

NORTHEAST REGIONAL OCEAN COUNCIL

Maine • New Hampshire • Massachusetts • Connecticut • Rhode Island

2010-2012 Priority Issue Area Work Plans



December 2010

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Introduction

The voluntary establishment of regional ocean councils, developed through a process supported by the National Ocean Council, would facilitate the development of regional goals and priorities and improve responses to regional issues. Improved coordination of federal agencies at the regional level would complement the establishment of regional ocean councils, improving the federal response to state and local needs while furthering national goals and priorities. The development and dissemination of regionally significant research and information is imperative to meet the information needs of managers and support ecosystem-based decisions. - U.S. Commission on Ocean Policy, 2004

At the 2005 Annual Meeting of the New England Governors and Eastern Canadian Premiers, Rhode Island Governor Donald L. Carcieri proposed the creation of a regional ocean partnership for New England. Resolution 29-03 (2005) emerged from this meeting establishing the Northeast Regional Ocean Council (NROC). NROC currently consists of delegates from the six New England States and six federal agencies to form a true state-federal partnership in ocean management. NROC provides a forum for the six New England states, federal agencies, regional organizations—such as the Gulf of Maine Council—and other interested regional groups, to address ocean and coastal issues that require a regional response. NROC does not supplant the functions or the authorities of existing state and federal entities, but rather builds upon current state, regional, and federal governance and institutional mechanisms to improve decision-making and management for ocean and coastal resources.

Since its inception, NROC has sought broad and active stakeholder participation. In 2007, NROC convened an expansive Northeast Oceans Congress with over 60 groups and individuals providing input and direction to define NROC's priority themes, issues, and actions. NROC's standing committees also include diverse membership from the public, private and NGO sectors. In addition to its commitment to open stakeholder involvement, NROC also seeks strategic partnerships through formalized relationships with such regional entities as the Gulf of Maine Council and the Northeast Regional Association of Coastal and Ocean Observing Systems.

NROC facilitates the development and implementation of coordinated and collaborative regional goals and priorities to improve governmental and socio-economic responses to issues and challenges that are inherently regional and to increase accountability of governmental actions.

Background on the Work Plans

The Council established the Standing Committees to serve as region-wide coordination and action groups for three priority issue areas – ecosystem health, coastal hazards resilience, ocean energy planning. NROC has recently established a strategy team to coordinate regional coastal and marine spatial planning activities. Standing Committees, and the new strategy team, inform and recommend to the Council how best to approach regional problems and coordinate activities. The Committees were not created to supersede agency authorities, but are responsible for crafting a work plan that contributes to solving the region’s most pressing coastal and ocean issues. Committees are led by a state and federal co-chair team and can choose to create a broader committee with members from the government, academic, and non-profit sectors.

This is the third iteration of Committee work plans. The Committees have included two types of activities – those that can be accomplished with existing resources (primarily in-kind) and those that require additional resources. Committee co-chairs and Council members agree all activities are high priority and will make efforts to complete as resources allow. Committee co-chairs are responsible for working with NROC members and regional stakeholders to identify and prioritize activities.

Climate Change

NROC recognizes the importance of climate change as major driver. The impacts of climate change, as portrayed in the 2007 Intergovernmental Panel on Climate Change Fourth Assessment Report, have and will have profound effects on New England’s ocean and coastal resources. NROC is especially concerned with impacts to the region’s economy, infrastructure, and natural resources resulting from rise in sea-level, change in frequency and intensity of coastal storms, change in coastal processes, and increase in ocean temperature. As an overarching issue, NROC’s current approach is to ensure that each of the standing committees have included and integrated climate change into current work plans.

Public Comment

The Northeast Regional Ocean Council (NROC) invited interested stakeholders and members of the public to review and comment on its 2010-2012 Priority Issue Area Work Plans. Comments were solicited beginning September 20, 2010 through October 31st, 2010. The work plans, as well as review guidance, were made available on NROC’s website (<http://collaborate.csc.noaa.gov/nroc>) and via a widely distributed email request for comments.

The NROC Executive Committee compiled comments submitted through October 31st and provided Committee co-chairs with a copy of relevant comments. Committee co-chairs were asked to incorporate ideas where possible and to follow up with individuals regarding suggestions for additional activities that could be considered for future work plans.

Ocean and Coastal Ecosystem Health



Goal: The importance of ocean and coastal ecosystem health is recognized as critical to the long-term sustainability of our region. All levels of government have access to and utilize comprehensive information to manage ocean and coastal resources.

Summary: The Northeastern U.S. coast is a rich and diverse place, from the shallow sea of Long Island Sound to the beaches of Cape Cod, and the rocky shores and complex circulatory patterns of the Gulf of Maine.

These ecosystems have abundant resources and have supported coastal communities for generations. But these valuable ecosystems are vulnerable. The impacts of increasing human uses including many new industrial uses, and the effects of fractured management are showing in degraded water quality, depleted fish stocks, and damaged habitat, as evidenced by documented "dead zones" in the Long Island Sound and decreased anadromous fisheries in the Gulf of Maine. The New England states have also identified the links between human activity on the land with the health of our coasts and estuaries.

Literally thousands of people are working to protect and restore coastal and ocean ecosystem health in the Northeastern U.S. Because there are so many people, agencies and organizations already working on the coastal and ocean ecosystem health. The Northeast Regional Ocean Council's (NROC) role should be to enhance communication and collaboration amongst these parties, advocate for what is collectively determined to be the highest priority regional actions, and to help articulate a common vision for management and restoration. NROC has identified three areas of focus within coastal and ocean ecosystem health:

- Linking observations to management decision-making,
- Enhanced data collection, integration and dissemination, and
- Better governance, coordination and communication.

