Northeast Regional Ocean Council
December 16, 2019 Meeting – NH Department of Environmental Services, NH
Meeting Summary

Attendees

David Beutel, RI CRMC; Chris Boelke, NOAA Fisheries; Jennifer Brewer, University of New Hampshire; Leann Bullin, BOEM (remote); Jeremy Carter, NOAA OCM; Erik Chapman, NH Sea Grant Program; Steve Couture, NH DES (NROC State Chair); Ted Diers, NH DES; Lisa Engler, MA CZM; Susan Farady, University of New England; Jennifer Felt, Conservation Law Foundation; Marianne Ferguson, NOAA Fisheries (remote); Christy Foran, RAND Corporation; Kathryn Ford, MA DMF (remote); Grover Fugate, RI CRMC; Parker Gassett, University of Maine; Brent Greenfield, National Ocean Policy Coalition (remote); Adrianne Harrison, NOAA; Dan Hubbard, US Coast Guard; Joan LeBlanc, NROC; Kathleen Leyden, ME Coastal Program / ME DMR; Rebecca Love, NOAA; Regina Lyons, US EPA (NROC Federal Chair); Daniel Martin, NOAA OCM; Ivy Mlsna, US EPA; Jackie Motyka, NERACOOS; Peter Murdoch, USGS (remote); Nick Napoli, NROC; Becca Newhall, NOAA OCM; Betsy Nicholson, NOAA OCM; Larry Oliver, USACE; Cheri Patterson, NH Fish & Game; Jennie Rheuban, Woods Hole Sea Grant; Marta Ribera, The Nature Conservancy; Martha Robbart, GHD (remote); Eric Roberts, The Nature Conservancy; Annie Ropeik, NH Public Radio (remote); Jeffrey Runge; University of Maine; Aaron Strong, Hamilton College (remote); Brian Thompson, CT DEEP; Amy Trice, Ocean Conservancy; Beth Turner, NOAA; Prassede Vella, MA CZM (remote); Dan Wainberg (for Mel Coté), US EPA; Chris Williams, NH Coastal Program; Katrina Wyllie, NOAA OCS

NROC Executive Committee

Steve Couture (NH DES) provided an Executive Committee update regarding NROC funding status, tribal engagement, and NOAA fellows.

- NROC Funding: Current NROC funding is provided by the following sources: 1) FY2017 NOAA Coastal Resilience Grant – TNC, 2) FY2018 NOAA / NOS / NCCOS – NERACOOS, 3) Moore Foundation, 4) Bureau of Ocean and Energy Management, and 5) FY2019 NOAA (Regional Ocean Data Sharing / Regional Ocean Partnership). Funding amounts, project descriptions and funding periods for these sources of funding are included in the meeting Briefing Packet at https://www.northeastoceancouncil.org/library/.
- Tribal Engagement: NROC has continued efforts to increase tribal engagement. US EPA has been coordinating outreach and is currently waiting to find out who will serve as tribal co-chair for NROC's Ocean Planning Committee.
- NOAA Fellows: Ben Sweeney started his fellowship with the NH Coastal Program in August 2019. In MA, NOAA fellow Sean Duffy completed his work but is now working as a contractor for MA. Adrianne Harrison noted that her office will host a new Digital Coast fellow. Applications for the Margaret Davis fellowship must be submitted by December 20, 2019.

NERACOOS Highlights

Jackie Motyka (NERACOOS) provided brief highlights regarding NERACOOS initiatives, noting that additional information would be shared during the afternoon meeting session on Ocean Acidification. NERACOOS is continuing to fund observations, modeling, and data management efforts in the Gulf of Maine, Southern New England and Long Island Sound. In preparation for the next five-year IOOS

proposal NERACOOS is seeking stakeholder input regarding the current observing system and existing gaps. Feedback should be sent to Tom Shyka, tom@neracoos.org. This year the nutrient sensors will once again be deployed throughout the region including sensors in Long Island Sound, Narragansett Bay, Great Bay and in the Gulf of Maine. Glider missions will also be deployed over this next year in the Gulf of Maine to monitor oceanographic conditions, nitrate and cetacean occurrences. Two new high frequency radar sites, which can be used to monitor and predict surface currents, will be installed in the coming years, one in the Gloucester, MA area and one in the Rye, NH area. Jackie also noted that the position announcement for NERACOOS Executive Director will be posted later this week.

