

Actions, Timelines, and Leadership to Advance The Mid-Atlantic Governors' Agreement on Ocean Conservation

New York Governor David Paterson and New Jersey Governor Jon Corzine co-hosted the [Mid-Atlantic Governors' Ocean Summit](#) on June 4, 2009 at the Borough of Manhattan Community College in Manhattan, NY, New York. The Summit was attended by regional State and federal officials and staff, and select issue experts from academia, nongovernmental organizations, and industry. Representing the Governors of their respective States were: Mr. Collin P. O'Mara, Secretary of Delaware's Department of Natural Resources & Environmental Control; Mr. John Griffin, Secretary of Maryland's Department of Natural Resources; and Mr. Preston Bryant, Virginia's Secretary of Natural Resources.

The Summit marked the signing of the [Mid-Atlantic Governors' Agreement on Ocean Conservation](#). This Agreement has brought the five Governors together as the Mid-Atlantic Regional Council on the Ocean (MARCO) and has charged the States to collaboratively address priorities for shared action. These actions will: coordinate protection of important habitats and sensitive and unique offshore areas; support the sustainable development of renewable energy in offshore areas; prepare the region's coastal communities for the impacts of climate change on ocean and coastal resources; and promote improvements in the region's coastal water quality. The Agreement also calls for a meeting with Mid-Atlantic Ocean stakeholders to create new partnerships in the development and implementation of these actions.

The Summit event included morning and afternoon discussion sessions that provided an opportunity for key State agency Secretaries/Commissioners and staff members from across the region to meet in the context of the new Agreement.

In the Governors' Agreement and these discussion sessions, the five States have explicitly recognized the:

- invaluable resources and services that the ocean provides to its communities;
- complex interdependencies among ecological, economic, social, cultural, political dimensions of the ocean-human relationship;
- transboundary nature of ocean resources and management challenges that compels interstate collaboration;
- unique power of a unified regional voice to influence federal action and funding; and
- critical need for broad and diverse partnerships.

The discussions built on expert knowledge and led to the identification of initial actions that will advance the Governors' shared priorities. The following pages present the outcomes of these discussions.

For each session, this summary provides an overview of the priority issue, the Governors' goal and objectives for that priority, and initial actions to be taken by the States. Under each action, a lead State has been identified that will ensure that the action is completed and coordinate as needed. Of note, some actions contribute to larger regional efforts that address more than one of the Governors' priorities. Key among these is marine spatial planning, a process that facilitates decision-making by presenting information on the suitability of offshore areas for certain activities. Through marine spatial planning, the States will have a more coordinated, proactive process for ensuring the protection of critical habitats, while also encouraging the appropriate development of offshore renewable energy resources. The regional actions being undertaken also will be coordinated with, and responsive to, broad federal efforts that are underway. These include President Obama's establishment of an Interagency Ocean Policy Task Force to coordinate federal efforts in offshore areas, and the Department of the Interior's development of

a Comprehensive Energy Plan on U.S. Outer Continental Shelf. The set of actions framed by this document is intended to represent a first step towards regional action, rather than an attempt to capture all of the long-term objectives laid out by the States. This first step also presents significant opportunities for stakeholder engagement and partnership with the many diverse constituencies across the Mid-Atlantic region. To that end, this document is intended to be the foundation for the upcoming Mid-Atlantic Ocean stakeholder meeting, and to spark discussion and new ideas on moving forward. It is our expectation that ongoing dialogue and input from stakeholders will provide opportunities to refine and add to many of these tasks and actions, and help build greater support and capacity to implement them.

Habitat Protection Session

Issue Overview

Problem Statement

Vital estuaries, fed by large rivers and countless tributaries, a broad sandy continental shelf, cold water coral reefs, deep submarine canyons – these are some of the diverse ocean and nearshore habitats of the Mid-Atlantic region. They support a rich diversity of marine life, including sea turtles, whales, dolphins, seabirds, and an array of fish and crustaceans. This ecological wealth supports valuable commercial and recreational fisheries, and shares the ocean with other economic activities, including shipping, dredged material disposal, and sand and gravel mining. Offshore energy development in the form of wind farms is almost certain to join this list. As ocean uses intensify, so too does the need to understand potential impacts to marine habitats and wildlife, and how best to manage the human activities that affect complex ocean ecosystems on which humans depend for food, recreation, energy and health. Although the states' jurisdictions only extend three nautical miles offshore, all of the states have compelling economic and ecological interests in securing the long-term persistence of intact habitats located both within and beyond three nautical miles.

