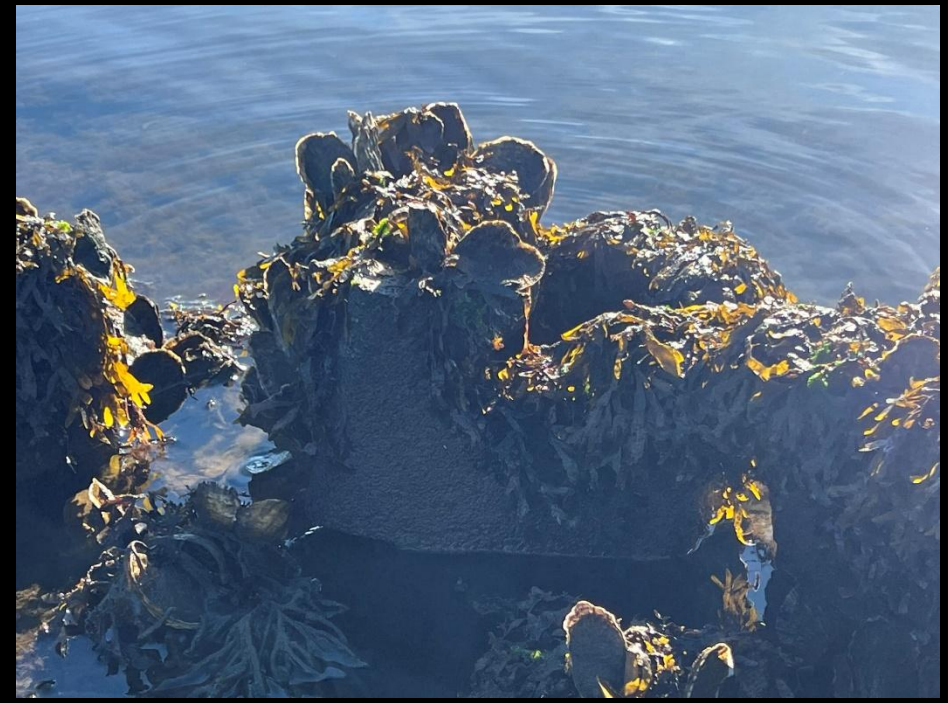
*The relative abundance of the top 10 sessile species on the artificial reef shall be similar to the top 10 sessile species on natural reefs within the region*

# Nantucket Reef & Salt Marsh Resiliency Project

- Salt marsh owned and stewarded by Nantucket Conservation Foundation
- Publicly-owned tidelands
- 0.17 acre oyster reef establishment concurrent with salt marsh restoration (purple crab management)
- Ecological metrics include oyster survival and density, revegetated salt marsh area, location of salt marsh shoreline and elevation









## Contact Information

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<https://www.mass.gov/in-lieu-fee-program>