



Agenda • June 29, 2017 • Newburyport, MA

Meeting location is the Parker River NWR, 6 Plum Island Turnpike, Newburyport, MA 01950
 Directions & map: https://www.fws.gov/refuge/Parker_River/visit/directions.html

9:15 AM	Arrive & Networking
9:30 AM	Welcome & Introductions <i>Brian Thompson, CT and Betsy Nicholson, NOAA</i>
9:40 AM	Updates <i>Brian Thompson, CT – State Chair</i> NROC Updates <ul style="list-style-type: none"> ▪ Executive Committee Partner and Audience Updates <ul style="list-style-type: none"> ▪ Partner Updates: NERACOOS, Gulf of Maine Council, Sea Grant Consortium ▪ Updates: New England Federal Partners, USACE, North Atlantic Landscape Conservation Cooperative ▪ Audience updates and comments: Meeting attendees provide updates Announcements and Opportunities <ul style="list-style-type: none"> ▪ Coastal Resilience Grant status - Betsy/Grover ▪ New England high resolution land cover mapping update - Jamie Carter
10:20 AM	Break
10:30 AM	NROC Events <i>Betsy will facilitate this session to get at the impacts, “so what”, and next steps of a series of recent NROC events</i> <ul style="list-style-type: none"> • Ocean and Coastal Ecosystem Health <ul style="list-style-type: none"> ○ Tidal Marsh Habitat Resiliency workshop ○ HCOM CMECS meetings • Coastal Hazards Resilience <ul style="list-style-type: none"> ○ Nature-based Infrastructure Regulatory workshop ○ Green Infrastructure Training sessions • Ocean Planning <ul style="list-style-type: none"> ○ RPB Meeting May 24th ○ Sand Management telecons
12:15 PM	Lunch - BYOL
1:30 PM	Coastal Management Fellow Projects <i>Abbie Sherwin, ME and Simone Barley-Greenfield, NH</i> <ul style="list-style-type: none"> • Increasing Coastal Resiliency in Maine: helping communities prepare for flood hazards • The Social Indicators Project: integrating social science into ecosystem management for New Hampshire’s estuaries
2:15 PM	Rock N Recognition Passing the rock to the next Co-Chairs and recognizing members and staff who are moving on
2:30 PM	Adjourn

NROC Updates

Committee Update – Executive Committee

NROC Co-chair and EC rotation

Thank you to Brian Thompson (CT) and Betsy Nicholson (NOAA) for their leadership over the past 2 years as NROC Co-chairs. Following the Spring meeting, Matt Nixon (ME) and Rick Bennett (USFWS) will take the reigns as new Co-chairs. With this change in leadership comes a new EC delegation. The new EC makeup will be: Brian Thompson (CT), Matt Nixon (ME), and Steve Couture (NH); Betsy Nicholson (NOAA), Rick Bennett (USFWS), and Regina Lyons (EPA). Thank you to Jeff Willis (RI) as an outgoing EC member! The EC meets by teleconference every 2-3 weeks to address routine business and provide guidance to staff.

NROC Representatives

With Bob LaBelle's retirement, his replacement as BOEM's NROC member is Darryl Francois. Welcome Darryl!

NROC Web pages

As part of the RPS Resilient Shorelines project, several new pages have been added to the NROC web site. The [Resilient Shoreline Grant Program](#) page features projects funded through the program, with links to any associated sites, reports or products. One of those products, the ArcGIS web services for the NACCS data, also gets it's own page. The [NACCS Coastal Storm and Flood Risk Data](#) landing page provides more detail on the project and links to the database products RPS developed, including the ArcGIS online interactive map.

Funding Status

NROC is currently operating on funding from three sources: a cooperative agreement with FWS/NALCC; the NOAA Regional Coastal Resilience grant; and Moore Foundation and in-kind Ocean Planning funds.

FWS/NALCC funds:

- Although set to end in April 2017, a no-cost extension was approved, so the grant remains active through September 2017.
- Remaining funds will be used to support NROC coordination and follow up to the tidal marsh habitat resilience workshop.