About 60-80 miles offshore lay submarine canyons along the outer edge of the outer continental shelf that are home to some of the region's most diverse biological communities. Of particular interest to the five Mid-Atlantic States are the following ten major canyons: Norfolk, Washington, Poor Mans, Baltimore, Wilmington, Spencer, Lindenkohl, Carteret, Toms, and Hudson. These canyons are physically complex with outcrops, steep slopes, and diverse sediments. They provide a high flux of fine-particle nutrients and often have areas of upwelling associated with high biological productivity. The rocks and boulders exposed at the heads of the canyons and along their steep walls provide habitat for sponges, corals and anemones that require hard surfaces for attachment – a rare commodity in the mostly sandy Mid-Atlantic Ocean. The sensitive coral dominated communities found within the Mid-Atlantic's submarine canyons have individual colonies that are likely over 1,000 years old¹, and are among the oldest animals on the planet. They are slow-growing and sensitive to disturbance. The canyon habitats provide a refuge for juveniles and adults of many commercially important fish and crabs such as tilefish and summer flounder. All of the canyons are located along the shelf slope break which is known for high concentrations of tunas, swordfish, marine mammals, sea-turtles, and seabirds in addition to diverse bottom dwelling fauna. Management of resources of the submarine canyons currently is addressed only with respect to fisheries. However, the sensitive and ecologically important nature of the canyons highlights the need for comprehensive regional management of these diverse communities to address all resources and current and potential uses.

Further inshore is a wide migration corridor considered very important for safe passage of marine mammals, sea turtles and fish as they head north in the summer and south in the winter². More research needs to be done to identify the most critical habitats within the corridor including priority areas for migration, nurseries and spawning given this area is likely to experience the greatest development pressures. This corridor is also important for a wide diversity of birds (such as scoters, gannets, petrels and shearwaters) that migrate and forage here as well. Sandy shoals, the swales between them and sensitive hard bottom patches within this wide corridor may also be priority areas during migration, spawning and rearing times. The hard bottom patches support coldwater corals which in turn support

¹ Auster, Peter. 2008. Personal communication. University of Connecticut National Undersea Research Program

² Natural Resources Defense Council Mid-Atlantic Marine Habitat Workshop, September 2000. Participating scientists identified a 20-mile wide corridor.

other species such as tautog and black sea bass. The nearshore corridor provides nursery areas for crab larvae and spawning grounds for many other commercially important fish species. Many species also depend on salt marshes, oyster reefs and seagrass meadows as nursery and foraging areas. It will be critical to identify what types of development activities can occur where and at what times of year in order to minimize impacts on the species that live and migrate within the nearshore corridor.

In addition to these critical habitats, the Mid-Atlantic has some of the highest value offshore wind resources in the United States. It may also contain significant non-renewable resources (e.g. sand, methane hydrates, oil & gas), and there is interest in developing tide and current-based energy as well. Use of marine spatial planning techniques would enable designation of proper locations for uses and ensure that key habitats continue to provide their critical ecological functions. Each state already invests heavily in habitat protection efforts focused on the near shore regions and enclosed estuaries. However ocean ecosystems and the habitats and species they contain transcend state boundaries and their effective protection requires a coordinated regional management approach.

Framework Session Discussion

Issue experts Sarah Chasis of Natural Resources Defense Council (NRDC) and Jay Odell of The Nature Conservancy (TNC) provided the general context of ocean habitat values and threats.

Jay Odell's presentation *Mid-Atlantic Marine Habitats: What's at Stake?* highlighted the ecological services, and hence the value, that key ocean habitats such as coastal bays and lagoons, nearshore corridors, shelf-slope breaks, and submarine canyons provide for human communities. For example, habitats provide services such as seafood, energy, and shipping. They provide regulating services such as climate and erosion control, supporting services such as biological productivity and pollution control, and cultural services such as recreation, aesthetic, and other quality of life benefits. The economic benefit of these services is estimated at about \$362 Billion and 3 million jobs for the regions stretching from Virginia to Maine³. The estimate rises to \$623 billion when including both indirect and direct value. Mr. Odell noted the importance of the Mid-Atlantic region's extensive salt marshes and other nearshore habitats to coastal migratory species and indicated that while the submarine canyons are clear conservation priority areas, the entire shelf-slope break is an ecologically critical and sensitive zone. Examples of the actions that can threaten Mid-Atlantic marine habitats if not properly managed include: coastal development, sand mining, harvesting of resources, and energy exploration and development. The importance of working with stakeholders to develop measurable goals for desired future ecosystem conditions was stressed. Finally, Mr. Odell emphasized the importance of building on the work of existing institutions, such as the Mid-Atlantic Fisheries Management Council, and congratulated the Mid-Atlantic Governors for launching MARCO.

