NROC Meeting

Thursday, November 12, 2020

NROC Morning Session
9:00 AM – 12:30 PM

Coastal Resilience Networking Session
1:30 PM – 3:00 PM

Meeting Packet

REQUIRED - Register Here for Meeting Access:

https://www.northeastoceancouncil.org/2020/11/02/nroc-meeting-registration/

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Advance Meeting Registration Required

Advance registration is required to participate and receive access information for the meeting. Participants may register for the morning NROC meeting, the afternoon Coastal Resilience Networking Session, or both. Register here for meeting access: https://www.northeastoceancouncil.org/2020/11/02/nroc-meeting-registration/

AUDIO CONNECTION INSTRUCTIONS USING COMPUTER MICROPHONE

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2.) If using con call line and logging into Adobe Connect through the computer **MUTE YOUR COMPUTER SPEAKERS** before calling in.
3.) CALL 1-866-804-4151; passcode 5811980
4.) **MUTE** your phone after you call into the meeting to reduce background noise.

Northeast Regional Ocean Council - Agenda **Thursday, November 12, 2020 | Videoconference Meeting**	
9:00 AM	**Access to Videoconference Meeting Opens** Networking and technology check-in

9:30 AM	**Welcome and Introductions**
	NROC Co-Chairs: Steve Couture, NH DES and Regina Lyons, EPA
	• Meeting logistics
	• Overview of agenda
	• NROC Executive Committee Update
	  ○ NROC Funding Status, *pp. 5-6*
	  ○ ROP Authorization Update

9:40 AM	**Role of NROC in Context of Pandemic and Recent Election** NROC states and partners will discuss budget and programmatic challenges and opportunities in the context of pandemic and election results. Session will focus on identifying opportunities for NROC to support regional priorities and promote efficiencies. NROC members will be asked to identify their **top two priorities** that they believe the NROC partnership could help advance. These priorities should reflect your own program's priorities, be regionally relevant, and present potential value add for pursuing through NROC. These do not need to be new topics, but could expand or double down on existing committee work. Member input will help inform NROC's focus over the next 18 months. **Please come prepared to contribute on behalf of your program.** NROC Committee Work Plans are available for reference: • Coastal Hazards Resilience Committee 2019 - 2020 Work Plan • Ocean and Coastal Ecosystem Health Committee Work Plan • Ocean Planning Committee 2019-2020 Work Plan
11:00 AM	**Break**
11:15 AM	**Updates and Opportunities for Collaboration** NROC partners and members highlight one key initiative / opportunity for collaboration • NERACOOS: *Jake Kritzer, NERACOOS, p. 7* • Northeast Sea Grant Consortium: *Matthew Charette, Woods Hole Sea Grant* • Gulf of Maine Council: *Prassede Vella, MA CZM, p. 9* • New England Federal Partners: *Rick Bennett, USFWS* • News and updates from NROC member organizations and other meeting attendees

11:55 AM	**NROC Committee Activities and Opportunities for Collaboration**
	• Ocean Planning Committee
	Co-Chairs: Ted Diers, NH and Chris Boelke, NOAA
	  ○ Nick Napoli, NROC Ocean Planning Director, *pp. 10-11*
	• Ocean and Coastal Ecosystem Health Committee
	Co-Chairs: Steve Couture, NH, Regina Lyons, EPA, and Jeffrey Runge, GMRI / NERACOOS
	  ○ NROC Eel Grass / Blue Carbon Project: Ivy Mlsna, EPA
	  ○ Habitat Classification and Ocean Mapping: Todd Callaghan, MA CZM, *p. 12*
	  ○ Integrated Sentinel Monitoring Network: Jeffrey Runge, *pp. 13-15*
	• Coastal Hazards Resilience Committee
	Co-Chairs: Julia Knisel, MA and Adrianne Harrison, NOAA
	  ○ Coastal Resilience Grant - Living Shorelines Project (written update), *pp. 16-17*
	  ○ CHRC presentations will take place during afternoon networking session