Northeast Sea Grant Consortium (NESGC) Updates

Erik Chapman (NH Sea Grant) provided updates on behalf of the Northeast Sea Grant Consortium (NESGC), which focuses on implementing regional projects in Connecticut, Maine, New Hampshire, New York, Rhode Island, and Massachusetts (MIT and Woods Hole Oceanographic Institution).

- National Funding: The proposed FY20 House budget included $85 million for NSGO, while the Senate budget included $88 million (including $13M for aquaculture, $2M for lobster, $5 million for Gulf of Mexico migratory species such as YF tuna).
- Ocean Acidification: Northeast Sea Grant Consortium funded a range of projects focused on ocean acidification, including partnering with NERACOOS / NECAN to host a series of webinars highlighting these innovative research projects. Recordings of the webinars are available at: http://necan.org/seagrantwebinars.
- American Lobster Initiative: NESGC awarded $2 million for seven research projects focused on increasing understanding about the relationship between lobster and climate. Project partners include MA DMF, Gulf of Maine Research Institute, University of Maine, Wells National Estuarine Research Reserve, and Virginia Institute of Marine Science. A related Regional Lobster Extension Program is connecting stakeholders to current and past NOAA funded research.
- Aquaculture Network: Sea Grant awarded $16 million to support more than 40 two-year research projects and collaborative programs to advance sustainable aquaculture in the US including several projects in the Northeast.
- Offshore Wind: Rhode Island Sea Grant will host a symposium, *Offshore Renewable Energy Interactions with the Environment: Lessons Learned from Europe* on April 24, 2020.
- Sea Grant / USGS: In early December NOAA Sea Grant College Programs and the USGS Water Resources Research Institute hosted a joint regional meeting to explore connectivity, synergy and leveraging opportunities.
- March Meeting: Sea Grant regions will meet to develop priorities this spring.

A copy of this presentation is available at https://www.northeastoceancouncil.org/library/.

Gulf of Maine Council Updates and Opportunities for Collaboration

Prassede Vella (MA) reported that co-hosting the Gulf of Maine 2050 International Symposium in November 2019 was a major initiative of the Gulf of Maine Council throughout the past year. A separate update and discussion about the Symposium will be provided later in the meeting. Since the April 2019

NROC meeting, GOMC also hosted a joint Council and Working Group meeting in Halifax, Nova Scotia, July 10 - 11, 2019. Issues discussed at the meeting included: 1) planning for the Gulf of Maine 2050 International Symposium, 2) ocean planning and management in the Gulf of Maine, 3) briefing from the Climate Network, 4) opportunities to collaboration with NECAN, and 5) US / Canadian collaborative efforts to address marine debris. GOMC presented 2019 awards to individuals, organizations and businesses from Nova Scotia, New Brunswick, Maine, New Hampshire and Massachusetts during a ceremony on July 10, 2019 in Hubbards, Nova Scotia. A summary of the awards presented is available at: https://gulfofmaine.org/public/gulf-of-maine-council-on-the-marine-environment/awards/. GOMC will issue a call for nominations for its next awards program in early 2020. The next Gulf of Maine Council teleconference meeting is scheduled for Wednesday, December 18, 2019. Regina Lyons (EPA) noted that US EPA is working with GOMC to help facilitate next steps for determining how to handle ESIP data since the program no longer has a coordinator.

New England Federal Partners

Betsy Nicholson (NOAA) reported that the following topics were discussed at the recent New England Federal Partners meeting.

- The National Integrated Drought Information System (NIDIS) Northeast Drought Early Warning System (DEWS) Strategic Plan is available at:
  - https://www.drought.gov/drought/dews/northeast/about-northeast

  All agencies are involved in various aspects of the program and they are hiring a coordinator to help track the system. For more information, contact: Ellen Mecray, ellen.l.mecray@noaa.gov.
- National Park Service has developed a protocol for climate vulnerability assessment. For more information, contact Amanda Babson, Amanda_babson@nps.gov.
- General Accounting Office (GAO) speaker provided an update on climate work they have done on the federal government fiscal exposure from climate change. GAO's conclusion is that the federal government has not made enough progress in reducing federal fiscal exposure to climate change.
  - https://www.gao.gov/highrisk/limiting_federal_government_fiscal_exposure/why_did_study
- New England Federal Partners have expanded their role beyond just meeting to inform NROC efforts with agenda items focused on key issues requiring coordination among federal agencies.
- NROC can help identify efforts for agency collaboration and inform opportunities for funding from various federal partners.
- NE Federal Partners group is primarily focused on information sharing. Drought coordination is one example where multiple agencies are working together on a specific initiative.