Accomplishments:

- **Coastal America priority restoration project list (April 2009)** The Coastal America Northeast Regional Implementation Team updated its list of coastal and riverine habitat restoration projects, and inventory of funding sources for habitat restoration work, in April 2009, and delivered it to the OCEH committee to help federal and state agencies coordinate ARRA funding for "shovel-ready" projects.
- **Regional ecosystem-based marine spatial planning workshop #1 with TNC (June 2009)** June 2009 workshop with NOAA and TNC on improving the understanding of principles and objectives of marine spatial planning, as well as assessing regional data availability. Discussions and results of this workshop indicated a need for additional opportunities to explore the data and regulatory context for ocean planning in the Northeast.
- **Regional ecosystem-based marine spatial planning workshop #2 with NOAA (October 2009)** October 2009 workshop to advance shared objectives of ocean planning through discussion of data and research coordination needs and regulatory efficiency possibilities, and through enhancing the region's capacity to "think and work like a community", including state-federal cooperation, to support "on the water" integrated ocean management efforts at every level.
- **National Ocean Policy comments from NROC (October 2009)** NROC participated in and provided official comments on development of National Ocean Policy including national CMSP framework.
- **Established working group for Coastal Land Conservation Initiative (January 2010)** As directed by New England Governors, worked with NEGC's Commission on Land Conservation to initiate a Safeguarding Coastal and Estuarine Land pilot project that builds

on state and regional land conversation, climate, and wildlife plans to address joint goals for land conversation, climate change adaptation, and habitat protection.

- **Identified regional ocean and coastal ecosystem health priorities (June-October 2010)**
Worked through the New England-Canadian Maritime Collaboration and Planning Initiative—a new enterprise that includes more than 15 key regional councils, partnerships and NGOs—to identify key needs and priorities for ocean and coastal ecosystem health and define specific projects to meet those needs.
- **Successful expansion of the Gulf of Maine Ocean Data Partnership** to southern New England, now called the Northeast Ocean Data Partnership. Supported partnership projects to advance data discoverability, accessibility, and interoperability in the Northeast region.
- **Support for Sudbury Group** (technical arm of New England Regional Dredging Team) The Sudbury Group met five times during 2009-2010 and continued to make progress in working with the states to improve the scientific basis for the imposition of "time-of-year" restrictions on dredging and other coastal development projects. The Massachusetts Division of Marine Fisheries has completed a two-year project to update its TOY recommendations for all estuarine and coastal waters, and is serving as a model for the other New England states. Several Sudbury Group members also helped plan and participated in the National Dredging Team/Regional Dredging Teams meeting on April 21-23, 2009, in Point Clear, Alabama, which include a presentation by MA DMF on their TOY work.

Activity Details:

1. **Support ecosystem-based management and coastal and marine spatial planning through development of data/ mapping products and improved data discoverability and interoperability.** *[Note: with the convening of the NROC Coastal and Marine Spatial Planning (CMSP) ad-hoc committee, there will be some overlap with the Ocean and Coastal Ecosystem Health (OCEH) standing committee activities.]*

Actions:

- Develop regional data portal and network to serve as a single portal and distributed network for regional coastal and marine spatial data (**see also CMSP activity #3**).
- Work with the Northeast Regional Association of Coastal Ocean Observing Systems (NERACOOS), the New England-Canadian Maritime Collaboration and Planning Initiative, and other organizations to develop key data/ mapping products, including:
 - the production of high-resolution maps of the ocean floor spanning the region’s highest priority geographic areas;
 - creating an atlas (e.g., database or spatial data layers) of the spatial extent and intensity of consumptive and non-consumptive human uses of the ocean; and
 - develop and test a New England/Maritimes methodology that describes the economic value of ecosystem goods and services.

With Existing Resources	With Additional Resources
Initial development of Regional Data Portal and Network to serve as a single portal and distributed network for regional coastal and marine spatial data (see also CMSP activity #3).	Expand Regional Data Portal and Network to include key coastal and marine spatial data sets and enhance portal functionality and interoperability (see also CMSP activity #3).
	Produce high-resolution maps of the ocean floor spanning the region’s highest priority geographic areas.
	Create an atlas (e.g., database or spatial data

	layers) of the spatial extent and intensity of consumptive and non-consumptive human uses of the ocean (see also CMSP activity #3).
	Develop and test a New England/Maritimes methodology that describes the economic value of ecosystem goods and services (see also CMSP activity #3).

2. Identify and track key metrics and indicators to measure coastal and ocean ecosystem health and climate change

Actions:

- Report on current indicator programs (e.g., Gulf of Maine Council Ecosystem Indicators Partnership (GOMC ESIP), National Estuary Programs (NEPs), National Estuarine Research Reserves (NERRs)).
- Workshop convening policymakers, managers and scientists to develop a consensus statement on definition of ecosystem health and to strengthen coordination and integration of regional indicator initiatives in New England.
- Report with workshop results and “next steps” to NROC and other New England decision-makers.
- Compile annotated bibliography of existing (and current) research on the effects of climate change effects on ocean and coastal ecosystem health as well as cumulative and secondary impacts from existing and future uses of the ocean.
- Support ESIP as regional portal for ecosystem status and trends data for the Gulf of Maine sub-region, and explore expansion to rest of the New England region.
- Support expansion of Long Island Sound Study (LISS) “Sentinel Monitoring for Climate Change” throughout the region; identify opportunities for workshop.
- Regional symposium on seafloor and marine habitat mapping status and technologies, marine habitat classification frameworks, and related info exchange. (See also Hazards activity #2)

With Existing Resources	With Additional Resources
Support GoMC’s Ecosystem Indicators Partnership and Long Island Sound Study’s Sentinel Monitoring for Climate Change as a model for sub-regional ecosystem status and trends indicators for the Gulf of Maine sub-region.	Compile annotated bibliography of existing (and current) regional research on the effects of climate change effects on ocean and coastal ecosystem health as well as cumulative and secondary impacts from existing and future uses of the ocean.
Workshop convening policymakers, managers and scientists to strengthen coordination and integration of regional indicator initiatives in New England.	Compile inventory of current indicator programs (e.g., Gulf of Maine Council Ecosystem Indicators Partnership (GOMC ESIP), National Estuary Programs (NEPs), National Estuarine Research Reserves (NERRs), Long Island Sound Study’s (LISS) Sentinel Monitoring for Climate Change) and examine strengths and opportunities for transfer in region; develop report.
	Regional symposium on seafloor and marine habitat mapping status and technologies,

	marine habitat classification frameworks, and related info exchange
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3. Work with the New England Governors Conference Coastal Land Conservation (LCC) Initiative and state coastal programs to develop a coastal climate change land conservation demonstration project for New England