12:15 PM	**Other Business | NROC Leadership Transition** Passing the 'rock' to incoming NROC Co-Chairs: Lisa Engler, MA, and Betsy Nicholson, NOAA
12:20 PM	**Recognition of NROC 15th Anniversary**
12:30 PM	**NROC Morning Session Ends**

BREAK | 12:30 PM – 1:30 PM

Coastal Resilience Networking Session	
1:30 PM	**Welcome and Overview of Session** *Adrianne Harrison, NROC Coastal Hazards and Resilience Committee Co-Chair* Overview of NROC Coastal Hazards and Resilience Committee's virtual networking session focused on resilience initiatives from around the New England region.
1:35 PM	**Resilient Design - Planning and Best Practices** • Resilient Massachusetts Action Team: Climate Design Standards, Coastal Guidance *Julia Knisel, MA CZM* • Resilient Connecticut Program *Jim O'Donnell, UCONN CIRCA* • NH Coastal Flood Risk Guidance *Nathalie Morison and Kirsten Howard, NHDES* • ME Sea Level Rise "Ticker" and Dashboard Tool Pete Slovinsky, ME Geological Survey • Q & A / Discussion
2:25 PM	**Round Robin Updates** Series of brief updates featuring upcoming events, new programs or tools, and projects. • USGS Resilience Science in the Northeast *Pete Murdoch, USGS* • Silver Jackets Coastal Projects and Opportunities *Sheila Warren, USACE* • Diving into the Digital Coast *Becky Love, NOAA - OCM* • PREP-RI / Community Technical Assistance for Preparedness and Resilience Jen West, NBNERR • RI Shoreline Adaptation, Inventory and Design Project Caitlin Chaffee, NBNERR • CT Resilience Update Katie Lund, CIRCA
3:00 PM	**Afternoon Coastal Resilience Session Ends**

NROC Executive Committee – NROC Funding Status Update

Coastal Hazards Resilience Committee

1. FY2017 NOAA Coastal Resilience Grant
   - Project: *Increasing Resilience and Reducing Risk through Successful Application of Nature-based Coastal Infrastructure in New England*
   - Total Award: $999,999 (includes $50,687 for NROC – project support + general NROC Coordination)
   - Lead: The Nature Conservancy
   - Partners: NROC, ME Coastal Program, NH Coastal Program, NH DES, MA CZM, RI CRMC, UConn / CIRCA, and local partners
   - Funding Period: October 2017 to March 2022 *(includes 18-month extension)*

Ocean and Coastal Ecosystem Health Committee

2. FY2018 NOAA / NOS / NCCOS
   - Project: *Developing Generic Predictive Model of Ocean and Coastal Acidification Thresholds from Long Island Sound to the Nova Scotian Shelf*
   - Total Award: $498,000 (includes $20,000 for NROC – project support + collaboration with NROC)
   - Lead: NERACOOS
   - Partners: NROC, UMass Dartmouth, UNH, GMRI, Wells NERR, NH Sea Grant, UMaine, others
   - Funding Period: September 2018 through August 2021

Ocean Planning Committee

3. Moore Foundation
   - Project: *Regional ocean planning activities*
   - Award: $2.2 million (~$185,000 remaining for 2021)
   - Lead: NROC (via Coastal States Stewardship Foundation as fiscal sponsor)
   - Funding Period: January 2018 – December 2021

4. Bureau of Ocean and Energy Management
   - Project: *Operations and maintenance of the Northeast Ocean Data Portal*
   - Award: $230,000
   - Lead: NROC (via Coastal States Stewardship Foundation as fiscal sponsor)
   - Funding Period: September 2020 – September 2021

5. FY2019 NOAA (Regional Ocean Data Sharing/Regional Ocean Partnership Funding)
   - Project: *Update commercial fisheries data on the Northeast Ocean Data Portal in collaboration with industry*
   - Award: $135,000
   - Lead: NROC (via Coastal States Stewardship Foundation as fiscal sponsor) in collaboration with the Mid-Atlantic Regional Council on the Ocean and the Responsible Offshore Development Alliance
   - Funding Period: August 2019 – December 2020