NOAA RCRG funds:

- Are active through April 2018
- Funds will be used to support Track 1 (Coastal Inundation Forecasting) and Track 2 (Living Shorelines) activities, including development of a state-of-the-practice report, conducting a regulatory barriers workshop, hosting a series of trainings, supporting states working with their communities on shoreline planning and assessment pilot projects, and NROC coordination.

Moore Foundation and in-kind Ocean Planning funds:

- Grant ends Dec 2017
- Funds will be used to support ocean planning staff and the Northeast Ocean Data Portal.

Committee Update – Coastal Hazards Resilience

The Committee is working with NERACOOS to finalize the logistics to move the MyCoast platform onto their system. Additionally, the Committee is looking at annual funding options, including funds from WHOI and MIT Sea Grant programs for maintenance and development of new tools. A form agreement is under development between NERACOOS, Blue Urchin and GMRI.

The Coastal Resilience Tool for Green Infrastructure is live for MA and RI and available through the [MyCoast](#) platform.

Committee Update – Ocean and Coastal Ecosystem Health

The committee updated its work plan to reflect planned efforts for 2017-2018

Habitat Classification and Ocean Mapping

The Habitat Classification and Ocean Mapping (HCOM) committee has spent the first half of this year focusing on using Coastal Marine Ecological Classification System (CMECS), which is used widely by NROC partners in New England. In February HCOM partnered with NOAA to co-lead a CMECS workshop at GeoTools. This half-day event featured Dan Sampson (MA) and Emily Shumchenia's efforts to apply CMECS, the challenges they have faced and how they worked through them. This conversation lead to Maine and Massachusetts setting up a meeting with NOAA in May to further discuss how the states are applying CMECS and modifiers they are applying. Coming out of the May meeting there is interest in developing best practices for New England as a

whole. As a next step HCOM is planning a workshop for the fall, which will include a chance for committee members to roll up their sleeves and begin developing a list of best practices that will allow for compatible maps across the region.

HCOM has also continued its efforts to coordinate mapping needs and plans through the use of SeaSketch. The success of this application was raised at the recent Gulf of Maine Council Meeting, where Canadians were interested in learning more, potentially expanding input into SeaSketch.

Ocean and Coastal Acidification

In an effort to coordinate OCA planning and monitoring activities, the Northeast Regional Ocean Council (NROC) and Northeast Coastal Acidification Network (NECAN) will host a workshop to 1) identify what management and policy questions could be addressed by enhanced OCA monitoring, 2) discuss how to establish an integrated and comprehensive combined OCA and nutrient monitoring initiative throughout the region to address these questions and 3) broaden the conversation about OCA and coastal resources to local resource managers who may be new to OCA, but are already dealing with other environmental issues that coincide with or worsen OCA. The workshop will examine strategies for coordinated regional monitoring to provide useful information to state water quality agencies, resource managers and coastal zone planners as well as local industries dependent on coastal resources. Participants will include regional scientists, state managers for water quality, marine resources and coastal zone planners, monitoring groups such as National Estuary Programs and National Estuarine Research Reserves, members of state commissions on OCA, industry partners, and other interested parties. This workshop builds upon previous stakeholder outreach efforts by NECAN (<http://necan.org/workshops>), leverages funding recently received from the NOAA Ocean Acidification Program for citizen science training, and has direct relevance for emerging state ocean acidification commissions and emerging regional OCA monitoring efforts to use the monitoring data to ask the right questions.

Tidal Marsh Habitat Resiliency

As part of the NALCC/DOI Hurricane Sandy funded science delivery grant program, NROC hosted a 2-day workshop titled “Using Technology and Emerging Practices to Build Tidal Marsh Habitat Resiliency”. This workshop focused on the discussion of model applications to inform tidal marsh restorations in the Northeast. Invited speakers and participants discussed updates to relevant models and the context under which they should be applied; model applications for resilience planning; as well as structural and nonstructural management techniques to build tidal habitat resiliency. This workshop was developed and implemented by a steering committee with representatives from all five New England coastal state agencies, federal agencies, regional NGOs and academic institutions. The workshop was attended by 45 coastal managers, scientists and engineers who have completed, or are actively involved in, coastal habitat resiliency planning and implementation. Topics of interest to move forward out of this meeting are the development of a thin-layer deposition implementation and monitoring protocol, a workshop focused specifically on communicating with the public about issues of marsh transgression in conflict with infrastructure “needs” and possible solutions to these conflicts, creation of an inventory of open marsh water management projects, guidance on techniques for the remediation of ditches and runnels, and information on the use of drones to monitor shoreline change and restoration progress.