Actions:

- Collaborative, pilot demonstration project to integrate state Coastal and Estuarine Land Conservation Program (CELCP) plans, Wildlife Action Plans, climate plans and others.
- Regional conservation priorities to incorporate climate change adaptation and wildlife habitat protection strategies into active land conservation programs.
- Inventory and analysis (maps, data, text) of priority ecosystems, natural resources, and coastal environments vulnerable to sea level rise and the impacts of climate change.
- Regional assessment criteria for identifying the highest priority conservation areas to achieve protection of regionally significant resources.
- Coordination and collaboration with complementary conservation programs and efforts such as US Fish and Wildlife Service (USF&WS) North Atlantic LCC, The Nature Conservancy (TNC), and GOMC.
- Stakeholder connection, input and dialogue.

With Existing Resources	With Additional Resources
Review state CELCP, Wildlife Action Plans, Climate Change Action Plans and other and other coastal conservation and adaptation documents to develop a set of regional conservation priorities for New England	Prepare an inventory and analysis (maps, data, text) of priority ecosystems, natural resources, and coastal environments vulnerable to sea level rise and the impacts of climate change
Coordination and collaboration with complementary conservation programs and efforts such as US Fish and Wildlife Service (USF&WS) North Atlantic LCC, The Nature Conservancy (TNC), and GOMC.	Stakeholder connection, input and dialogue.
	Regional assessment criteria for identifying the highest priority conservation areas to achieve protection of regionally significant resources.
	Compile a list, with supporting data, of project areas of regional significance to inform and guide coastal land conservation programs and efforts in the region

4. Support efforts and increase visibility of regional ocean and coastal ecosystem health initiatives and work groups

Actions:

- NROC will support and promote the numerous existing state-federal partnerships in New England that are working to restore and protect ocean and coastal ecosystem health, including but not limited to: Water Quality Standards Work Group and a Nutrient Criteria Regional Technical Advisory Group (RTAG) – New England Interstate Water Pollution

Control Commission (NEIWPCC); New England Regional Dredging Team (NERDT) – Mid-Level Managers Group, Sudbury Group and State Dredging Teams; Coastal America; Atlantic Coastal Fish Partnership; Gulf of Maine Council ; the Northeast Aquatic Nuisance Species Panel, and Northeast Sea Grant Programs.

- These initiatives report to NROC on a periodic basis on progress to date and to identify obstacles to achieving their mission and how NROC could assist them.

With Existing Resources	With Additional Resources
Support and promote existing state-federal partnerships in New England that are working to restore and protect ocean and coastal ecosystem health	Advance specific elements of state-federal partnerships that would need regional support, such as regional forum on estuarine nutrient criteria or regional sediment management

5. Support regional associations for integrated coastal and ocean observation systems and improve coordinated planning and product usage

Actions:

- Enhanced coordination with NERACOOS through:
 - implementation of the Memorandum of Understanding between NROC and NERACOOS outlining shared priorities and describing relationship protocols
 - promotion of shared representation between organizations on respective work groups, and
 - collaboration of annual work plans through a series of workshops.
- Work jointly with regional partners and the New England-Canadian Maritime Collaboration and Planning Initiative to identify needs and priorities for enhanced data management and applications to improve decision making on environmental issues. Engages national, international, and regional partners.
- Work with NERACOOS and Northeast Coastal and Ocean Data Partnership (NeCODP) to help identify the data and product needs of NROC and its partners, develop the common schema and application to environmental management.

With Existing Resources	With Additional Resources
Enhanced coordination with NERACOOS through: <ul style="list-style-type: none"> ➤ implementation of the Memorandum of Understanding between NROC and NERACOOS outlining shared priorities and describing relationship protocols ➤ promotion of shared representation between organizations on respective work groups, and ➤ collaboration of annual work plans through a series of workshops. 	Fill the identified data and product need gaps of NROC, NERACOOS, NeCODP, and other partners.
Work with NERACOOS and NeCODP to help identify the data and product needs of NROC and its partners, develop the common schema and application to environmental management.	Work jointly with regional partners and the New England-Canadian Maritime Collaboration and Planning Initiative to identify needs and priorities for enhanced data management and applications to improve decision making on environmental issues.

	Engages national, international, and regional partners.
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2010-2012 Committee Co-chairs:

Bruce Carlisle, MA Office of Coastal Zone Management (State Co-chair)

Mel Coté, US EPA Region 1 (Federal Co-chair)

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

Coastal Hazards Resilience



Goal: Render New England a “Coastal Hazards Ready” region by providing existing federal, state, and municipal programs with state-of-the-art data and tools to advance planning and response to storms, shoreline erosion, and coastal inundation due to projected sea-level rise from global warming.

Summary: Sea level rise is altering New England’s coastal shorelines through inundation and shoreline erosion. Science-based forecasts for accelerated sea level rise over the next 100 years due to global warming are as high as 1.5 meters. Additional sea level rise is expected due to the melting of land-based glaciers in Greenland and Antarctica.

Several New England states have experienced significant abnormal inland flooding events that have lead to river flooding, loss of life and major damage to infrastructure. Backwater flooding from undersized culverts under roads causes some of this damage. In addition to roads, undersized culverts connecting embayments to the ocean through barrier beaches are locations where breaching may occur and induce inlet formation, inlet migration, and an ensuing loss of property and structures.

Data such as detailed terrestrial contour, shallow water bathymetry and mean high water positions are universally needed throughout the region to support planning for storm surge, erosion and sea level rise. A companion to data is the need to develop user-friendly tools to access and analyze data and support management decisions and recommendations.