Sarah Chasis' presentation *Habitat Protection* was based on NRDC's marine habitat workshop report, *Priority Ocean Areas for Habitat Protection in the Mid-Atlantic*. Ms. Chasis detailed the unique and ecologically-valuable submarine canyons that span the Mid-Atlantic shelf-slope break, including the critical services they provide for marine fish populations. She urged MARCO to consider protections for not only the 10 canyons identified in the habitat issue paper, but also for several canyons and a chain of seamounts in the northeast part of the region that contain deepwater corals and other unique and vulnerable bottom habitats similar to the habitats in the 10 canyons. She pointed out that only one of the 10 canyons in the Mid-Atlantic region (Norfolk) and three of the canyons in the northeast part of the region (Veatch, Oceanographer, and Lydonia) have any regulatory protection. Ms. Chasis indicated that bottom trawling could do irreparable damage to corals and other valuable habitats in these areas, and that

³ Hoagland P., Jin D, and H.L. Kite-Powell. 2008. Regional Economic Analysis of the Northwest Atlantic Marine Ecoregion. Marine Policy Center, Woods Hole Oceanographic Institution. Woods Hole, MA. 47 pp.

all of the canyons are potential sites for oil and gas exploration activities, given that the moratorium on oil and gas leasing in the Atlantic has expired. Ms. Chasis also addressed the importance of identifying important habitats through a rigorous marine spatial planning process that would identify important ecological areas within 30 miles of shore and appropriately protect them.

Following the issue expert presentations, the State lead for the Habitat Framework Session, Virginia Secretary of Natural Resources Preston Bryant, articulated a state perspective on the issue and facilitated a discussion on an initial set of actions to advance the Governors' priority. Discussion centered on how the States could benefit from regional action to build relationships with stakeholders, gather and improve data, and appropriately apply management and protection measures.

Among the themes participants discussed were: building critical knowledge to increase everyone's literacy; identifying and nurturing partnerships; integrating efforts with other priorities such as offshore renewable energy, complementing existing management entities; preparing consistent regional plans and approaches for energy development; and securing funding. Participants also discussed how the States could use their unique roles to speak in one voice on regional and federal issues and policy. They discussed data; obtaining and managing data, building user capacity, and making data accessible.

Goal

The Mid-Atlantic Governors' goal is to ensure the key ocean habitats of the Mid-Atlantic are protected from the principal activities that threaten their sensitive and unique features, biological populations, and ecological processes.

Objectives

- 1) Protect the region's major offshore canyons from harmful or damaging activities.
- 2) Identify other key Mid-Atlantic habitats and migratory pathways at risk from harmful or damaging activities and seek appropriate protection measures.
- 3) Create a regional internet mapping system to identify for decision-makers those areas which may be ecologically compatible or incompatible with certain activities due to the presence of key habitats.
- 4) Create Mid-Atlantic marine habitat protection and restoration policies to guide the management of key priority habitats and habitat types.

Initial Actions

As a result of the discussion, the States have committed to the following actions:

1. Secure federal action to protect key habitats and identify emerging threats. Lead: New York (unless otherwise specified). Advances objectives 1, 2 and 4.
 - a. Build upon the efforts of the Mid-Atlantic Fishery Management Council to characterize and protect the region's offshore canyons from existing and potential threats. While documentation of the canyon characteristics is limited to a few locations, these unique areas deserve special consideration, and appropriate measures should be developed to avoid activities that could negatively affect them. Additional inventory and research