Integrated Sentinel Monitoring

NERACOOS, EPA Region 1, the University of Maine/Gulf of Maine Research Institute GMRI) and NH DES through the joint NROC/NERACOOS OCEH committee continue to oversee the implementation of an Integrated Sentinel Monitoring Network (ISMN) For Change in Northeast U.S Ocean and Coastal Ecosystem's Science and Implementation Plan. The ISMN Steering Committee will have a call in July to discuss near-term next steps and the planning of an in-person meeting in October in conjunction with RARGOM.

Committee Update – Ocean Planning

As a reminder per the committee's work plan, ocean planning activities supported by NROC have been led by the Northeast Regional Planning Body (NE RPB) as it worked to complete the Northeast Ocean Plan (www.neoceanplanning.org). Below are updates for the Sand Management Sub-Committee and general updates on regional ocean planning activities underway by the NE RPB with the support of NROC.

Sand Management Sub-Committee (co-led by USACE, BOEM and MA)

A NE sand management workshop planning call was held on May 25th. NROC and the Northeast Shore and Beach Preservation Association (NSBPA) are both interested in having a workshop in the northeast on offshore sediment, as they are both interested in efforts to identify potential sand resources, identify environmental issues that may be impacted by sand extraction and convene meetings to discuss the issues surrounding these activities. A series of one-day workshops is likely needed to address the topics of interest, which include but are

not limited to: Ocean Management Plan Frameworks at the regional and state levels; Existing regulatory frameworks for sand mining; Sand source investigations underway in state and federal waters; Environmental studies that have been conducted to address the impacts of sand mining and beach nourishment; Best practices from other projects/areas; and stakeholder engagement.

In addition to activities of the Sand Management subcommittee, BOEM has undertaken the following activities as related to regional sand management:

- BOEM continues to coordinate with its state cooperative partners - ME, NH, MA, and RI - on identifying potential sand resources in Federal waters. The 2-year cooperative agreements were executed at the end of FY 2016.
- BOEM continues to develop its Marine Minerals Information System (MMIS).
 - MMIS is a tool to support a National OCS Sand/Sediment Inventory and foster access to the Nation's offshore mineral resources.
 - Serves current and historical marine minerals data and information
 - Geodatabase and Query tools will allow selection of sites and parameters to analyze
 - Incorporate web services to publically share marine minerals information (planned for near future)

The MMIS will help answer the following questions:

- Where are the OCS sand / sediment resources to inform management and environmental decisions within ocean planning and lease use?
 - What is the extent of compatible sand / sediment resources in the OCS to support restoration?
 - Where is the authoritative source data for sand resources?
 - What vital marine mineral products and data on national, regional, and local scales do managers, planners, and scientists need?
 - How do we improve sharing marine mineral datasets with our partners?
- BOEM is developing a study entitled “Assessing Processes that Drive Fisheries Productivity on New England Sand Shoals” through an Interagency Agreement with NOAA’s National Ocean Service, Office of Marine Sanctuaries. The project will also engage Boston University, USGS Woods Hole, University of Connecticut, and fishermen. BOEM hopes to get the project underway sometime this summer. The project will last 3 years and is being funded through BOEM's Environmental Studies Program. Offshore sand features are habitat for forage fish, but the impacts that may occur to the forage fish from altering this habitat is unknown. This study would identify forage fishes that occur in potential borrow areas.

Ocean Planning

Plan Status

- The Northeast Ocean Plan is officially in effect and implementation has begun.