Accomplishments:

- **Hazards Resilience Workshop (November 2007)** Thematic areas included determining impacts of past hazard events, learning the effects of climate change on the intensity and frequency of future events, and understanding the region’s current resiliency to better gauge existing preparedness and improve future capacity. Nearly 60 stakeholders from diverse backgrounds participated in the workshop. Presenters provided important inspiration and background on issues like storm events and climate change impacts, as well as valuable opportunities and lessons learned from specific efforts to improve coastal hazards resiliency.
- **LiDAR Workshop (May 2009)** NROC and USGS sponsored a workshop to discuss regional LiDAR data needs and requirements.
- **New England LiDAR Proposal to USGS (2009)** New England states (data managers and data users) collaborated to submit a regional proposal for the USGS ‘ARRA’ Funding Opportunity for LiDAR acquisition. The New England states used the results of the May 2009 LiDAR workshop to inform the proposal.
- **Climate Adaptation Proposal to NOAA (September 2010)** NROC Hazards Committee Co-chairs worked with the Gulf of Maine Council’s Climate Change Network to identify regional climate adaptation planning needs and submitted a collaborative proposal to NOAA’s Climate Program Office.
- **Coastal Climate Adaptation Training (October 2010)** NROC identified the need for a regional Climate Adaptation Training for state managers. NOAA’s Coastal Services Center and the Northeast States for Coordinated Air Use Management (NESCAUM) organized a training with additional support from EPA’s Region 1, New England Interstate Water Pollution Control Commission, Rhode Island Sea Grant. More than 25 state agencies and regional organizations received training on coastal climate adaptation planning.

- **Significant Progress on Development of the StormSmart Coasts Network for New England** (November 2010) Individual state pages available for Rhode Island and Massachusetts.

Activity Details:

1. Promote regional dialogue on broad-scale adaptation strategies for responding to the effects of sea-level rise.

Actions:

- **Bimonthly webinar series** (once in two months) to share information on hazards resilience and climate adaptation tools and resources available to the region as well as specific case studies or pilot projects from New England. The webinar series will promote engagement in the New England StormSmart Coasts Network. Topics and moderator profiles will be featured on StormSmart Connect. Moderators will respond to questions posted on the discussion board.
- **Climate Adaptation workshop**, delivered in collaboration with the Gulf of Maine Council Climate Change Network, NOAA Coastal Services Center, and other partners. The purpose of this workshop is to provide federal and state agencies as well as non-government organizations an opportunity to share lessons learned and discuss implementation strategies that would benefit from regional buy-in and support.
- **Storm Smart Coasts Network** website for New England, with state and region specific information and strategies for improving hazards resilience. The New England regional resource webpage will provide information on key adaptation and resilience programs, initiatives, and pilot projects in the region. NROC will work with regional partners to evaluate options for a web calendar to track related meetings and events and a RSS feed for stakeholder updates.
- StormSmart Coasts Network Communication and Outreach with media. NROC will develop regional and state specific information for media to access before and after major coastal storm events. Briefs will include historic and current information about the impacts and damages of storms as well as measures to address this hazard. The StormReporter database will be a source for current observations.
- **Northeast Climate Adaptation Framework**, in collaboration with NESCAUM and other partners, focused on interstate and interagency coordination of adaptation policies. Specifically, NROC will discuss and design a regional approach to determine a reasonable New England sea-level rise scenario for planning purposes and to support regional messaging to the public.
- **Regional proposals** for climate adaptation and hazards resilience related projects.

With Existing Resources	With Additional Resources
Bimonthly webinar series	Adaptation workshop
StormSmart Coasts Network	Develop hazards resilience information for StormSmart Coast Network
Regional proposals	Northeast climate adaptation framework and SLR scenario planning

2. Act on data acquisition priorities and user-friendly tools needed to support planning for and responses to coastal hazards.

Actions:

- **Digital Elevation Meeting** to coordinate 2011-2012 LiDAR data collection plans. Discuss and review process and success of NE LiDAR collection in 2010.
- **Mapping Product Recommendations** for priority regional tools such as flood elevation maps and sea level inundation visualizations. NROC will facilitate regional discussion around high priority mapping products and application needs that make use of the 2010 NE LiDAR data.
- **Seafloor Mapping Workshop** to coordinate regional bathymetric data collection. This workshop builds on the success and methodology of the 2009 NE LiDAR workshop. NROC will facilitate the development of regional seafloor mapping priorities and leverage existing mapping activities in partnership with the Gulf of Maine Mapping Initiative (GOMMI). (See also Ecosystem Health activity #2)
- **Southern New England Mapping Initiative** created to extend the work of GOMMI to Long Island Sound. (See also Ecosystem Health activity #2)
- **Inundation Visualization Tools** for storm surge, sea level rise, and economic impacts. NROC will provide input on the development of visualization tools for inundation and seal level rise.

With Existing Resources	With Additional Resources
Meeting of regional digital elevation team	Seafloor mapping workshop
Recommendations for priority regional LiDAR mapping products	Southern New England mapping initiative
	Economic impact analysis of storm surge and sea level rise

3. Partner with academia, industry and public agencies to develop a plan for an Integrated Ocean Observing System (IOOS) that supports storm surge and inundation forecasting and response.

Actions:

- **Recommendations** for further aligning NROC and NERACOOS Hazards Resilience Committees. Recommendations will include a memo to NERACOOS that identifies opportunities for Committees to collaborate and key management requirements for ocean observations to support hazards information and monitoring.
- Development of hazards resilience requirements for ocean observations (in partnership with NERACOOS)

With Existing Resources	With Additional Resources
Recommendations for aligning NROC and NERACOOS Hazards Resilience Committees	Development of hazards resilience requirements for ocean observations (in partnership with NERACOOS)

4. Pilot Project – Methodology for Unified Coastline Data Layer.

Actions:

- **Methodology** for developing a unified coastline data layer. Share methodology with NE states and make recommendations for New England Unified Coastline Data Layer.
- **Pilot data layer** for Southern Maine. Highlight results of pilot work on NROC website and New England StormSmart Coasts Network.