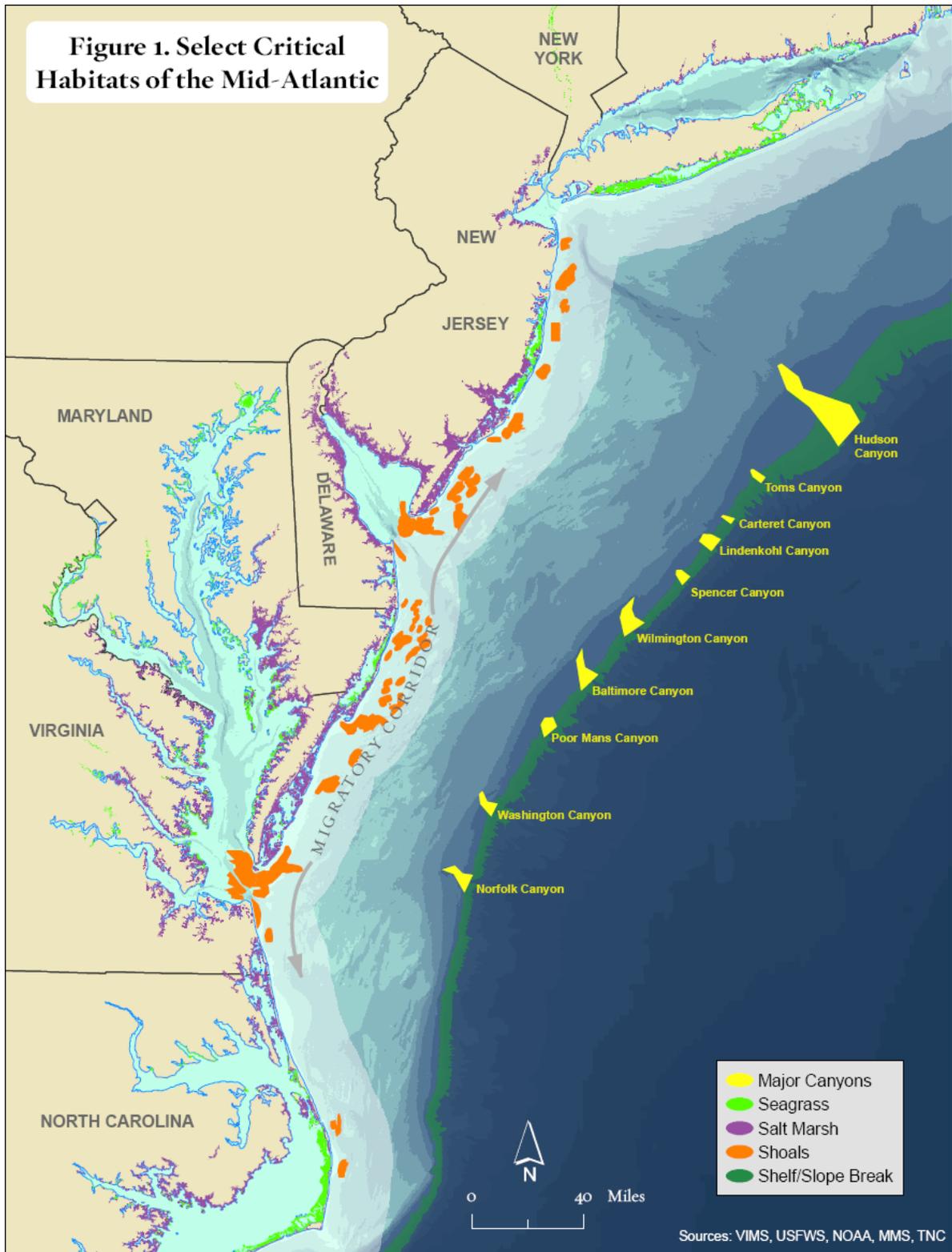
should be conducted on all of the Mid-Atlantic canyons to further refine and develop enduring conservation measures.

- i. By October 1, 2009 begin discussions between States, MMS, and other necessary bodies to develop options for greater protection of the economically and ecologically important fish populations and biodiversity elements in the canyons from oil and gas activities. This should include consideration of the Draft Proposed 5-Year Leasing Program (2010-2015).
 - ii. By December 1, 2009 compile existing research on canyon characteristics and identify key gaps.
 - iii. By January 1, 2010, seek opportunities for collaboration with the Mid-Atlantic Fishery Management Council (MAFMC), following on the MAFMC's recent resolution on the Governors' Agreement, to coordinate and advance protection of the canyons.
- b. Identify and address critical data needs, including identification of critical pathways and timing for migration, overwintering, and foraging for marine mammals, migratory fish, and birds, particularly in areas under consideration for energy and other types of development.
- i. By December 1, 2009 work with NOAA and others to compile existing research and identify key gaps.
 - ii. By March 1, 2010 develop a needs assessment for research work that can be incorporated into a federal budget request. This may include research conducted by federal agencies or states.
- c. By the start of the next legislative session (2010) develop a legislative agenda and prepare joint statements for issue via Congressional delegates.
- d. During the current legislative session, or as appropriate, identify and comment on relevant federal legislative initiatives, such as:
- i. Flexibility in Rebuilding American Fisheries Act of 2009 ([H.R. 1584](#) / [S. 1255](#))
 - ii. National Fish Habitat Conservation Act of 2009 ([H.R. 2565](#) / [S. 1214](#))
 - iii. Ocean Conservation, Education, and National Strategy for the 21st Century Act ([H.R. 21](#))
 - iv. (Integrated) Coastal and Ocean Observation System Act of 2009 ([H.R. 367](#) / [S. 171](#)).
 - v. Reauthorization of the Coastal Zone Management Act.
- e. Promote greater regional involvement in ongoing federal mapping activities, including a potential role under the proposed Ocean and Coastal Mapping Integration Act ([H.R. 365](#) / [S. 174](#)), and pursue designating the Mid-Atlantic as a "pilot" for activities contemplated

under the Act. This action will be ongoing as the legislation evolves, and should support the broader marine spatial planning effort. (Lead: Delaware)

