

## Ocean and Coastal Ecosystem Health Committee 2021-2022 Work Plan



The Ocean and Coastal Ecosystem Health (OCEH) Committee is one of three Northeast Regional Ocean Council (NROC) standing committees. This committee was established to help identify and coordinate regional activities to preserve and restore ecosystem health in New England. As recommended in U.S. federal statutes and resolutions adopted by the New England Governors and Eastern

Canadian Premiers, ecosystem health and the ability to sustain those services derived from healthy coastal ecosystems must rely on an ecosystem-based management (EBM) approach. In an EBM context, NROC and the OCEH Committee believe that we have the best prospects for integrating management efforts that crosscut most if not all of the most pressing issues related to ocean and coastal ecosystem health. Further, an EBM framework automatically incorporates other national priority objectives for supporting data and science, spatial characterizations, and program integration that will foster better decisions and management that can help achieve the overarching goal of healthy and resilient coastal and ocean ecosystems.

The NROC OCEH Committee combined with the Northeast Regional Association of Coastal and Ocean Observing Systems (NERACOOS) Ecosystem Health Committee to develop an integrated, regional sentinel monitoring plan to document the effects of climate change and other stressors on northeast ocean and coastal ecosystems, and formation of a regional network to advance scientific understanding of ocean acidification and its impacts on marine-dependent industries. This coordination is essential to implement a regional monitoring network that will support an effective EBM approach and the indicators that are derived from monitoring data that will guide and chart their progress.

Goal: Enhance region-wide coordination and collaborative actions on shared ocean and coastal ecosystem health priorities including those affecting water quality, habitats, and living resources and their derived social and economic benefits.

Need for Action: The Northeastern U.S. coastal ocean is a rich and diverse place, from the near-shore sounds of southern New England to the beaches of Cape Cod, and the rocky shores and complex circulatory patterns of the Gulf of Maine.

These ecosystems have abundant resources and have supported coastal communities for generations. But these valuable ecosystems are vulnerable. The impacts of increasing human uses, including many new industrial uses, and the effects of fragmented, single-sector management are showing in degraded water quality, depleted fish stocks, and damaged habitat that have diminished our lifestyle and economy alike. Since 2010, the temperature in the Gulf of Maine has been above average 92% of the time. It's been at heatwave levels for 55% of the time. Predictions from climate models project indicate that this warming rate will continue to exceed the global average in the future. The effects of warming and other pressures are widespread, often linked to common causes, as evidenced by documented "dead zones" in Long Island Sound, shifting and unbalanced natural communities and diminished fisheries in the Gulf of Maine. The New England states also have identified causal links to human activity such as development on land and use of fossil fuels with the health of our coastal waters and estuaries.

Many people, agencies, and organizations are already working to protect and restore coastal and ocean ecosystem health in the Northeastern U.S. NROC's role is to support the priorities of

the New England Governors, guided by the themes of their adopted resolutions as well as those provided in EO13840, "Ocean Policy to Advance the Economic Security, and Environmental Interests of the United States." Generally, these themes are 1) adopting EBM; 2) improving resiliency; 3) obtaining, using and sharing the best science and data; 4) promoting efficiency and collaboration; and 5) strengthening our regional effort. These themes are well-suited to NROC's and to the OCEH Committee's construct and strategy to enhance communication and collaboration, advocate for collectively-determined priority regional actions, and help articulate a common vision for management and restoration. To implement this strategy, NROC has identified three areas of focus within coastal and ocean ecosystem health:

- Link observations to management decision-making,
- Enhance data collection, integration and dissemination, and
- Improve governance, coordination and communication.

Strategies: The committee has identified three broad strategies for working toward its goal of protecting and restoring coastal and ocean ecosystems in the Northeast:

1. Support research and monitoring that enhances our understanding of ecosystem structure and function as related to human impacts, improves utility of social, economic and environmental indicators, and leads to effective EBM implementation
2. Strengthen regional coordination to promote efficiency and collaboration by building partnerships, sharing resources, and reducing redundancy of efforts and ensuring full public and professional participation in the decision-making process
3. Facilitate the accessibility of data and decision support tools needed to support restoration, conservation, and resiliency of coastal habitats, through coordination, technical and financial assistance.

Activities listed below are underway or in the development phase and will begin the process of implementing the strategies. While far from complete with respect to the goal of implementing an EBM framework throughout the region, many of these actions provide a start, or even a cornerstone towards achieving that goal.

Strategies and activities: Each of the strategies and activities have specific associated steps that the committee members and their partners will implement over the next two years.