6. FY2020 NOAA (Regional Ocean Data Sharing/Regional Ocean Partnership Funding)
    - Project: *Update marine life data on the Northeast Ocean Data Portal*
    - Award: $135,000
    - Lead: NROC (via Coastal States Stewardship Foundation as fiscal sponsor) in collaboration with the Mid-Atlantic Regional Council on the Ocean
    - Funding Period: October 2020 – December 2021

7. EPA
    - Project: *Updating and enhancing coastal vegetation datasets on the Northeast Ocean Data Portal*
    - Award: $14,520
    - Lead: NROC (via Coastal States Stewardship Foundation as fiscal sponsor) in collaboration with the EPA and the Blue Carbon Working Group
    - Funding Period: October 2020 - July 2021

8. MA Clean Energy Center
    - Project: *Developing Standard Approaches to Synthesizing, Visualizing, and Disseminating High-Resolution Acoustic and Imagery Data to Advance Benthic Mapping in the Wind Energy Areas of the Northeast*
    - Award: $163,850 (includes $49,050 for NROC stakeholder and work group coordination and integration of products into the Northeast Ocean Data Portal)
    - Lead: Inspire Environmental
    - Funding Period: TBD

NERACOOS Update – November 2020

Organizational Update

In June of 2020 Jake Kritzer was hired as the NERACOOS Executive Director. Jake can be contacted at jake@neracoos.org. The NERACOOS team is working on their renewal proposal to IOOS, which is due in December. This effort will guide the bulk of NERACOOS' work over the next five years. Projects included in this proposal were part of a competitive mini-proposal process, which has taken place throughout 2020 with final review from the NERACOOS Board of Directors.

Observing System

NERACOOS is continuing to fund observations, modeling, and data management efforts in the Gulf of Maine, Southern New England and Long Island Sound. Due to COVID buoy maintenance efforts have been delayed, which has impacted real-time data availability at some locations. Buoy operators are continuing to resolve these issues as ship time becomes available. A new HFR station has been installed near Scituate, MA. Data is being validated and will be available shortly. Additionally, two more HFR stations are being installed in Massachusetts, one near Gloucester and one near Salisbury Beach. Once these installs have been completed there will be surface current coverage for all of Mass. Bay, New Hampshire and southern Maine. These new stations have been funded through increases in congressional appropriations.

Northeast Coastal Acidification Network (NECAN)

NECAN's efforts continue throughout the region. The 2020-2021 NECAN Webinar Series will commence on Tuesday November 10th with a presentation from Amalia Harrington from the University of Maine, Maine Sea Grant; "Ocean acidification and warming act synergistically to reduce cardiac performance and increase disease susceptibility in juvenile American lobster." Registration information can be found on the NECAN Website, more webinars in this series are being scheduled and will be updated through the website and newsletter.

The NECAN Industry Working Group will be releasing their Industry Survey Report following a survey of industry members which took place in the winter of 2018-2019. This survey was used to determine the extent to which industry members experience and/or take measures to buffer the effects of OCA. The report will be accompanied by a two-pager which summarizes the responses to the survey and can be used to inform research and monitoring priorities, funding opportunities, and management decisions. The report and two-pager will be released through the NECAN Newsletter soon and will be available to view and download through the NECAN website.

Following Shell Day 2019, a simultaneous monitoring event along the coast from Long Island Sound to Down East Maine, two white papers are being released, one on the community aspect and engagement of Shell Day, the other will be an analysis of the data collected. Members of the NECAN Steering Committee and Working Groups contributed to the formation of a set of infographics about OCA with some focus on industry and policy. The Visualization of Ocean and Coastal Acidification Locally (VOCAL) infographics were made in collaboration with the Mid-Atlantic Coastal Acidification Network (MACAN). NECAN has just received funding through RARGOM to create a working group to help inform the creation and distribution of another infographic detailing the effects of OCA on commercially important species in the region.

If you're interested in ocean and coastal acidification be sure to check out the OA Information Exchange, www.oainfoexchange.org. This collaborative website is a great place to learn more about

ocean and coastal acidification and to connect with others in the field. For more information contact Julianna Mullen, julianna@neracoos.org.