NROC Feedback

- Kathleen Leyden (ME DMR) and Steve Couture (NH DES) reported a significant need for additional river gauges in Maine and New Hampshire.
- Steve Couture suggested that NE Federal Partners engage in efforts to support OCEH and Hazards Committee work as there is already a lot of collaboration with the OPC.

Highlights from Roundtable Updates / Announcements

- Grover Fugate (RI CRMC) provided an update regarding offshore wind activities in RI. They are currently reviewing eight offshore wind projects with lots of offshore surveys. One of the challenges is that the surveys have been damaging fishing gear. They are currently trying to create a policy on how to replace gear loss. RI is also working on a new set of regulations. They have an expanded GLD approved by NOAA. Impacts of pile driving during the construction phase are a concern. It can be difficult to determine impacts without adequate pre- and post-development data. In other RI news, the state has a new permit process for its Climate Initiative. They have developed new online tool with floodplain maps using the NOAA high curve for Sea Level Rise. Homeowners can now use state instead of FEMA maps. Their new App can provide estimates about potential damage for a specific location and explore how various options could mitigate damage. Grover noted that they did not have opposition to this new tool – the builders association was involved and supportive.
- Betsy Nicholson (NOAA) reported that NOAA and the National Fish and Wildlife Foundation awarded $30 million in Coastal Resilience Grants during November 2019, including the following projects in the Northeast region:
    - Permitting and Final Design for Herring River Tidal Restoration, Cape Cod Massachusetts. Friends of Herring River: $300,000.
    - Using Salt Marsh Habitat Restoration for Resiliency, Massachusetts. The Trustees of Reservations: $217,931.
    - Marsh Island Salt Marsh Restoration Project in Fairhaven, Massachusetts. Buzzards Bay Coalition: $2,000,000.
    - Restoring and Monitoring Fish Passage at Snows Brook in Sedgwick, Maine. Maine Coast Heritage Trust: $490,000.
    - Megunticook River Watershed Fish Passage and Flood Prevention Site Assessments and Design, Maine. Town of Camden, Maine: $139,000.
    - Site Assessment and Preliminary Designs to Mitigate Flooding in Hampton, New Hampshire. Town of Hampton, New Hampshire: $185,800.
    - Preliminary Site Design to Improve Coastal Resiliency at Quonochontaug Pond and Breachway. Rhode Island Department of Environmental Management: $75,000.

  Details available at: https://www.nfwf.org/coastalresilience/Documents/2019grantslate.pdf
- Chris Boelke (NOAA Fisheries) reported that the habitat conservation division is reorganizing; a new 'ecosystem services branch' will provide a look across agencies encompassing offshore wind, aquaculture, and other topics. In other news, NOAA is working with BOEM and the UDALL Institute to facilitate coordination between BOEM and fisheries service. This spring they will host a second workshop to focus on fisheries coordination. NOAA is also working to ensure that relicensing of hydropower is consistent with comp plans for the Androscoggin and Merrimack rivers.
- Jamie Carter (NOAA) reported that their high-resolution mapping data project will be available in the next couple of months.
- Regina Lyons (EPA) reported that EPA awarded $4 million earlier this month for a competitive grants program to support estuaries and coastal waters via the National Estuaries Program. EPA is also still

focused on the Isle of Shoals North dredge disposal site. They completed a 12-month consultation period and are now working with USFWS.

Gulf of Maine 2050 International Symposium

Joan LeBlanc (NROC / GOMC) provided an overview of outcomes from the Gulf of Maine 2050 International Symposium which took place in Portland, Maine from November 4-8, 2019. Participants learned about how key drivers – sea level rise and precipitation, coastal and ocean acidification, and warming waters – are expected to impact the Gulf of Maine over the next 30 years and worked together to identify priorities for regional resilience. The symposium was co-hosted by the Gulf of Maine Council, Gulf of Maine Research Institute, and Huntsman Marine Science Centre with contributions from the Steering Committee including many NROC partner agencies.