With Existing Resources	With Additional Resources
Methodology for unified coastline data layer	Unified coastline data layer for New England states
Pilot data layer for Southern Maine	

2010-2012 Committee Members:

Julia Knisel, Massachusetts Office of Coastal Zone Management (State Co-chair)

Adrienne Harrison, NOAA (Federal Co-chair)

Susan Russell-Robinson, US Geological Survey (Federal Co-chair)

Ocean Energy Planning



Goal: The planning, siting, authorization, and operation of coastal and ocean energy generation and distribution facilities will be made within a regional strategic context via improved coordination, communication, and responsible stewardship of the public trust. New England's ocean energy facilities will help to meet the region's energy needs as part of a diverse portfolio of energy sources, while ensuring the ocean's natural and cultural values are protected. The Northeast Regional Ocean Council (NROC) should recognize and emphasize the states' role in approving, denying, or regulating energy

or other facilities within state waters and should promote coordination with federal agencies involved in these activities.

Summary: There is growing awareness among state and federal planners, managers, and regulators that they lack the comprehensive information base required to evaluate coastal and ocean energy projects within a regional context. The current framework for decision making is project specific, based largely upon federal law and regulations pertinent to the Outer Continental Shelf. In addition, uncertainties remain concerning the states' role in decisions and investments regarding energy projects in federal waters.

There is growing appreciation for the need of a regional strategic framework that enhances interagency and intergovernmental coordination, communication and responsible stewardship of the public trust, and addresses the full range of planning, siting, authorization, and operation of coastal and ocean energy generating and distribution facilities. NROC's role is to enable federal, state, private sector, and non-governmental organizations to discuss regional approaches to ocean energy resource and energy maritime transportation issues. Implicit is the need to uphold the states' various roles in approving, denying or regulating certain energy or other facilities within state coastal and estuarine waters.

Accomplishments:

- **US Coast Guard develops GIS Database of New England ocean energy projects (2008)**

Activity Details:

- 1. Develop accurate map products to support regional-scale analyses of ocean energy projects in New England waters.** (see also CMSP activity #6)

Actions:

- Coordinate with CMSP Strategy Team to develop recommendations and an acquisition strategy for priority ocean energy planning data needs.
- Work with ocean energy stakeholders to identify the types and sources of contextual and baseline data and knowledge essential for ocean energy facility development, impact mitigation, and operations.
- Facilitate discussion among relevant resource agencies (e.g., FWS, NMFS, state agencies) and the state- and Federal-authorizers (e.g., BOEMRE, Army Corps, RI CRMC) to identify New England's regional biological survey needs.
- Coordinate with the Northeast Data Portal to develop a regional data viewer.
- Continue to update the US Coast Guard inventory and GIS database of NE ocean energy projects

With Existing Resources	With Additional Resources
Coordinate with CMSP Strategy Team	Acquisition of priority data needs
Develop recommendations for priority data needs	Facilitate discussion between relevant resources agencies to identify New England's regional biological survey needs
Provide inventory of ocean energy projects to CMSP Strategy Team and Northeast Data Portal group	Work with regional and national data providers to integrate new GIS data
Discuss opportunities to update GIS database of ocean energy projects with CMSP Strategy Team and Northeast Data Portal group	
Work with regional and national data providers to host data	

2. Promote communications among state, federal, non-profit and private sector interests around ocean energy planning initiatives.

Actions:

- Assess regional ocean energy planning needs that complement CMSP and Task Force processes.
- Routine exchange of information among the New England states (and other states around the country) through a combination of webinars and committee conference calls.
- Use MMS Task Force meetings in RI, MA and ME to identify additional communication needs.
- Maintain communication with the Atlantic Governors Consortium on Wind Energy. Also, provide updates on NROC progress and approach to interested New England Governors.
- Identify state, regional, and national conferences that NROC can organize and facilitate sessions or panels focused on sharing information and perspectives on ocean energy planning initiatives.
- A robust sub-page on the NROC web site devoted to status updates on New England's ocean energy planning initiatives (e.g., RI SAMP and MA Ocean Plan websites) as well as basic descriptions and contact information for each.

With Existing Resources	With Additional Resources
Webinar and discussion forum on status of ocean energy planning in New England	Robust sub-page on the NROC website devoted to status updates on New England's ocean energy planning initiatives
Work with BOEMRE to identify additional inter-state communication needs	
Maintain communication with the Atlantic Governor's Consortium on Wind Energy	
Organize sessions or panels at state,	

regional or nation conferences on ocean energy planning initiatives	
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2010-2012 Committee Co-chairs:

Grover Fugate, RI Coastal Resource Management Council (State Co-chair)

Ron Beck, US Coast Guard Region 1 (Federal Co-chair)

Jessica Bradley, Bureau of Ocean Energy Management, Regulation and Enforcement (Federal Co-chair)

Coastal and Marine Spatial Planning

Goal: Characterizing the region's ocean resources and improved understanding of areas that are suitable for different uses (e.g. energy development, conservation, fishing). The role of the Northeast Regional Ocean Council (NROC) is to organize state and federal agencies, and with other partners, to develop a regional Coastal and Marine Spatial Plan.

Summary:

NROC's state and federal members share common interest in a coastal and marine spatial planning (CMSP) process to support characterization of ocean resources to enable minimized use conflicts and improved decision making. The New England region leads the country in state-level marine spatial planning with individual efforts in Maine, Massachusetts and Rhode Island. The region sees the potential benefits of engaging in a regional planning exercise and envisions a "first generation" spatial plan for the region that would:

- Provide states with data and information for use in improving coastal/marine management;
- Help states look beyond borders at important and emerging regional issues;
- Build state capacity through potential new funds and products;
- Support region's renewable energy goals while protecting coastal resources;
- Strategically engage key partners who can contribute expertise, products and data to advance CMSP, and
- Improve communication with federal agencies and enable more efficient review of activities in the Exclusive Economic Zone (EEZ).