Modeling Projects - Inundation and Ocean Acidification

NERACOOS and their partners continue to work on two new awards focused on improving modeling in the Northeast. The first award is from NOAA's National Centers for Coastal Ocean Science and NOAA's Ocean Acidification Program for development of a predictive model for ocean acidification thresholds in the Northeast. The project team plans to convene interested stakeholders, especially those working in the coastal zone and water quality management, by invitation to a webinar in February. This remote session will focus discussions around the model and how it be might be made most useful. If interested in participating, please contact Joan LeBlanc, jleblanc@northeastoceancouncil.org.

The second award is from the IOOS Coastal Ocean Modeling Testbed program. The goal for this 3-year project is to deliver improved ocean and coastal inundation forecast products to key end users in the Northeast where severe weather events cause coastal inundation, flooding, erosion and other damages.

For more information about NERACOOS and any of these projects please contact Jake Kritzer, jake@neracoos.org.

Gulf of Maine Council on the Marine Environment - Update

Submitted by GOMC Working Group member Prassede Vella, MA CZM

The Gulf of Maine Council's joint Council - Working Group meeting was held virtually in June 2020. At the meeting, the Council approved the GOMC 2020-2022 Work Plan (Details are available at: https://gulfofmaine.org/public/wp-content/uploads/2020/10/GOMC-2020-2022-Work-Plan.pdf. The Work Plan includes initiatives to be implemented over the next two years under the following:

- Coastal and Marine Spatial Planning
- EcoSystem Indicator Partnership
- Climate Network
- Marine Debris
- Implementation of the actions emanating from the Gulf of Maine 2050 Symposium
- Gulfwatch
- GOMC Awards Program
- GOMC Learning Opportunities

At the end of the meeting, leadership of the Council transitioned from the State of Maine (Maine Coastal Program) to the Province of Nova Scotia (Department of Intergovernmental Affairs) who will Chair the Council through June 2022. The next joint Council – Working Group meeting is scheduled for December 1, 2020 with a focus on coastal resilience initiatives around the Gulf of Maine.

GOMA / GOMC submitted a letter of intent to NOAA in response to an RFP for removal of derelict fishing gear. Subsequently, NOAA invited GOMC to submit a full proposal. The pilot project, *Sustainable Approaches to Address Derelict Fishing Gear in the Gulf of Maine,* will test energy-efficient, unmanned survey equipment with on the ground removal of derelict fishing gear from New Hampshire coastal waters. The team requested $80,000 in support from NOAA for this two-year project. Several partners will be collaborating on the project, including GOMC, NH Fish and Game, NH DES, Maine Coastal Program, Massachusetts CZM, and SeaTrac Inc.

NROC Ocean Planning Committee – Activities Update

Submitted by Nick Napoli, NROC Ocean Planning Director on behalf of:

Ted Diers, NROC Ocean Planning Committee State Co-Chair
Administrator of the Watershed Bureau of the New Hampshire Department of Environmental Services

Chris Boelke, NROC Ocean Planning Committee Federal Co-Chair
New England Branch Chief, Habitat Conservation Division, NOAA Fisheries

Aquaculture Opportunity Areas Webinar
NROC OPC hosted a webinar on October 26, 2020 to provide an overview on the selection process for Aquaculture Opportunity Areas under the recent federal Executive Order on Promoting American Seafood Competitiveness and Economic Growth. A recording and slides from the webinar are available at: https://neoceanplanning.org/news/nroc-ocean-planning-committee-webinar-aquaculture-opportunity-areas-recording-and-slides-now-available/

Offshore Wind Transmission Webinar Series
NROC OPC is developing a series of webinars to increase understanding about policy and planning issues related to bringing new energy sources from offshore wind development into the electric grid. This series of three short webinars will be scheduled for early 2021. More information will be available soon.