2. Improve data sharing and management to address critical information gaps and reduce redundancy across data-collection efforts. This activity is part of the broader spatial planning effort and should be coordinated with activities carried out under the Energy priority area, and in coordination with related federal efforts, including the marine spatial planning framework under development through the federal Interagency Ocean Policy Task Force. Lead: Virginia. Advances objective 3.
 - a. By October 1, 2009 begin to build a regional GIS portal to house and display data, considering the needs of each state and consulting with stakeholders to determine their needs and concerns relative to ocean mapping, and considering the compatibility and linkages to ongoing federal efforts..
 - b. By March 31, 2010 format initial marine spatial data layers for display in a regional portal covering New York south to Virginia. Data layers will include geophysical, biological and human use information and regional scale high priority conservation areas (see also 3a in Energy Section).
 - c. By July 31, 2010 organize and format all collected data layers for display on a regional portal.
 - d. By August 31, 2010 develop overlay analysis products showing current and proposed human uses such as fisheries and wind energy development in the context of sensitive habitat and species locations.
 - e. By September 30, 2010 develop a working prototype for the MARCO internet mapping portal with functionalities to include an interactive map viewer, fact sheets for each data layer, ability to create and print maps, an identifier tool that displays attributes of particular features and other functionalities as requested by stakeholders. In addition, attempt to secure a permanent server for the application within an appropriate government agency.
3. Secure reliable funding and other resources to sustain regional and federal coordination efforts. Lead: Virginia. Advances all objectives.
 - a. By July 1, 2010, ensure coordination of Coastal Zone Management Act Section 309 Five Year Grant Strategies for NOAA’s Office of Ocean and Coastal Resource Management — “Coastal Zone Enhancement Grants” and seek other funding opportunities to fund MARCO policy development efforts for the period October 2011 through September 2016.

Figure 1. Select Critical Habitats of the Mid-Atlantic



Climate Change Session

Issue Overview

Problem Statement

The economy, environment and quality of life of the Mid-Atlantic region will be significantly impacted by climate change and associated sea level rise in the coming decades, with some impacts already being witnessed in the form of increased air and water temperatures, sea level rise, and ocean acidification. Projections estimate that sea level may rise in the Mid-Atlantic on the order of 1 meter by the year 2100⁴. Over time, such a rise will result in more sustained extreme storm surges, increased coastal erosion, inundation of coastal wetlands, saline intrusion of coastal aquifers, and upward migration of estuarine salt fronts into formerly freshwater reaches. Both natural systems and the built environment throughout the Mid-Atlantic region are vulnerable to the impacts of climate change and sea level rise.

In terms of natural systems, sea level rise will severely affect sensitive coastal landscapes and habitats, impacting wetland, beach, and estuarine regions, affecting their biological productivity, storm buffering capacity, and ability to survive as sea level changes.

A substantial amount of built infrastructure in the densely populated Mid-Atlantic region is also extremely vulnerable. Such infrastructure, including roads, rails, ports, airports, sewage treatment plants and drinking water intakes, treatment and distribution networks, is crucial to the continued economic vitality of the region. Due to historic development patterns, high population density, and infrastructure needs, a great deal of the region's built environment is located in areas that will become increasingly vulnerable to periodic flooding or permanent inundation. Impacts to any of these key infrastructure elements would quickly cascade throughout the socioeconomic system of the region.

States in the region have been working individually to plan for impacts of climate change. However, because much of the region's infrastructure is tightly interwoven, regional adaptation planning, to protect, upgrade and adapt the region's infrastructure, is essential to maintain the vitality of the region. Maintaining ecosystem health is also essential to the function and vitality of the region's landscape through measures such as restricting shoreline hardening to ensure wetland migration capacity.

All of the states in the Mid-Atlantic region will benefit by participating in a concerted regional effort focused, initially, on developing an integrated approach to the assessment of infrastructure vulnerability, as well as a collective undertaking to frame sea level rise adaptation strategies to address infrastructure, critical coastal habitat and shoreline management needs.

A regional framework, based on the best available environmental, physical, and socio-economic spatial data, will focus regional and national attention on the need to protect vulnerable infrastructure and critical coastal habitats in the face of climate change. Inter-state collaboration will provide the opportunity for issues of mutual interest to be addressed in a manner that highlights adaptive management and ensures regional collaboration.

⁴ CCSP, 2008: Abrupt Climate Change. A report by the U.S. Climate Change Science Program and the Subcommittee on Global Change Research [Clark, P.U., A.J. Weaver (coordinating lead authors), E. Brook, E.R. Cook, T.L. Delworth, and K. Steffen (chapter lead authors)]. U.S. Geological Survey

Framework Session Discussion

Issue expert Dr. Michael Oppenheimer of Princeton University provided the general context of the impacts expected from climate change. In his presentation titled “*Sea Level Rise: From the Global to the Local*”, Dr. Oppenheimer noted that it is generally accepted that climate changes and related sea level rise are already underway, as evidenced in:

- Sea level rise
- Increased storm frequency and intensity, and drought
- Extreme hot, cold temperatures
- Ocean acidity
- Changes in polar snowpack and ice

The challenge to managers is that the world is warming with more sea level rise to come from unanticipated ice sheet contribution. Sea level rise of ~1 meter this century could prove disastrous in some regions. The current trend of ice sheet melt is worrisome because it introduces a high degree of additional uncertainty about future sea level rise.