NROC has served as the convener for regional coastal and marine spatial planning discussions. NROC will foster and be closely associate with a Regional Planning Body called for in the Framework for Effective Coastal and Marine Spatial Planning released on July 19, 2010. Sub-regional efforts are anticipated due to unique characteristics of the region. Current state planning efforts and progress towards improvements in state-federal collaboration (i.e. regulatory streamlining, etc.) will continue and not be superseded by regional planning.

Accomplishments:

- **Comments to Ocean Policy Task Force on draft National Framework for Coastal and Marine Spatial Planning (October 2009)**
- **Regional Coastal and Marine Spatial Planning Workshop (November 2010)**

Activity Details:

1. Quantify progress on CMSP in New England

Actions:

- Document that inventories state, federal and partner progress (in product form) on CMSP in New England. This will enable region to catalog our accomplishments, tap existing expertise, and ensure an organic approach to regional CMSP.
- Serve as the forum for regional and sub-regional discussions.

With Existing Resources	With Additional Resources
Inventory of state, federal and partner progress on CMSP in New England.	
Serve as the forum for regional and sub-region discussions.	

2. Develop a CMSP Framework that will serve as an outline for how the region will proceed in developing a regional CMS Plan.

Actions:

- Framework reflecting input from states and federal agencies on NROC and partners
- Identification of partner contributions to framework (expertise, resources that can be applied to various parts of framework)
- Facilitated discussion of Governance Structure to advance CMSP in New England
- Schematic and narrative that describe the relationship between NROC and the New England CMSP Regional Planning Body.
- Develop a proposal for a regional Coastal and Marine Spatial Plan based on NROC's draft framework.

With Existing Resources	With Additional Resources
Framework reflecting input from states and federal agencies on NROC and key partners	Implementation of framework (see Framework for details)
Identification of partner contributions to framework (expertise, resources that can be applied to various parts of framework)	
Facilitated discussion of Governance Structure to advance CMSP in New England	
Schematic and narrative that describe the relationship between NROC and the New England CMSP Regional Planning Body.	
Proposal for NOAA Regional Ocean Partnership Funding Program (Due December 10, 2010)	

3. Develop a regional data portal that identifies regional CMSP data needs and priorities.
 (Note: This is part of a larger **Northeast Data Portal** project led by the Gulf of Maine Research Institute, NERACOOS, Massachusetts Ocean Partnership, The Nature Conservancy, and Applied Science Associates).

Actions:

- Maintain communication between NROC and Northeast Data Portal project, including periodic briefings with NROC members to align management needs with plan for regional data portal
- Provide demonstration of Northeast Data Portal to NROC at key milestones
- Data inventory focused on key data themes that support CMSP applications and products
- Develop a proposal for full regional data portal project (**see also OCEH Activity #1 and OEPM Activities #1**)

With Existing Resources	With Additional Resources
Maintain communication between NROC and Northeast Data Portal project	Collect, host, and display key data themes (existing) that support CMSP applications and products
Data inventory focused on key data themes	Collect, host, and display key data themes

that support CMSP applications and products	(new acquisition) that support CMSP applications and products
Provide demonstration of Northeast Data Portal to NROC at key milestones	
Develop a proposal for full regional data portal project	

2010-2012 Ad-Hoc Committee Members:

John Weber, MA Executive Office of Energy and Environmental Affairs (State Co-chair)

Betsy Nicholson, NOAA (Federal Co-chair)

Appendix 1: DRAFT NROC Outline for CMSP Process in New England 10-15-10

DRAFT Outline of Regional Coastal and Marine Spatial Planning Process for New England

DISCLAIMER: The Northeast Regional Ocean Council (NROC) has drafted this outline as a starting point for the New England region and to identify, generally, the process and substantive needs to develop a Coastal and Marine Spatial Plan (CMSP) for the region. The intent is to develop a plan that builds on the considerable accomplishments in the region and is consistent with recently issued federal requirements and guidance. NROC realizes that this preliminary outline does not reflect the perspectives of all stakeholders, including those who will have a formal role in the planning process.

Purpose: NROC is committed to assisting in the development of a regional coastal and marine spatial plan to support ecosystem-based management of New England's marine environment and its human uses, working collaboratively with government, tribal partners and stakeholders.

NROC goals are to:

1. Achieve state and regional renewable energy goals (and other appropriate energy-related goals).
2. Strive for healthy, resilient marine ecosystems, including protection of ecologically significant areas, to ensure the continued provision of desired ecosystem services
3. Enable sustainable coastal economies through the support of marine resource management goals and by supporting sustainable, safe, secure, efficient, and productive human uses. For example, support existing fisheries regulatory entities (recognizing existing authority through the Magnuson-Stevens Act and state fishing regulations) to identify ways to pursue shared goals such as the protection of fishery resources and fisheries economy from non-fishing activities that adversely impact fisheries.
4. Facilitate multiple uses while minimizing conflict among uses and between uses and natural resources

NROC Desired Coastal and Marine Spatial Planning Outcomes

A regional plan that:

1. Is based on a clear set of operating principles (outlined below).
2. Reflects regional goals and objectives (specific, measurable where possible) and states' priorities
3. Characterizes a baseline of existing environmental resources and human uses, and builds upon this baseline to develop alternative future scenarios of human uses based upon compatibility of potential new uses with existing uses and environmental resources.
4. Establishes a structure for ongoing interactions between NROC, the Regional Planning Body, states, federal and tribal entities, and other stakeholders
5. Identifies ecologically important resources/areas and areas for potential human uses
6. Provides broad-scale information for renewable energy planning and siting, and other energy-related issues
7. Is implemented through federal, state, (and local if appropriate) agency authorities, policies, and regulations
8. Establishes regional management policies/guidelines
9. Establishes a framework for evolution of management strategies based on periodic evaluation of plan performance
10. Identifies priority supporting data needs

11. Identifies effective mechanisms for conflict resolution. The Interagency Task Force model acknowledges that disagreement might at the regional council level and that some decisions may go to the National Ocean Council.