Best Practices for Ocean Permitting and Management
Over the summer, NROC OPC reconvened its Best Practices Work Group to continue identifying best practices for ocean permitting and management. "Best practices" in this context are specific activities that can be implemented in ocean permitting and management processes that enhance one or more of the following four aspects of the process: (1) stakeholder engagement, (2) agency and interjurisdictional coordination, (3) the use of data and information, and (4) regulatory pre-application practices. The "use of data and information" theme corresponds to Goal 1.3 of the "Recommendations for Increasing the Efficiency of Permitting for Ocean Exploration, Mapping, and Research Activities" issued by the Ocean Resource Management Subcommittee of the federal interagency Ocean Policy Committee and thereby provides NROC with an opportunity to inform similar considerations at the federal level while focusing on priorities, case studies, and implementation steps that are specific to the Northeast.

Offshore Wind and Wildlife Data Workshop
NROC, along with the Mid-Atlantic Regional Council on the Ocean (MARCO), the Mid-Atlantic Regional Association Coastal Ocean Observing System (MARACOOS), and the Northeastern Regional Association of Coastal Ocean Observing Systems (NERACOOS), recently hosted a virtual workshop to improve clarity and understanding around the roles of data and information platforms and the range of marine wildlife and habitat data that are and will be collected as a result of proposed offshore wind development over the next several years.

Marine Wildlife Data Product Development
NROC will be once again partnering with MARCO to collaborate on the use of each region's Regional Data Sharing funding, a federal appropriation administered by NOAA to nine regions throughout the United States. This year, NROC and MARCO will be using the funding to update marine wildlife data products hosted by the Northeast and Mid-Atlantic Ocean Data Portals. This will include the re-establishment of expert work groups to inform development and review of the data products that will be determined based on NROC and MARCO priorities.

New Blue Carbon Data and Coastal Vegetation Updates

The US EPA provided funding to update coastal vegetation data and develop new blue carbon data products for the Northeast Ocean Data Portal. EPA Region 1 is convening and leading coastal vegetation expert work group meetings to compile data sources and inform methods that the Portal team will help visualize and implement. The project will result in updated eelgrass and salt marsh habitat data products as well as characterizations of carbon accumulation and sequestration in these habitats to be released next year.

Northeast Ocean Data Portal Updates

- Now that the EPA has finalized the designation of Isles of Shoals North Dredged Material Disposal Site, the Northeast Ocean Data Portal released a revised data layer with the location of the site and all appropriate documentation.
- Additional information about Northeast Ocean Data Portal activities (including the data updates listed below) can be found via the Portal's quarterly newsletter.
    - Estimated shear stress from waves and currents on the seabed,
    - New maps showing potential Atlantic coast shipping fairways under consideration by the U.S. Coast Guard,
    - Updates to BOEM's active renewable energy leases and wind planning areas,
    - A new page that summarizes the status of active offshore renewable energy lease areas and offshore wind projects, and
    - Monthly and annual vessel traffic data for 2018 and 2019 from the automatic identification system.

NROC Habitat Classification and Ocean Mapping Committee Update

Prepared by HCOM Co-Chairs: Becca Newhall, NOAA, Dan Sampson, MA CZM, and Todd Callaghan, MA CZM

The Habitat Classification and Ocean Mapping (HCOM) committee has continued to focus its efforts on a large bathy-geoform project for the Gulf of Maine. Since the last NROC meeting, the project area has been finalized - head of tide out to 24 NM from the Nantucket Shoal up to the Canadian Border. Development of the geoforms will first focus on two pilot areas - one off of the Kennebec River, and a second that stretches across Mass Bays, covering part of Stellwagen Bank National Marine Sanctuary. The pilot projects will give the team time to fine tune the process in areas that include most of the habitats seen in the Gulf of Maine. These pilot projects are expected to wrap up in the spring; with the whole project wrapping up during 2021.

Over the next six months, HCOM will continue to focus on the Geoform Project, and will explore how the region impacts federal mapping plans.