At great risk is infrastructure at the 10-foot flood line and a more frequent return of a “100 year” flood [quotes added]. In the face of this, Dr. Oppenheimer urged planned adaptation, stressing that it would have a substantial impact in infrastructure protection. Critical needs include: rational planning, avoiding perverse incentives, and thinking through the politics.

Following the issue expert presentation, New Jersey Acting Commissioner of the Department of Environmental Protection Mark Mauriello articulated a state perspective on the issue and facilitated a discussion on an initial set of actions to advance the Governors’ priority. Participants noted in the discussion that actions need to positively impact public trust across all sectors and especially in urban centers.

Participants recognized that in order to construct regional strategies, the States need to be familiar with a) existing and needed data, b) methods for structuring data and making it accessible in order to develop consistencies and efficiencies, and c) existing and potential policies/programs/plans that demonstrate best practices and could serve as templates for consistent regional replication or expansion. Specific areas of focus included elevating political and public awareness of broad and specific issues, and on preemptive measures as well as steps to position the States for a coordinated policy/program response when catastrophes occur, so that best practices and scientific understanding are incorporated into rebuilding efforts.

Goal

The Mid-Atlantic Governors’ goal is to prepare the region for the impacts of climate change, primarily sea level rise impacts on regional infrastructure, coastal habitat and shoreline management.

Objectives

- 1) Identify key infrastructure that is vulnerable to sea level rise and increased flood hazards at a coarse scale.
- 2) Acquire the data needed to assess regional vulnerability to climate change and sea level rise impacts to infrastructure and coastal habitats.

- 3) Create a regional/national GIS server to store and deliver the data needed to plan/make decisions.
- 4) Facilitate information exchange regarding infrastructure vulnerability and coastal habitat and shoreline management.
- 5) Initiate sea level rise adaptation measures to collectively reduce the region's vulnerability to climate change and sea level rise.

Initial Actions

As a result of the discussion, the States have committed to the following actions:

1. Identify opportunities to work with the federal government to promote adaptation and, where appropriate, integrate climate change and sea level rise planning measures into federal policies and programs. Lead: New Jersey. Advances objective 5.
 - a. By March 1, 2010, identify opportunities to modify existing programs to accommodate regional strategies for integrating climate change and sea level rise planning.
2. Address data gaps for assessing regional vulnerability. Advances objectives 1, 2 and 3.
 - a. By January 1, 2010, identify the regional infrastructure for which vulnerability to sea level rise must be assessed. Lead: New Jersey.
 - b. By March 1, 2010, inventory existing data on vulnerable regional infrastructure and identify data gaps that prevent determination of vulnerability to inundation; identify best methods for data access for use in decision making. Lead: Delaware.
3. Facilitate a climate change and sea level rise information exchange between States. Lead: Maryland. Advances objective 4.
 - a. By January 1, 2010, compile State Climate change planning and policy approaches and implementation plans, and identify best practices to enhance adaptation at the regional scale.
4. Develop consistent communications and messaging to convey the information on climate change impacts to the public. Lead: Delaware. Advances objective 4.
 - a. By March 1, 2010, construct a consistent, regional Climate Change message, including a regional strategy for messaging the risk to communities from climate change impacts, including messaging on severe storm events. Use a consistent set of scenarios for communicating the sea level rise concerns across the region.

Water Quality Session

Issue Overview

Problem Statement

The beaches and shores of the Mid-Atlantic Ocean generate billions of dollars⁵ in tourism-related revenue each year, and are a major economic driver for the five ocean states of the region. Commercial and recreational fisheries also support coastal communities and provide significant economic output. These activities rely on maintaining high water quality within the Mid-Atlantic Ocean region to ensure the protection of human and ecological health through swimmable and fishable waters. Significant regulatory efforts and investments in infrastructure have resulted in great improvements to water quality, and state and federal programs have reduced many sources of pollution. To a large degree, the remaining threats to keeping the region's beaches clean, addressing seafood safety, and preserving critical habitats can be tied to urban and agricultural runoff (particularly during storm events) air emissions and aging wastewater treatment infrastructure. These causes continue to contribute to beach closures, marine debris, contaminated seafood, fishing gear fouling, oxygen-starved "dead zones" (hypoxia), eutrophication, and harmful algal blooms. Of particular interest to the Mid-Atlantic States is the continued health of the ocean shoreline and ecosystems.