Plan Implementation

- The RPB held a 1-day public meeting in Gloucester on May 24 that was well attended by RPB members and interested stakeholders.
- Perhaps most significantly, the RPB and stakeholders spent time describing different ways in which agencies, states, tribes and other groups are using the Portal to improve their communication, access to information and ultimately, the decisions they make under their existing mandates or in their regular work. In addition, the group walked through data product updates of those layers that have already been updated or are in the works.
- While a full summary of the meeting outcomes will be available in a few weeks, below is a summary of outcomes that established work groups will meet through the summer and fall. This includes:
 1. Commercial fishing work group: To review draft fishing effort data products derived from Vessel Monitoring System (VMS) and Vessel Trip Reports (VTR), consider methods to fill data gaps for specific fisheries (e.g. lobster), and to inform related outreach to the industry.
 2. Marine transportation work group: To review draft vessel traffic data products from Automatic Identification System (AIS) and to inform related outreach to the industry.
 3. Recreation work group: To identify opportunities for keeping recreation data products updated and to inform related industry outreach.

4. Plan performance monitoring best practices work group: USACE and NOAA agreed to lead a work group to track the implementation of best practices related to the use of the portal, agency coordination, stakeholder engagement, and tribal engagement in decision-making.
5. Ocean Health Index: The co-leads agreed to host a call(s) to clarify the relationship between the NE Plan/RPB and the OHI, review existing materials about OHI reporting regions and goals, and inform the fall OHI meeting.
6. Other work groups and subcommittees: There are a range of other work groups and subcommittees for specific topics that will continue to meet, but likely on an as-needed basis. This includes the following topics: State-federal coordination through CZMA, NROC Sand Management Subcommittee, Aquaculture Work Group, Restoration Subcommittee, and a small group to inform revisions to the Energy & Infrastructure data on the Portal.

Next Steps

- September 21: Ocean Health Index Workshop: This is likely to be a 4-6 hour meeting held in a central location to advance this work.
- November 15 and 16: Important Ecological Areas Data Products Workshop followed by our next RPB meeting. We'll begin looking for a venue with a room block shortly.

AS A REMINDER:

NROC's major role in Plan:

Fiscal agent for funds and contracts

- NROC continues to serve as the home for staff and funds that support the Northeast ocean planning effort.

Specific work group progress

- Sand management sub-committee resides under NROC and will be responsible for the Plan's commitments on offshore sand.

Informal Forum for Progress

- NROC can serve as a forum to discuss emerging issues, upcoming ocean and coastal projects, and expectations among partners for use of data, the plan and best practices. While the formal conversations happen around the RPB table, NROC can serve as an incubator for topics or issues ripe for discussion more formally.
- Through its ocean planning committee (which includes sand management subcommittee), NROC can organize workshops among government, industry and other partners to discuss emerging issues. As NROC co-chair, NOAA is willing to help organize and fund (modest amount) a workshop in FY17 on sand management or another emerging ocean use topic that would benefit from more in depth discussion and problem solving. We look to NROC for your feedback on this idea.

Partner Updates

Partner Update – NERACOOS

Integrated Nutrient Observatory Development

NERACOOS and its project partners continued the deployment and operation of automated nutrient sensors over the winter and spring. UMaine had deployed 6 nitrate sensors at depths of 1, 20, 50, 100, 150, and 250 m on Buoy M (Jordan Basin) but that buoy separated from its mooring during a storm in February. The buoy and all sensors were recovered and will be re-deployed this summer. UMaine continues to operate nutrient sensors on buoys E, I and N in the Gulf of Maine. UConn is operating the Western Long Island Sound Buoy that is carrying a nitrate, phosphate, ammonium, and CO2 sensor. UNH re-deployed the Great Bay in May it is carrying a nitrate, phosphate, and ammonium sensor. NERACOOS is planning a nutrient observatory stakeholder workshop for the Long Island Sound region for late summer or fall of 2017.

Northeast Coastal Acidification Network (NECAN)

NECAN continues to be active throughout the region. NECAN has launched a second webinar series. Webinar registration, announcements and past webinar recordings can be found on the [NECAN website here](#). The NECAN

Steering Committee has also completed an implementation plan, which is [available here](#). This implementation plan will be used as a work plan by the Steering Committee over the next five years. The working groups of NECAN (Policy, Education and Outreach, Industry, and Science) have also been very active in recent months. If you'd like to learn more about these working groups or become involved in their efforts please contact Jackie Ball (jball@neracoos.org) who will connect you with the appropriate working group lead.