## **Strategy OCEH-1: Support Research and Monitoring**

### **Activities:**

#### **OCEH – 1.1 Implement "Integrated Sentinel Monitoring Plan for Ecosystem Change in Northeastern Ocean and Coastal Waters"**

*Lead organizations: EPA, GMRI, NERACOOS*

NROC will work closely with NERACOOS and other partner organizations to implement the science and implementation plan for an integrated regional climate change sentinel monitoring network for the Northeast region (from the Canadian Maritimes to Long Island Sound). The ISMN is envisioned as a regional entity with infrastructure that will sustain an adaptive sentinel monitoring network, with five major functions: 1) provide coordination support for existing observing activities; 2) further develop, integrate, and coordinate regional capacity for data management and distribution; 3) enhance and expand current monitoring efforts by supporting needed supplemental measurements; 4) create and sustain a data management, analysis and

interpretation system and communication strategy to inform researchers, managers and the public; and 5) support an integrated, ecosystem-based management framework for adaptive responses to change.

**1.1.1 Update and disseminate the plan as guidance on the region's need for sentinel indicators and enhancements that can be identified in proposals for funding**

NROC will host the plan on their website under "current activities" for the OCEH workgroup

**1.1.2 Write letters of support to proposals that directly address sentinel monitoring needs**

NROC will write letters of support for proposals which will fill sentinel monitoring data collection gaps in present monitoring activities

**1.1.3 Provide guidance on collection protocols and other technical issues to promote standardization and accuracy of data and hence it's utility for broader integrated and comparative analyses**

NROC will provide a forum for discussion to agree upon data collection protocols – this could include workshops, surveys and/or formation of an expert panel. Agreed-upon standardization will be written up in the form of a guidance document for dissemination to NROC partners and the greater public.

**1.1.4 Develop data management capacity and guidelines to ensure that data produced by these observing activities are conserved and entrained in integrated analysis**

NROC will work closely with NERACOOS to ensure all relevant data is captured in a centralized metadata-database ([Monitoring Inventory – Integrated Sentinel Monitoring Network](#)).

**1.1.5 Identify and pursue funding opportunities to implement the plan**

NROC, NERACOOS, and partner organizations will coordinate to identify potential funding sources to fill gaps identified in the plan, increase spatial or temporal coverage of key sentinel sites, and increase the observing, data management, and modeling capacity of the northeast region.

**1.1.6. Support implementation of the ISMN project monitoring zooplankton abundance.**

NROC, NERACOOS, and partner organizations will, estimate nutritional value for endangered whales, and predicting whale foraging behavior, and advise on extensions of the project to include forage fish and other ecosystem components.

**OCEH – 1.2 Support Northeast Coastal Acidification Network (NECAN)**

*Lead Organizations: NERACOOS, EPA*

NROC will work closely with NERACOOS and other partner agencies and organizations to expand the capacity of NECAN to improve our scientific understanding of ocean and coastal acidification and work with stakeholders to adapt to the effects of acidification.

**1.2.1 Serve on NECAN Steering Committee to help ensure NROC interests are well represented**

NROC will participate in regular steering committee conference calls, periodic meetings, technical workshops, and stakeholder outreach workshops.

**1.2.2 Facilitate funding to support monitoring and research on ocean and coastal acidification**

Member agencies and institution will try to identify and secure funding through relevant programs to support these activities.

**1.2.3 Facilitate funding to support outreach and education to external stakeholders from ocean-dependent industries, such as the shellfish aquaculture and fishing industries**

Member agencies and institution will try to identify and secure funding through relevant programs to support these activities.

**1.2.4. Contribute to Northeast regional component of the national CAN vulnerability assessment**

NROC will contribute to the CAN vulnerability assessment and support development of a regional OA action plan that builds from the assessment outcomes.

**Strategy OCEH-2: Strengthen Regional Coordination**

**Activities:**

**OCEH-2.1 Hold an OCEH committee meeting**

*Lead Organizations: EPA, NH Coastal Program*

**2.1.1 Update OCEH committee roster, define subcommittee rosters**

**2.1.2 Exchange information on partner programs and activities relevant to OCEH committee goals**

- Activities related to marsh resilience; further data and information needs for the region

**2.1.3. Offer a NOAA Coastal Management training opportunity on applying ecosystem service framework to current projects**

**OCEH-2.2 Promote regional seagrass and marsh resiliency through understanding existing seagrass and salt marsh condition, coordination of mapping and migration modeling, implementation of seagrass and salt marsh management techniques, and evaluation of project effectiveness and their use in New England Coastal Zone Policy**

*Lead Organizations: EPA, NOAA, NH Coastal Program*

**2.2.1 Continued support of marsh migration projects in the region**

Building on previous NROC marsh migration work, which has included workshops and development of a guidance document through a contract, OCEH will work to distribute the guidance, implement the recommendations, and continue the dialog among practitioners. Meetings of the technical and policy community of practice around marsh migration will be held as needed to move forward the state of understanding of New England marshes as sea level rises.

