The Nature Conservancy NH Research Priorities

Strategy: Turning the Tide at Great Bay

Lead high impact restoration initiatives to improve the health & resilience of imperiled & ecologically significant estuarine/marine habitats

1. Water quality enhancement: clarity, nutrient removal, denitrification, etc.
2. Habitat provision resulting in biological production
3. Watershed & coastal connectivity

Research Priorities:

- Water quality conditions near restoration & aquaculture
- Effects of climate change & environmental stressors to the system: precipitation, ocean acidification, SLR
- Oyster larval dynamics & recruitment patterns
- Partnership with farmers to provide oysters for restoration (restorative aquaculture)
- Native & restored adult oyster demography: growth, survival, size classes, reproductive output
- Eelgrass spatial assessment & documentation of recovery sites
- Sedimentation rates & dynamics
- Ice floe effects
- Eelgrass & oyster (native, restored, aquaculture) interaction & synergy
- Fish & invertebrate density & distribution within the Bay: native oyster reefs, restored oyster reefs, eelgrass beds, aquaculture sites
- Tidal culvert removal & salt marsh dynamics
- Effects of dam removal
- Watershed health & coastal connectivity
- Develop nature-based solutions to further climate adaptation strategies

Strategy: Sustainable Fisheries for the Future

Transform fisheries management to stabilize groundfish stocks, improve the ecological resilience of the Gulf of Maine, and anchor access to the fishery for NH fishermen.

1. Foster collaborative research to improve understanding of the Gulf of Maine ecosystem & develop more sustainable fishing practices
2. Fishery data modernization to drive more effective and cost-effective sustainable fisheries management.

Research Priorities:

- Effects of climate change & environmental stressors to the Gulf of Maine: ocean acidification, ocean warming, current regimes, species range extensions
- Groundfish population dynamics: abundance, distribution, growth, age, spawning grounds
- Modernizing information collection by fishermen with tools like digital reporting and electronic monitoring to inform stock assessments and fishermen's ability to fish more sustainably and profitably.
- Selective or alternative gear studies to target healthy stocks and avoid weak stocks
- Diadromous, demersal & forage fish demography
- Understanding and improving habitat management for fish production.
- Advance ecosystem based approaches & climate ready fisheries design.

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