Integrated Sentinel Monitoring Network Update
(November 2019 – November 2020)

Prepared by: Jeffrey Runge, School of Marine Sciences, University of Maine; jeffrey.runge@maine.edu

The Integrated Sentinel Monitoring Network is a product of the NROC-NERACOOS Ocean and Coastal Health Committee. It had its inception with the publication of a white paper in 2012 and the formation of an OCEH Steering Committee in 2013. Following a series of open community workshops between 2013-2016, the blueprint for the ISMN was published in 2016 in the form of the ISMN Science and Implementation Plan (http://www.neracoos.org/sentinelmonitoring). In October, 2018, NROC provided a contract to NERACOOS to implement the ISMN. The initial contract period was for one year but was allowed a no-cost extension until March 31, 2020. Jeff Runge has served as the Director of this implementation phase, along with Jackie Motyka, who serves as the project coordinator.

The first significant result of the NROC support was the successful submission of a proposal for ISMN to become part of the Marine Biodiversity Observation Network (MBON) (https://marinebon.org/index.html), a national biodiversity observing program coordinated by the IOOS national office and supported by several federal agencies, including NOAA and BOEM. Funding in the amount of $1.1M over three years for ISMN MBON was received in summer, 2019 and the ISMN is now overseeing observations of plankton biodiversity at the Coastal Maine Time Series (CMTS) and Wilkinson Basin Time Series (WBTS). The biodiversity observations range from eDNA to bacteria, phytoplankton, microzooplankton and mesozooplankton, involving the coordinated efforts of researchers from UMaine, UNH, St. Joseph's College and the Bigelow Laboratory for Ocean Sciences. In addition to biodiversity observing, ISMN MBON is working with the NERACOOS DMAC team to make plankton diversity data accessible. ISMN MBON has also established the first ISMN CAPE (Center for Analysis, Prediction and Evaluation) project, which is focused on developing predictive models of zooplankton abundance for North Atlantic right whale foraging habitat models, part of NOAA's management strategy for conservation of the endangered species. As part of the CAPE project, ISMN-MBON recently helped convene a Joint US-Canada Zooplankton Workshop on Modeling Abundance and Distribution of Zooplankton Prey for North Atlantic Right Whales in Canadian and U.S. Coastal and Shelf Waters (see the MBON website for more details, www.sentinelmonitoring.org).

In addition to supporting preparation of the ISMN MBON proposal, the NROC contract contributed to the implementation ISMN in other ways. The ISMN Oversight Committee was established in summer of 2019 and has since had seven meetings, with the next meeting planned to be held later in November, 2020. A two-page document describing ISMN and the ISMN- MBON has been produced. A number of subcommittees have been formed to facilitate observing of other Northeast Ecosystem sentinel variables, including eelgrass, kelp, and shellfish, with the intent of expanding an ISMN white paper on sentinel variables beyond the plankton biodiversity/right whale sentinel indicators. A subcommittee for the ISMN website is finalizing content for the ISMN website, to be served by NERACOOS, for presentation at the next Oversight Committee meeting. The activities of ISMN under the NROC contract are summarized in the final report for the contract (April 30, 2020), which is available from J. Runge or J. Motyka. Apart from the MBON projects, the ISMN activities are presently unfunded. A modest amount of core funding for ISMN needed to expand the ISMN role is part of the NERACOOS Strategic Proposal to be submitted in December 2020. Another possible source of funding would be from proposals leveraging the NERACOOS ISMN infrastructure and IOOS connections, similar to the MBON proposal, addressing sentinel observing activities relevant to the ISMN overall objectives.

THE INTEGRATED SENTINEL MONITORING NETWORK

The Northeastern Regional Association of Coastal Ocean Observing Systems (NERACOOS-Northeast IOOS) and the Northeast Regional Ocean Council (NROC) announce the initiation of the **Integrated Sentinel Monitoring Network (ISMN).**

The ISMN convenes the Northeast region's marine and estuarine monitoring projects together under one clearinghouse in order to accomplish three key tasks:

- **find & fill gaps in present ecosystem observing activities**
- **facilitate integration and communication among monitoring efforts**
- **make findings more impactful through data sharing**

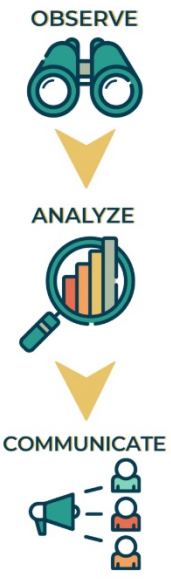
WHY WE NEED THE ISMN

A multitude of programs and projects supported by federal and state agencies, universities, research institutions, non-profit organizations and citizen science groups independently monitor attributes of the estuarine, coastal and shelf marine ecosystems in the U.S. Northeast region.