The ability of the region's States to address the key remaining threats to water quality relies to a great extent on focusing attention to land-based sources. While great strides have been made in treating wastewater, the advanced age and growing lack of capacity of much of the region's wastewater treatment infrastructure, and the combined sewer overflow (CSO) systems in urban areas can result in inadequate removal of pollutants, including nutrients, and debris, resulting in localized areas of poor water quality unsafe for human uses such as swimming and fishing. The burden for funding this critical infrastructure has fallen on state and local governments that have struggled to persuade their citizens to support sewer rates at levels adequate to cover repair, replacement, and maintenance costs. The airborne transport of pollutants (e.g., mercury and fixed nitrogen, in both pollutant and vapor forms) that can be discharged from great distances away also has resulted in increased loading and pollution of marine waters and mercury in marine animals.

While efforts are underway to regulate these emissions, these controls are not always developed with marine resource impacts in mind. For example, regulations designed to meet air quality standards may necessitate one level of nitrogen reduction, while meeting a nutrient reduction level in water may require the same or greater need for nitrogen emission reductions.

Additionally, the problem of litter and other refuse entering waterways and the ocean contributes to beach closures, habitat degradation, interruption of fishing activities, and negatively impacts aesthetics. Addressing the sources of this debris will be essential to successfully reducing its transport to the marine environment.

While the causes of impaired water quality derive from a diversity of local sources, their impacts can be felt across broad regions and several states. Through greater regional coordination and in close cooperation with the region's stakeholders, the five States can develop regional strategies to identify and address water quality problems and their root causes by leveraging state and federal interest and resources. Regional coordination also provides an opportunity to measure ecosystem health, including water quality, in order to guide new management efforts and to demonstrate their effectiveness. This

⁵ National Ocean Economics Program. *Ocean Economic Data by Sector & Industry.*, ONLINE. 2008. Available: <http://noep.mbari.org/Market/ocean/oceanEcon.asp> [23 Apr. 2009].

could be provided through expansion of existing mechanisms such as the Mid-Atlantic Regional Coastal Ocean Observation System (MARCOOS) and opportunities on offshore surveys with federal environmental and living and mineral resource agencies (U.S. Environmental Protection Agency, U.S. Departments of Commerce and Interior).

By raising awareness and working collaboratively, the States can better address threats to water quality including aging inefficient wastewater treatment infrastructure, urban and agricultural runoff, and airborne transport and deposition of pollutants.

Aging infrastructure in coastal municipalities is responsible for numerous spills each year as well as leakage of waste from sanitary sewer lines into stormwater lines and ultimately, to coastal waters. Combined sewer overflows are responsible for release of floatable debris as well as water quality impairments in urban areas. The magnitude of the investments needed to address aging and inadequate infrastructure is beyond the ability of states to fund. Federal investments have not kept pace with need, though the recently increased political will to invest substantial dollars on infrastructure projects may make such a call from the region well-received. Investments need to include upgrades that are targeted to improve coastal water quality for recreational bathing, seafood safety, and ecological health.

Keeping the region's beaches attractive and safe for recreational activities and safeguarding wildlife will require an emphasis on reducing the amount of floatable debris that enters waterways. While it is necessary to continue to promote better citizen awareness and clean-ups across the region, the Mid-Atlantic region should develop and implement more prevention-oriented strategies. Regional actions should be developed to address production and stewardship of items that constitute the large proportion of debris.

Efforts should focus on leveraging federal and state investments and initiatives, including existing/proposed assets being developed and deployed through MARCOOS, the National Coastal Assessment survey, and the proposed National Monitoring Network for coastal waters and their tributaries, to take advantage of the latest sampling methods and technologies to measure water quality parameters, as well as climate induced trends and other ecosystem health indicators. Efforts should also include an agenda to address atmospheric sources of nitrogen, mercury, and other toxins that contaminate the region's marine waters.

Framework Session Discussion

Issue expert Leslie Tamminen, former policy aide to California Lt. Governor John Garamendi, provided the general context of threats to water quality. Her presentation included options for actions to improve water quality, some of which have been implemented in California.

Following the issue expert presentation, the State lead for the session, New York Commissioner of the Department of Environmental Conservation Pete Grannis, provided a state perspective on the topic, including challenges such as marine debris (plastics) and fishing nets. He also noted a need to re-energize the issue of wastewater treatment plant (WWTP) infrastructure upgrades, support the reauthorization of the Clean Water Act and address regional collection and sharing of data.

The discussion included a number of potential actions to improve water quality:

- Reducing marine debris by altering consumer behavior, e.g. attaching costs to the use of common debris items such as plastic bags and controlling floatables from CSOs
- Applying responsibility for reduction in marine debris to producers of common debris items
- Utilizing Clean Water Act authority to develop Total Maximum Daily Load (TMDL) for trash
- Advocating for reauthorization of the BEACH Act in Congress

- Spending infrastructure dollars smarter using concepts such as Low Impact Development,
- Exploring opportunities to target key areas for enforcement, such as through regional discharge databases

The discussion included other measures such as engaging the USDA and Army Corps of Engineers (ACOE) to help fund water quality-related infrastructure improvements in the region. Participants identified the need to address non-point source (NPS) pollution in a suite of topics along with the Surface Transportation Act, harmful algal blooms and pharmaceuticals.