Highlights from the Event

- Diverse Attendance. Over 320 people from the US and Canada participated in the symposium. Scientists, government managers, fishermen, maritime business leaders, NGO representatives, and students all worked together to develop a shared understanding and priorities for promoting a resilient Gulf of Maine.
- Scientific Scenario Papers. Teams of experts worked together in advance of the symposium to develop scientific scenario papers exploring how the primary drivers of change are expected to impact conditions in the Gulf of Maine over the next 30 years.
    - *Gulf of Maine 2050 Overview*
    - *Gulf of Maine 2050 Scenario: Sea Level Rise and Precipitation*
    - *Gulf of Maine 2050 Scenario: Temperature and Circulation*
    - *Gulf of Maine 2050 Scientific Scenario: Coastal and Ocean Acidification*
- Poster Sessions / Presentations. 100+ posters highlighted research and management projects related to warming waters, ocean acidification, sea level rise, and other topics. Scientists highlighted latest research and knowledge about how changes in sea level rise and precipitation, ocean acidification, and warming waters are impacting Gulf of Maine resources. Maritime businesses, municipal leaders, regional planners, NGOs, and students discussed climate impacts, and provided examples of adaptation, challenges, and opportunities for resilience.
- Priorities for Research, Policy and Management. Facilitated working sessions focused on identifying priorities for research and policy / management actions for each driver.
- Collaborative Action Grants. GOM 2050 hosted a grant competition to foster collaborative discussion and development of action plans throughout the week. Over 30 proposals were submitted and grants of $9,000 each were awarded to:
    - Nantucket Conservation Foundation, Inc. to providing training about how to use blue carbon credits to enable salt marsh restoration.
    - NERACOOS to create a pilot annual climate change report for the Gulf of Maine region to keep folks focused on the progression of drivers of change and critical events.

- Eastern Charlotte Waterways Inc. to bring research, academic, fishers, indigenous and other stakeholders together to address the impact of multiple climate stressors on the soft-shell clam industry in coastal Maine and southwestern New Brunswick.
- Our Wicked Fish to host a workshop that brings researchers together to share data and results about how the impacts of climate change are affecting the seafood industry.

Key Messages from GOM 2050

Cross-Cutting Priorities – Sea Level Rise, Ocean Acidification, Warming Waters

- Expand cross-sector collaboration of knowledge, tools, resources and strategies bi-nationally (US / CA), across jurisdictions, between state and federal government, among local communities.
- Improve communications, awareness and education by bridging the gap between science and management, engaging scientists in communications, and improving K-12 education.
- Expand research horizon out to 2100 for climate impacts and focus on combined impact of all three major drivers on multiple sectors (communities, ecosystems, and economy).
- Policy and Management Priorities:
  - Promote social and environmental justice - vulnerable communities face significant negative impacts.
  - Integrate climate policies into all levels of government policy.
  - Create 'adaptive' policies and management strategies.
  - Promote cross-generational planning and management.
  - Improve link between science and management / policy decisions.
  - Use most recent IPCC research, forecasting and knowledge.
  - Improve 'real time' data and reporting tools.
  - Come to terms with the importance of making good policy and management decisions despite uncertainty associated with climate change.
  - Increase knowledge and expertise in conflict management.

Driver Specific Priorities

Sea Level Rise:

- Make sure we are all talking about the same thing 'Total Water'.
- Expand use of existing tools / some improvements needed.
- Support local actions to ensure consistent progress.
- Implement policies to curb coastal development.

Coastal and Ocean Acidification:

- Need a lot more basic research, monitoring and reporting.
- Develop and share products to increase awareness.

Warming Waters:

- Research to increase understanding about relationship between warming waters and ecosystem change / species shifts.
- Increase sharing of research gear, tools and data.
- Transboundary efforts between US / Canada to protect key species that cross boundaries.