NROC Operating Principles:

- Regional ocean planning should recognize that the ocean ecosystem includes human activities; a healthy ocean ecosystem is the basis for all of the benefits gained from our interactions with the ocean
- Regional coastal and marine spatial planning should minimize conflicts between new and existing uses and reduce conflicts between human uses and the natural environment
- Regional coastal and marine spatial planning should focus on results, including a comprehensive environmental characterization of the planning area with focus on achievable results (short term and longer term)
- Initial priorities include energy siting (particularly wind energy), environmental conservation, and support of sustainable human uses
- The scale and level of detail of the plan should be commensurate with: the data available (either existing or acquirable) for the three year planning process, the decisions being made by the Regional Planning Body and other stakeholders, the capacity of the region to engage, develop and implement an effective process and plan, and with biogeographic distinctions within the region
- The planning process will engage and reflect the participation of stakeholders and the public
- The planning process will be participatory and transparent (and an early action should be to define the terms of this bullet and the preceding bullet)
- The CMSP process should be seen as a continuing, adaptive process that will continue beyond the plan produced in the first three year period

Goal 1: Determine the goals, objectives, desired outcomes and planning framework for the New England region, with broad-based public and stakeholder participation supported by member states, tribes, and federal agencies; ensure continuing, broad-based participation throughout planning process.

Objective 1.1 Ensure that each step of the CMSP process (goals and objectives, data acquisition, mapping, development of draft plan, etc) is informed by ongoing collaborative process

Action 1.1.1 – Develop CMSP process that incorporates broad-based participation of stakeholders, beginning with development of plan goals, objectives, and desired outcomes

Action 1.1.2 –Develop appropriate process/structure for the interaction of the Regional Planning Body with stakeholders

Objective 1.2 Implement process for regional stakeholder participation

Action 1.2.1 – Identify appropriate stakeholders (federal, regional, state, local)

Action 1.2.2 – Identify existing opportunities for stakeholder involvement and coordination with existing entities and efforts, including coordination with other regional ocean planning efforts (such as through the Mid Atlantic Regional Council on the Ocean) as needed

Action 1.2.3 – Implement appropriate public involvement mechanisms during all stages of plan development (goal setting, data acquisition, mapping, review of draft plan, etc.).

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Consider setting up work groups and/or advisory bodies (re: data, science, legal, e.g.) to assist with plan development and enhance stakeholder involvement.

Goal 2: Understand the ecological, social and economic environment of the planning area as the basis for sound CMSP and management

Objective 2.1 Identify geographic scope and appropriate scale of information: Define planning area, including consideration of the need for sub-regional components and coordination with MARCO.

Objective 2.2 Characterize baseline information on environmental, social, and economic aspects of the planning area that is of priority interest using an ecosystem services approach to help organize the characterization and prioritize data needs (identifying existing and desired human benefits derived from the ocean ecosystem will also enable tradeoff/scenario analysis described below) while considering inputs and linkages beyond the planning area.

Action 2.2.1– Define the term "ecosystem services" and consider the level of sophistication such an approach requires in terms of data, modeling, and scientific understanding and the extent to which available data/understanding lend themselves to such an approach

Action 2.2.2– Identify specific parties responsible for data gathering, housing, and analysis in support of regional plan and ways to overcome any practical limitations.

Objective 2.3 Define appropriate temporal and spatial scales for data gathering and analysis, recognizing different scale requirements depending on the variable and the planning area (and any sub-regional components).

Objective 2.4 Develop baseline characterization of ecological, social and economic conditions for the planning area

Action 2.4.1 – Based on goals and objectives, and results of Objectives 2.1, 2.2, and 2.3, develop inventory of priority, available baseline characterization data components (may include projections of anticipated/desired conditions), including human uses, natural resources (including existing stressors and consideration of future implications of climate change), natural processes (currents, etc.)

Action 2.4.2 – Develop inventory of available qualitative information (e.g., preliminary characterization of certain human uses such as recreational activities for which little spatially explicit data exists) to help identify gaps in quantitative information related to the ecosystem services definition identified in Action 2.2.1

Action 2.4.3 – Develop derived products from existing data, such as characterizations of existing cumulative effects, representations of ecosystem services models, and/or other related, pertinent, useful products.

Action 2.4.4 – Prepare maps + accompanying text that describe the baseline characterization

Objective 2.5 Identify future spatial data needs to achieve management goals and objectives

Action 2.5.1 – Identify geographic or issue-based data gaps, or data products, necessary to achieve plan goals and objectives

Action 2.5.2 – Develop work plan to complete items in Action 2.5.1, considering existing efforts and national standards for housing/serving data. DRAFT NROC Outline for CMSP Process in New England 10-15-10 Page 4

Goal 3: Identify Areas for Potential Conservation

Objective 3.1 Identify ecologically significant areas

Action 3.1.1– Define “ecologically significant”, considering issues related to geographical scale, climate change effects and shifts in habitat, protection of biodiversity, vulnerability of habitats/species to particular human uses, understanding of and ability to map significant oceanographic processes and important geologic features, and state of scientific understanding of the ecosystem; consider application of ecosystem services approach outlined in Objective 2.1 above.

Action 3.1.2–On a parallel track with Action 3.1.1, develop inventory of existing spatial and temporal data (species/habitats): the limits of existing data may limit the definition of ecologically significant.