For more information about NERACOOS and any of these projects please contact Ru Morrison (ru.morrison@neracoos.org)

Partner Update – Gulf of Maine Council

Council and Working Group meetings

A joint Council/Working Group meeting was held June 7-8, 2017 in Portland, ME. Meeting highlights included: discussion on the development of the next 5-year Action Plan (2018-2022); and development of the next 2-year work plans (2017-2019). During the meeting, several presentations on topics of current research in the Gulf of Maine included: a presentation on ocean and coastal acidification and water quality in the Gulf of Maine by Aaron Strong (University of Maine); challenges and responses to extreme precipitation in the Gulf of Maine led by Ellen Mccray (NOAA) and Bill Appleby (Environment and Climate Change Canada); and a presentation on How the Gulf of Maine can help us learn to live in a warmer world by Andy Pershing (Gulf of Maine Research Institute).

The next joint (virtual) Council-Working Group meeting is scheduled for December (dates TBD) at which time the final 5-year Action Plan will be brought before the Council for approval.

Action Plan

During 2017 the GOMC will be working on development of its new 5-year Action Plan (2018-2022). In general, the new plan will focus on the same overarching goals of the current plan with some slight modifications to reflect current priorities. The Council Coordinator and the Secretariat will work on the draft that will be shared with the Council and Working Group for comments before being presented for final approval at the joint meeting in December.

Gulf of Maine Council Annual Awards

On June 7 the GOMC held its annual award ceremony in Portland, ME to honor its 2017 awards to recognize individuals and/or groups for outstanding efforts to protect and improve the environment in the Gulf of Maine region. More information is available [here](#).

Gulf of Maine Association

GOMA Executive Director Cindy Krum will be stepping down and moving on after April 30, 2018. GOMA will still retain its 501(c)(3) capacity as the GOMA Executive Committee, led by Chair Don Hudson will discuss how the organization will proceed over the coming months.

Gulfwatch Program

In 2015 and 2016 samples were collected and NOAA funding enabled samples collected to be analyzed. The program is planning to collect samples in fall 2017. The program is shifting towards sample analyses for contaminants of emerging concern (CECs) (including pharmaceuticals, personal care products, etc) rather than legacy contaminants. Research over the past few years has been raising concerns over possible adverse impacts of CECs on organisms. As monitoring of CECs is becoming a priority in many places, the Gulfwatch committee can conduct analyses on archived tissue samples, thereby providing a historical record of these contaminants, if funding is available. Plans are currently underway to review the sampling sites since blue mussels are no longer being found in some locations. Additionally, the committee is working on publications of results. Currently the committee needs help with data analyses for compilation of results. Gulfwatch is planning a meeting in 2017 to discuss strategic direction, renew membership, seek continued partnership and support through NOAA Musselwatch, and identify funding opportunities for the Gulfwatch Program.

EcoSystem Indicator Partnership (ESIP)

As part of ESIP's efforts to compile monitoring data from Canada and the US during the past year ESIP has been conducting water quality monitoring in the Bay of Fundy. Samples were analyzed for DO, temperature, salinity, pH, chlorophyll a, total N, and total P. Sediment samples were collected from Gulfwatch sites and analyzed for heavy metals, PAHs, PCBs and other organics. Preliminary sediment results were below detection limits but some results that were above detection limits and above allowed standards seemed to correlate with lack of blue mussels over the past year, specifically PCBs in Tin Can Beach, NB. This correlation between sediment and mussel data needs to be examined further in other areas of the Gulf of Maine as well. This work is funded through March 2018.

ESIP has been refining the IUCU App to document changes in environmental conditions through photos. (3) If funding is available for ESIP after September 30, 2017, ESIP plans to conduct and ESIP 2.0 implementation and organize a symposium.