NROC Feedback

- Look for opportunities to continue and expand collaboration among regional organizations – NROC, Gulf of Maine Council, NERACOOS, Gulf of Maine Research Institute, etc.
- Identify opportunities for regional discussion and policy development about environmental / social justice in the context of climate change. Understanding and addressing cumulative impacts of climate change on vulnerable communities is an important area of concern. This might be a topic for a future NROC meeting or through a stand-alone forum. EPA has an EJ Coordinator.
- New tools are needed to respond to shifting impacts of climate change. For example, when hurricanes stall out, the risk of flooding in river valleys is much greater. NOAA does have a modeling effort to integrate freshwater inputs linked to total water levels.
- *The 2020 Summit: The National Coastal & Estuarine Conference* in Providence, RI may provide an opportunity to create panels or tracks to focus on some of the priorities from GOM 2050. https://estuaries.org/summit/

Additional details about Gulf of Maine 2050: www.gulfofmaine2050.org.
A copy of this presentation is available at https://www.northeastoceancouncil.org/library/.

NROC Committee Activities and Opportunities for Collaboration

Ocean Planning Committee

Ted Diers (NH DES) and Nick Napoli (NROC) provided the following updates regarding NROC Ocean Planning Committee activities.

- NROC's Ocean Planning Committee is looking for new sources of funding to support the data portal when funding from the Moore Foundation is complete. Some federal funds from BOEM have already been committed.
    - Amy Trice of the Ocean Conservancy offered to help advocate for additional federal funding in the future.
- The next in-person Ocean Planning Committee meeting has been tentatively scheduled for April 2, 2020. The agenda will include discussion about offshore wind as well as other topics of interest.
- Ocean Planning Committee is currently discussing the potential for using the data portal to host data from developers.
- Regional data sharing funds are being used to update the portal (in collaboration with RODA) to engage fishing communities.

Coastal Hazards Resilience Committee

- Adrianne Harrison (NOAA) reported that NOAA is planning to host a webinar series to highlight state experience and provide guidance for using the Sea Level Rise viewers. Focusing on regional consistency is a priority for spring 2020.
    - Ivy Mlsna recommended a call to look at Sea Level Rise scenario tools.

- Eric Roberts (TNC) reported that project partners will request an 18-month extension from NOAA for the project, *Increasing Resilience and Reducing Risk Through Successful Application of Nature Based Coastal Infrastructure Practices in New England*. The extended time-frame will support additional implementation and monitoring of demonstration sites throughout the region. The project team is applying for additional funds to build a data sharing platform and will have a team meeting in February.

Ocean and Coastal Ecosystem Health Committee

- Habitat Classification and Ocean Mapping (HCOM): Becca Newhall (NOAA) provided an update regarding HCOM work related to the Coastal and Marine Ecological Classification Standard (CMECS). NOAA has been creating an updatable tool for its Geoform component.
- Integrated Sentinel Monitoring Network (ISMN): ISMN Director Jeffrey Runge (University of Maine / Gulf of Maine Research Institute) provided an update about implementing the ISMN; a regional infrastructure to facilitate observation and interpretation of ecosystem changes in the Northeast. An Oversight Committee has been convened to advise the director, determine priorities, establish committees and recruit members, and provide guidance for awarding grants for data synthesis through the Center for Analysis, Prediction and Evaluation (CAPE). ISMN is also working to integrate data from national observation networks such as the Marine Biodiversity Observation Network (MBON) into the ISMN framework.
  Recent activities include:
  1. ISMN received funding for MBON expansion into the Gulf of Maine from BOEM and NOPP (NOAA). Funding will be used for:
     - Monthly sampling for comprehensive plankton and environmental data at two time series stations.
     - Creation of CAPE project to predict foraging distribution by modeling changes in the spatial pattern of abundance of *Calanus finmarchicus.*
     - Working with GMRI to integrate new and previously collected data into the NERACOOS framework.
  2. Oversight Committee has been established and meeting.
     - With a total of 14 members there are still two spots to fill.
     - The committee met informally at GOM 2050 in Portland in November 2019, and will next meet on January 10, 2020.
     - Subcommittees have been developed to identify possibilities for white paper to supplement the S&I Plan.
  3. ISMN gave a poster presentation at GOM 2050 in November.
  4. Recent teleconference to discuss opportunities to collaborate with the Ocean Health Index.

Further information about ISMN is available at: http://neracoos.org/sentinelmonitoring.
A copy of this presentation is available at https://www.northeastoceancouncil.org/library/.