**2.2.1: Establish a regionally consistent methodology for salt marsh mapping, monitoring and data management to support salt marsh conservation and restoration in New England.**

Through a series of workshops, convene regional partners to share current practices and consider unified salt marsh mapping and monitoring methodologies and data management practices. Advance consensus-based mapping and monitoring methods and database through publication.

**2.2.3 Explore next steps and evaluate effectiveness of projects**

Consider and explore relevant marsh management techniques to improve salt marsh resiliency. This may include conducting similar projects at other locations in the region using tools currently under development. As projects in the region move forward, promote measurement, monitoring and evaluation of the effectiveness of the techniques used then translate and communicate lessons learned throughout the region. Funding opportunities to support this work will be sought after by member agencies and partner institutions.

**2.2.4 Integrate marsh resiliency efforts with regional road crossing and culvert assessments and aquatic connectivity projects.**

Promote tidal crossing (ex. culverts) activities that incorporate policy, assessment, design standards and construction guidelines that make systems more resilient and allow for aquatic connectivity and assist in marsh migration. In addition, NROC will promote and coordinate as appropriate projects that increase connectivity through removal of obstructions such as dams and seawalls.

**2.2.5 Continued Support of Blue Carbon efforts in the Region**

Building off the NROC funded Blue Carbon project, which added updated eelgrass and salt marsh habitat and carbon stock data to the Northeast Ocean Data Portal, NROC will continue to support the New England Blue Carbon Workgroup and project partners, including highlighting project methodology and results, possible implications, and future needs.

**OCEH-2.3: Strengthen habitat classification and ocean mapping efforts in the Northeast  
Lead Organizations: NOAA, Massachusetts Coastal Zone Management**

Coordinate with NROC Ocean Planning Committee, NROC Ocean Planning Staff/Contractors and Habitat Classification and Ocean Mapping (HCOM) subcommittee members to strengthen collaboration between and compatibility of habitat classification methods and efforts in the New England Region. The work of the Habitat Classification and Ocean Mapping Working Group will be continued through shared knowledge and regional mapping coordination to effectively meet mapping needs in New England, particularly northeast submerged lands and outer continental shelf lands.

**2.3.1 Regional mapping planning coordination.**

- a) Through the use of SeaSketch and other partnerships, NROC partner members will continue to share their mapping.
- b) plans and needs in an effort to find opportunities to leverage resources among NROC partners working in New England.

- c) HCOM members will receive an update on mapping plans and recent activities.
- d) Describe regional mapping priority gaps to share and help direct resources, this may be done through a workshop.

### **2.3.2 Develop a habitat classification community of practice.**

- a) Foster ongoing community activities for sharing techniques around habitat classification mapping using CMECS. Will use peer to peer learning, for example listserv for sharing questions and techniques, and workshops to expand knowledge and collaboration, in order to build on regional best practices, to foster enhanced understanding and management of New England waters.
- b) Encourage the requirement of offshore wind companies to map seafloor resources using CMECS and to develop platforms for sharing their data more broadly. Support companies through a workshop to better understand CMECS application in the Gulf of Maine.
- c) Share revised CMECS classification approach used in the Gulf of Maine with regional and national partners. Share methods used in the HCOM Gulf of Maine Geofom Project (especially with regard to future updates using higher resolution data), through presentations and workshops.
- d) Improve ability to utilize data in different habitat classification schemes through creating crosswalks to CMECS.
- e) Connect with efforts going on in other regions (e.g., Great Lakes Aquatic Framework) for cross regional mapping learning opportunities.

### **2.3.3 Identification of new resources and collaboration opportunities.**

- a) HCOM members will actively seek new regional financial resource opportunities and help to facilitate partnerships and collaborations between partners with regards to Habitat Classification and Ocean Mapping initiatives in the Northeast, looking specifically at how mapping and classification can continue to support ocean planning, resiliency, and ocean and ecosystem health.

### **2.3.4. Support best practices and evolution of data collection.**

- a) Improved methods for the collection of data.
- b) Evaluating data collection tools (e.g., eelgrass) through a workshop.
- c) Facilitating discussion on new mapping questions (e.g., biological mapping).
- d) Identify and engage partners to explore moving from mapping to habitat assessment.

**2.3.5. Foster development of innovative products that advance regional ocean science and planning.**

- a) Develop derived datasets and habitat maps for the Gulf of Maine, to improve management decision making. Products will be adaptable as new data becomes available.

**OCEH Steering Committee Members:**

Steve Couture, NH Coastal Program (State Co-chair)

Chris Williams, NH Coastal Program (Alternate State Co-chair)

Regina Lyons, US EPA Region 1 (Federal Co-chair)

Becca Newhall, NOAA (HCOM and Alternate OCEH Federal Co-chair)

Dan Sampson, MA Coastal Zone Management (HCOM state co-chair)

Todd Callaghan, MA Coastal Zone Management (HCOM state co-chair)

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Jeffrey Runge, Gulf of Maine Research Institute (NERACOOS OCEH Co-Chair)