Climate Network

The Climate Network continues to distribute a Quarterly Gulf of Maine Region Climate Impacts and Outlook. The [March 2017 issue](#) describes the gradual transition from drought to wet conditions over spring 2017 and provides an outlook on spring 2017 weather including ENSO and flood/precipitation events.

The Climate Network has developed an interactive web-based tool to help regional communities obtain access to Intensity/Duration/Frequency (IDF) rainfall data to aid decision-making. The new Extreme precipitation in Atlantic Canada website <http://atlantic-canada-precip.eas.cornell.edu/> builds upon the website (<http://precip.eas.cornell.edu/>) developed by the Northeast Regional Climate Center for New England and provides access to Environment and Climate Change Canada weather stations data, rainfall maps, U.S. station data, and integration with U.S. data.

Update – U.S. Army Corp of Engineers

Northeast Regional Ocean Plan Restoration Subcommittee

The Corps is working with EPA to initiate the Northeast Regional Ocean Plan Restoration Subcommittee efforts to fulfill the goals of the Northeast Ocean Plan. The NOP activities outlined for the Restoration Subcommittee are to maintain and update data by maintaining and updating the restoration theme and data and list of funding sources on the Data Portal; inform management decisions by using maps and funding sources identified in the Plan to identify regional restoration opportunities; and enhance agency coordination. We plan to discuss subcommittee composition and overlap between these activities and the NROC coastal resiliency work.

Northeast Coastal Restoration Authority

The Water Resources Reform and Development Act of 2014 (Section 4009) gave the Corps of Engineers the authority to conduct a study of aquatic ecosystem restoration projects from Maine to Virginia. The authorization provides an opportunity for state and federal agencies and NGOs in the region to cooperate on the development of a comprehensive plan to identify and prioritize aquatic ecosystem restoration projects. The Nature Conservancy has been instrumental in obtaining the authorization and clarification of the requirement to prepare a regional plan, rather than a feasibility study, which would have required the identification and study of individual projects for implementation, rather than a comprehensive plan. Congress modified the authority through Section 1203 of WIIN/WRDA 2016 by striking “conduct a study to determine the feasibility of carrying out projects” and inserting “carry out a comprehensive assessment and management plan.” The Corps of Engineers must have a letter of support to move forward with a study under this authorization. TNC was unable to provide a letter of support to add the plan to the Fiscal Year 2019 budget.

Engineering Research and Development Center Work Units

Three ERDC environmental research area work units of particular interest to the New England region are continuing. The data collection and draft report for the Watershed Level Effects of Multiple Ecosystem Restoration Projects in Narragansett Bay is complete. The team is working on expanding the ecosystem restoration context. The Restoring Salt Marshes Impacted by Sea Level Rise work unit is close to completing a draft of its first product, Maintaining Salt Marshes in the Face of Sea Level Rise - State of the Practice report. This work unit includes the USFWS/RICRMC TLP site on the Narrow River in Rhode Island. EDRC is also starting a work unit to examine the effects and best management practices for considering sediment release with dam removal. New England representatives from NOAA and Massachusetts Division of Ecological Restoration will be involved in the work unit.

Major New England District Projects

The District is moving forward with a [feasibility study](#) for deepening New Haven Harbor in Connecticut and a comprehensive feasibility study of flooding on the coast of Connecticut, and a [flood risk reduction study](#) for the coast of Rhode Island with RICRMC. We recently completed the [Muddy River Flood Risk Reduction/Environmental Restoration Project](#) in Boston with the City of Boston and the [Bird Island Restoration Project](#) in Marion, Massachusetts with the Division of Fisheries and Wildlife and Office of Coastal Zone Management.

Update – New England Federal Partners

Co-chairs Cynthia Greene/EPA, Ellen Mecray/NOAA, Keith Robinson/USGS and William DeLong/DHS

The New England Federal Partners now has a web presence! It is on the Climate Resilience Toolkit at (<https://toolkit.climate.gov/NEFP>).

On the last NEFP conference call there were presentations from USGS on the use of drones to measure shoreline erosion and from NOAA on sea level rise and nuisance flooding. The next in-person meeting is scheduled for September 14th.