NROC Feedback

- Regional Research Reserves have science leads that can assist with the MBON project.
- Some states have backed away from utilizing the Ocean Health Index because they already have their own set of indicators.
- NERACOOS is also exploring opportunities to integrate ESIP data into ISMN.

Ocean Acidification Updates and Requests for NROC Direction

Massachusetts Ocean Acidification Commission

Lisa Engler (MA CZM) provided an update regarding the MA Ocean Acidification Commission. The Commission had its first meeting in November where they focused on convening, overview of the Commission's charge, and science updates. Massachusetts is looking for data gaps and wants to leverage information from others. Massachusetts Department of Environmental Protection and NGOs are also involved. The commission is charged with making policy recommendations by December 2020.

NROC Feedback

- NOAA is also interested in hearing about data gaps.
- NH doesn't have enough data about ocean acidification. Hopefully MA efforts can help inform and expand regional efforts.

Northeast Coastal Acidification Network (NECAN) Update

Acting NECAN Chair Beth Turner (NOAA) provided an update regarding recent NECAN Activities. The following NECAN goal and priorities were informed by a NECAN / NROC workshop held in 2017.

- Goal: Help create a coordinated monitoring strategy than can incorporate current observations as well as include emerging efforts to measure OCA parameters to best meet the needs of coastal managers
    - Develop ways to share date for integration, analysis, and interpretation for management (coordination with ISMN)
    - Create narrative standards for management with numerical interpretations
    - Better communications strategy with an emphasis on who is communicating to which audiences
    - Engage citizen science groups

More recent activities included day-long citizen science monitoring workshops in CT, MA and ME during April – May 2018 and hosting Shell Day on August 22, 2019. NECAN has been developing a series of communications tools such as a conceptual model to show OA drivers and impacts to stakeholders in industry and policy, an information sheet for the shellfish industry, and an information sheet highlighting policy actions to combat coastal acidification.

Upcoming and ongoing NECAN activities

- Regional modeling project to add carbonate to Northeast Coastal Ocean Forecast System (NECOFS)
- Follow up analysis and outreach from the citizen science workshops

- Additional webinar series including industry webinars, and projects from 2016 RFP
- Expanded info sheets on OA impacts – including economic importance of resources
- Pursue monitoring strategy
- Consider potential symposium to revisit state of the science, assess progress, and identify knowledge gaps
- Host the OA Information Exchange to promote information sharing and communications

NROC Feedback

- NROC members noted the importance of continued collaboration with and support for NECAN.

Additional information about NECAN is available at: www.necan.org.
Information about the OA Information Exchange, www.oainfoexchange.org
A copy of this presentation is available at https://www.northeastoceancouncil.org/library/.

Ocean Acidification Thresholds Project

Aaron Strong (Hamilton College) provided an overview of the project - *A Predictive Model for Ocean and Coastal Acidification Thresholds from Long Island Sound to the Nova Scotian Shelf* and asked NROC to provide direction on management applications for the model.

Project Approach

- Expand the Northeast Coastal Ocean Forecast Systems (NECOFS) to include carbonate parameters and key ecosystem properties
- Seek input from three key decision areas to help define threshold detection and warning capabilities
    - Water quality management and monitoring
    - Shellfish aquaculture
    - Wild harvest shellfisheries
- Develop a management transition plan that utilizes NECOFS to ensure credible, salient and legitimate decision-making support

Key Points of Input from Stakeholder Outreach

- NECAN survey results show relatively low number of NE aquaculture operators (22%) observing impacts from ocean and coastal acidification on their operations
    - Aquaculture operators see concerns about warming, storms, and harmful algal blooms before impacts of ocean and coastal acidification
- Water quality managers could use models to design monitoring, assess vulnerability, use in scenarios, or use for developing water quality criteria. The project team will host forums in 2020 to discuss potential use of the model for water quality management.

The project team highlighted the need for nutrient input data to inform modeling of the nearshore environment's ocean acidification status. Anyone with estimates of riverine or coastal nutrient loading with data that are publicly available, are asked to reach out to parker.gassett@maine.edu, astrong@hamilton.edu, and c1chen@umassd.edu.

Additional information about the project is available at: http://www.neracoos.org/OCAThresholds
A copy of this presentation is available at https://www.northeastoceancouncil.org/library/.