Action 3.1.3–Develop methodology for using data to spatially represent output of Action 3.1.1

Action 3.1.4—Developing alternative future spatial scenarios to ensure areas in need of additional attention for conservation are considered simultaneously with identification of areas for potential future use, tradeoffs are evaluated, etc. (see description in Objective 4.1)

Action 3.1.5 – Identify areas potentially in need of additional attention for conservation

Objective 3.2 Identify management measures to achieve conservation goals (based on the definition developed in Objective 3.1, stakeholder input, etc.) for areas identified in Action 3.1.4

Action 3.2.1 – Develop management objectives for areas identified in Action 3.1.4

Action 3.2.2 – Identify regulatory and non-regulatory management measures to achieve objectives

Action 3.2.3 – Identify appropriate federal/state coordination mechanisms

Action 3.2.4 – Identify future data/information needs to further management objectives

Goal 4: Identify Areas for Potential Future Uses

Objective 4.1 Identify locations for potential future uses

Action 4.1.1 – Determine the characteristics of the ocean area that are essential to or desired by various ocean uses, based on technology, space requirements, related infrastructure requirements, consideration of natural processes, etc.

Action 4.1.2 – Determine spatial and temporal conflicts and compatibilities among human uses and between human uses and the natural environment; consider application of ecosystem services approach outlined in Objective 2.1 above

Action 4.1.3 – Project current trends of existing human activities

Action 4.1.4 – Estimate spatial requirements for new demands for ocean space

Action 4.1.5 – Develop alternative future spatial scenarios representing attempts to achieve stated goals for new uses/economic activity, applying tools or models to aid in visualization of scenarios/tradeoffs

Action 4.1.6 – Specify criteria for evaluating alternative spatial scenarios and making trade-offs

Action 4.1.7 – Assess tradeoffs and identify preferred spatial scenario for the region

Action 4.1.8 – Assess compatibility of preferred spatial scenario with existing comprehensive or targeted management plans

Action 4.1.9 – Identify areas suitable for potential uses/development DRAFT NROC Outline for CMSP Process in New England 10-15-10 Page 5

Objective 4.2 For renewable energy (and other appropriate energy-related issues including transmission), identify plan-specific management measures for achieving identified state and regional goals and objectives. Specifically:
Action 4.2.1 –Identify existing marine renewable energy goals as expressed by individual states, regionally, and nationally; incorporate other energy goals as appropriate.
Action 4.2.2—Identify opportunities and obstacles to achieving those goals, e.g. related to the existing grid/infrastructure, technology
Action 4.2.3 – Based on the results of Actions 4.2.1 and 4.2.2, and incorporating the approach identified in Objective 4.1, identify areas potentially suitable for commercial renewable energy development and/or that address other energy-related issues (such as transmission).

Objective 4.3 Identify areas significant for commercial and recreational fishing
Action 4.3.1– Define “significant for commercial and recreational fishing”, considering issues related to geographical scale, shifts in effort over time, and state of scientific understanding
Action 4.3.2– Develop inventory of existing spatial and temporal data on commercial and recreational fishing
Action 4.3.3 – Develop methodology for using data to spatially represent outcome of Action 4.3.1
Action 4.3.4 –For all steps in Objective 4.3, coordinate with appropriate fisheries regulatory entities and support shared goals such as the protection of fishery resources and fisheries economy from non-fishing activities.

Objective 4.4 Identify management measures to advance the interests of areas identified in Objectives 4.1, 4.2, and 4.3
Action 4.4.1 - Develop policy statements for areas identified in Action 4.1.6 and 4.2.3.
For areas identified in Action 4.3.3, coordinate with fisheries regulators to develop these policy statements.
Action 4.4.2 – Identify regulatory and non-regulatory management measures for areas identified in Action 4.1.6 and 4.2.3. For areas identified in Action 4.3.3, coordinate with fisheries regulators to develop appropriate management measures.
Action 4.4.3 – Identify appropriate federal/state coordination mechanisms
Action 4.4.4 – Identify future data/information needs to further management objectives

Goal 5: Develop a performance monitoring and evaluation system as part of the CMSP plan to inform plan adaptation over time

Objective 5.1 Identify performance indicators for the CMSP plan
Action 5.1.1 – Ensure that performance indicators are measurable, cost-effective, concrete, interpretable, sensitive, and grounded in scientific theory

Objective 5.2 Design and implement a monitoring system, based on the performance indicators, that will measure the performance of the management measures of the CMSP plan.

Objective 5.3 Periodically evaluate results from the performance monitoring system (using tools for visualizing and communication such results) and develop recommendations to adapt the CMSP plan as necessary DRAFT NROC Outline for CMSP Process in New England 10-15-10 Page 6

Goal 6: Provide regional management governance structure and coordination mechanisms for integrated state, tribal and federal CMSP and decision-making

Objective 6.1 Building on the success of NROC, recommend operating principles and structure for a regional ocean management body in response to the National Framework for CMSP and Executive Order

Action 6.1.1 –Develop and evaluate options

Action 6.1.2 –Seek advice on stakeholder and partner engagement

Action 6.1.3 Seek support from National Ocean Council on preferred management structure and mechanisms for achieving regional goals

Objective 6.2 Review existing regulatory, management and planning frameworks to identify how they can be integrated and improved to achieve regional CMSP goals and objectives

Action 6.2.1– Review existing frameworks, including the authority vested in the regional plan from the Framework and Executive Order, and identify roadblocks to necessary changes and opportunities to achieve desired outcomes through existing federal and state law and regulation.

Action 6.2.2– Make recommendations for needed changes to enhance consistency of agency determinations with plan

Action 6.2.3– Develop regional management policies to guide future state and federal planning/review/ regulatory actions in the planning area, including mechanisms to resolve conflicts (note the national framework as a starting point for that).

Objective 6.3 Develop CMSP plan, which may include discrete sub-regional components, consistent to the extent possible with other state, federal and regional management plans and regulations

Action 6.3.1 – Define existing management measures to incorporate into plan, recognizing basic issues of ownership, public trust rights and responsibilities, and implementing authority.

Action 6.3.2 – Develop future coordination mechanisms with pertinent agency regulators to achieve shared goals and objectives and methods for resolving conflicts

Action 6.3.3 –Propose amendments to existing state and federal laws, policies, and programs to further plan goals and objectives

Action 6.3.4 – Identify future data/information needs to achieve management goals and objectives