In its role as a clearinghouse, the ISMN fits together the puzzle pieces of these monitoring efforts and shares the progression of ecosystem changes with stakeholders via a new regional data hub. The ISMN was also selected as the Northeastern branch of the national Marine Biological Observation Network (MBON).

THE ISMN'S ACTIVITIES

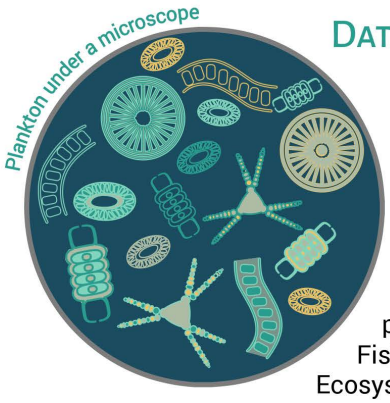
- The ISMN facilitates tracking responses of key species and ecosystem properties—collectively called *sentinel indicators*—to the Northeast's rapidly shifting marine environment. Sentinel indicators are the proverbial canary in the coal mine, and by facilitating the observation, synthesis and communication of the changes observed by monitoring activities, the ISMN provides decisionmakers with relevant analysis that can inform their actions.
- The ISMN is working to serve as a centralized hub for the area's diverse monitoring efforts, including collaborating with NROC's Ocean Data Portal to integrate data mapping projects, in order to increase the visibility and accessibility of data.
- The ISMN, through its Center for Analysis, Prediction and Evaluation (CAPE), convenes regional experts to synthesize data from multiple observing programs to provide focused analysis of ecosystem status and change for specific stakeholder needs.
- Results from the CAPE inform ISMN's communication of syntheses and predictions of ecosystem status, changes, vulnerabilities, and uncertainties to researchers, decisionmakers, and the concerned public, with the goal of informing future action.



— The ISMN in Action —

Observation & Analysis of Plankton Biodiversity & its Effect on Ecosystem Services

In the coastal and shelf waters of the Gulf of Maine, the ISMN facilitates and integrates across observing programs to provide critical information about marine ecosystem change.



Data Collection & Management

- With funding from NOAA, U.S. IOOS, and the Bureau of Ocean Energy Management, the ISMN is expanding the national Marine Biodiversity Observation Network (MBON) into the Gulf of Maine.
- The ISMN has re-established collection of oceanographic biodiversity data at two strategically located time series stations, filling a gap in observing the phenology of change in plankton production cycles. The time series stations supplement existing planktonic biodiversity observing conducted by the National Marine Fisheries Service and the National Science Foundation, Long Term Ecosystem Research Northeast Shelf Project in the Northeast U.S. coastal and shelf waters, and the Canada Department of Fisheries and Oceans in Canadian waters.

Data Synthesis

- **The Center for Analysis, Prediction and Evaluation (CAPE)**, a key part of ISMN's role centralized hub for information, synthesizes observing data indicating change in lipid-rich zooplankton, which is a key sentinel variable supporting the Gulf of Maine pelagic food web. Exsisting data and models of zooplankton abundance and distribution are both combined with observations of foraging patterns of the endangered, plankton-feeding North Atlantic right whale for use by federal and state agencies in decisions about actions to save the North Atlantic right whale from extinction.
- The ISMN-MBON and the Northeast Shelf Long Term Ecosystem Research program, supported by the National Science Foundation in partnership with the NOAA National Marine Fisheries Service oceanographic survey, are developing a collaboration to understand planktonic diversity and how the rapidly warming U.S. Northeast shelf affects the abundance and distribution of forage fish, such as herring and sand lance, which are foundational to Northeastern U.S. fisheries, and populations of marine mammals and seabirds.