NROC Feedback

- The model will be a helpful tool to inform regional monitoring strategies.
- The model can help inform how various amounts of nutrients are impacting the problem (pending additional nutrient data).
- EPA / NOAA want to be involved to increase understanding since they are the regulators
    - NOAA / EPA interagency discussion is needed since EPA approves the 303(d) list
- Identifying areas that are most vulnerable to effects of ocean acidification is an important step
- Data about upper watershed conditions is needed.
- Learning about 'sensitivity' is important. Are there certain more sensitive areas where buffering would be less likely to help the situation?
- The west coast has a regional model that should be considered.

Shell Day 2019 – Ocean Acidification Monitoring Blitz

Parker Gassett (UMaine) and Jennie Rheuban (Woods Hole Sea Grant) provided an overview of the Shell Day monitoring blitz which took place on August 22, 2019 to collect data on salinity and TA and broaden the stakeholder network. The Shell Day committee worked with citizen scientists in the region to conduct this single-day monitoring event along the coast from Long Island Sound to Downeast Maine. Shell Day leveraged impact by taking advantage of existing water quality monitoring efforts. Many of these programs had the potential to be engaged in understanding OA but they needed tech support and guidance. Water quality monitoring groups took temperature, salinity, and pH measurements and collected water samples during low, mid, and high tides. The samples are now being analyzed by partner laboratories to determine the total alkalinity. Over 500 samples were collected from 100 unique sampling sites. Coordinating groups included 57 water quality monitoring organizations and 8 laboratories for analysis.

Additional information about Shell Day is available at: http://necan.org/shellday.
A copy of this presentation is available at https://www.northeastoceancouncil.org/library/.

NROC Feedback

- NROC members would like to understand the process, determine what tests worked, and look at results from 2019 to see if implementing Shell Day in future years is worth the effort.
- NECAN should consider convening a follow-up meeting or workshop to explore results and consider future plans.

Gulf of Maine Intergovernmental Renewable Energy Task Force

BOEM convened the first meeting of the Gulf of Maine Task Force (NH, MA and ME) on December 12 at the University of New Hampshire. The task force was created to facilitate coordination and consultation related to offshore renewable energy activities in the Gulf of Maine. Approximately 250 people attended the meeting which focused on:

- Facilitating coordination among federal, state, local, and tribal governments regarding the wind energy leasing process on the Outer Continental Shelf in the Gulf of Maine;
- Sharing information about existing Gulf of Maine activities and marine conditions; and
- Providing updates on regional offshore wind goals and developer activities.

Ted Diers (NH DES) reported that NH will have four task forces: 1) fisheries / habitat, 2) infrastructure, 3) work force / economic development, 4) siting transmission / infrastructure. NH DES will chair the fisheries and environmental impact group. Lisa Engler reported that MA is coordinating a fisheries work group and habitat work group. They will likely develop a set of Terms of Reference and then develop agendas on a topical basis. Ted Diers asked NROC members to discuss how we want to coordinate groups, what data sets we want to look at, and what linkages would be important.

NROC Feedback

- We should collaborate with existing fisheries organizations and meetings.
- It might be helpful to coordinate with NE Fishery Management Council meetings to have a regional discussion about fisheries impacts with the states.
- NOAA Fisheries will want to be involved.
- We should coordinate on a regional basis to develop agendas and identify resources needed for the meetings.
    - Analysis products can be requested from Nick / Emily.
    - May need to bring in subject matter experts.
- We may need to build literacy to ensure consistency.
    - Existence of RODA / ROSA will change the dynamic of building literacy.
- Outreach will be important since fishermen rely on their own networks for information.
- We should refer back to best management practices and priorities identified in the Northeast Ocean Plan instead of reinventing the wheel.
- Next GOM Task Force meeting should focus on developing a framework for next steps.
- NROC's work with RODA / ROSA provides an opportunity to discuss offshore wind data needs.

Task Force Meeting materials and presentations are available at: https://www.boem.gov/renewable-energy/state-activities/gulf-maine-intergovernmental-renewable-energy-task-force-meeting

NROC meeting adjourned at approximately 3:00 PM

Meeting summary prepared by Joan LeBlanc, NROC Coordinator

Briefing Packet and presentations are available under Council Meeting Materials at: http://northeastoceancouncil.org/library/