Visit **www.sentinelmonitoring.org** for more information

Contact

Dr. Jeffrey Runge, University of Maine
jeffrey.runge@maine.edu

Jackie Motyka, NERACOOS
jackie@neracoos.org

NROC Northeast Regional Ocean Council · NERACOOS · MBON Marine Biodiversity Observation Network · NOAA National Oceanic and Atmospheric Administration U.S. Department of Commerce · BOEM Bureau of Ocean Energy Management

Project Update - *Increasing Resilience and Reducing Risk Through Successful Application of Nature Based Coastal Infrastructure Practices in New England*

Prepared by: Steve Kirk, The Nature Conservancy; and Joan LeBlanc, NROC

The project team met on October 30, 2020 to review the overall status and timeline for the project and discuss the following project deliverables:

- Monitoring Metrics Guide: Project team members have been reviewing the draft New England Living Shorelines Monitoring Metrics and Protocols Guide this fall and will submit edits to TNC by December 1, 2020. The metrics and protocols outlined in the revised document will be applied to demonstration projects during the spring / summer of 2021. Feedback from partners about how the metrics and protocols worked or didn't work during the season will be incorporated into the guide before it is finalized in January 2022.
- Database Development and Data Sharing: The team is moving forward with developing a database to store and share data for each demonstration project. The database will provide details regarding site characterization, baseline as-built conditions, and performance monitoring for site use, systems, geophysical, hydrodynamic, habitat, biota, chemical, structural condition, hazard mitigation and socio-economic indicators. Once developed, the database will be made available to the public.
- Story Map: A story map will be developed to provide online, user-friendly case studies for several demonstration projects. Through photos, maps and project details, the story maps will highlight a range of nature-based infrastructure project types and locations throughout the project area. Sharing lessons learned will be a key focus of the story maps.
- Regulatory Guidance: Development of regulatory guidance will take place during 2021. The project team will host a workshop sometime during the spring of 2021 (potentially in conjunction with an NROC meeting) to inform development of the document.

Demonstration project updates:

- Maine: Three living shoreline demonstration projects have been constructed in Maine - Wharton Point in Brunswick, Maquoit Bay Conservation Lands in Brunswick, and Lanes Island in Yarmouth. Treatments were installed and post construction surveys were completed at Wharton Point and Maquoit Bay during May and June 2020. Construction of the Lanes Island site was completed in September 2020. Photos and detailed project updates for Maine's living shoreline demonstration projects are available at: https://www.maine.gov/dacf/mgs/explore/marine/living-shorelines/
- Rhode Island: Construction of the Phase II bluff treatment at Rose Larisa Park in East Providence was completed in May 2020. The project involved construction of a hybrid bluff structure with a stone toe, rows of coir logs, sand cover and a coir blanket; and construction of a sill and newly planted marsh area. Old segments of collapsed seawall were removed and photo posts were installed to facilitate photographic monitoring at the site. http://www.crmc.ri.gov/news/2020_0424_habrest.html
- New Hampshire: Project monitoring is ongoing at the previously constructed Wagon Hill Farm salt marsh restoration site in Durham, New Hampshire. Details available at: https://www.nhcaw.org/project/wagon-hill-farm-living-shoreline-phase-iii/

- Massachusetts: Four projects in Massachusetts are being monitored to help inform regional monitoring protocols - Gray's Beach in Kingston, Collins Cove in Salem, Coughlin Park in Winthrop, and Duxbury Beach in Duxbury. A story map highlighting the Collins Cove site is available at: https://sscw.maps.arcgis.com/apps/MapJournal/index.html?appid=496d9bad740341de801197303a5eaa66
- Connecticut: Connecticut continues to utilize monitoring from its artificial reef demonstration project at Stratford Point in Fairfield County to inform regional efforts to advance living shorelines. Details about CRG funded and other living shorelines projects in CT are available at: https://circa.uconn.edu/living-shorelines/projects/

Additional:

- Project team members participated in a panel discussion at the Restore America's Estuaries Conference.
- The overall project timeline was extended thanks to an award extension granted by NOAA to March 2022. All subawards were extended to reflect that change.

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