Goal

The Mid-Atlantic Governor's goal is to protect human and environmental health and increase the ocean-related economic value of the region's coastal waters by maintaining and improving the region's water quality.

Objectives

- 1) Promote greater and smarter federal investments for infrastructure upgrades to region's wastewater treatment infrastructure.
- 2) Reduce the amount of human-derived debris and floatables that enter waterways and the ocean.
- 3) Improve delivery and expand data collected on water quality to better predict impairments and assess the effectiveness of efforts to improve water quality.
- 4) Develop an agenda to address atmospheric sources of nitrogen and toxins that contaminate the region's marine waters.

Initial Actions

As a result of the discussion, the States have committed to the following actions:

1. Call for changes to federal legislation that will provide opportunities to act regionally to improve water quality and to re-engage the federal government in addressing water quality issue. Lead: Maryland. Advances all objectives.
 - a. By the start of the next legislative session (2010), develop a legislative agenda and issue joint statements via Congressional delegates.
 - b. During the current legislative session, as appropriate, identify and comment on relevant federal legislative initiatives, such as:
 - i. Reauthorization of the Clean Water Act
 - ii. Reauthorization of the Surface Transportation Act
2. Identify key water quality and ecosystem assessment regional information gaps, and develop strategies to address them. Leverage existing and proposed national and regional organizations (e.g. MACOORA), and water quality collection networks (e.g. National Coastal Assessment,

proposed National Monitoring Network for coastal waters and their tributaries). Lead: New Jersey. Advances objectives 1, 2 and 3.

- a. By October 1, 2009, designate state coordinators and identify federal partners to facilitate collaboration on regional water quality data issues (assessment, collection and data sharing), collaborative federal approaches (existing and proposed federal programs) and sharing state initiatives (e.g. coastal water quality regulatory proposals).
3. Develop common background foundational documents and issue messaging that may be consistently drawn upon by the States in discussion with the federal government and other constituencies, including for infrastructure upgrades (ongoing). Lead: New York. Advances objectives 1 and 2.
 4. Identify region-wide efforts to control marine debris and floatables. Lead: New Jersey. Advances objective 2.
 - a. By March 1, 2010, compile state efforts/best management practices and existing information on marine debris/floatable control.
 - b. By October 1, 2010, begin developing an Action Plan to address gaps in control. Such a plan should consider the following:
 - i. Establishment of target goal(s) for marine debris and floatable reduction;
 - ii. Mechanisms to reduce prevalent kinds of trash and floatables; and
 - iii. Building on existing State and local programs with the goal of reducing marine debris.
 5. Explore non-point source pollution as a regional water quality issue needing further coordination through this effort. Lead: Maryland. Potential new objective.
 - a. By March 1, 2010, develop a potential agenda for regional action to address shared non-point source concerns.

Offshore Renewable Energy Session

Issue Overview

Problem Statement

Increased attention to the Mid-Atlantic region's energy resources is due to several factors including a greater awareness of the need for renewable energy as a means of addressing climate change. The Mid-Atlantic Ocean currently plays an important role in the transmission of fossil fuels to population centers. These ocean waters, however, are also host to tremendous, virtually untapped, sources of renewable energy including hydrokinetic, salinity and thermal gradient, and wind.

The imperative to reduce greenhouse gas emissions and increase energy independence, together with growing citizen interest has elevated renewable energy on U.S. public policy agendas and in the public consciousness. The Mid-Atlantic Bight (Massachusetts to North Carolina) is endowed with a gently sloping continental shelf and abundant strong and steady offshore winds. In addition, even though it is in its infancy wind energy technology is increasingly suitable for utility-scale applications comparable to conventional energy technologies, unlike hydrokinetic sources which need additional developments to reach this level of development. Wind energy, therefore, has the best potential of all the renewable energies for the region in the next few years. For this reason offshore wind energy has become a current focus of policy, research, and investment and several projects are under development from Maine to Maryland. One additional advantage to Mid-Atlantic offshore wind is its proximity to the east coast load center, thereby reducing the need for potentially expensive transmission upgrades to furnish renewable energy from other parts of the country. The Atlantic Outer Continental Shelf (OCS) has the greatest renewable energy potential relative to other OCS regions (including the Gulf of Mexico, Pacific coast, and Alaska), and in the next five-seven years offshore wind power presents the greatest opportunity (technically and feasibly) to harness that renewable energy potential⁶.

Alongside the growing enthusiasm for offshore wind's potential to address energy and climate change needs, however, is the need to fully understand, avoid, and/or mitigate potential adverse effects on benthic habitat, migratory birds, marine resources (e.g. marine mammals), and other sensitive habitats and a need to account for and accommodate other existing and potential future resource uses (e.g. commercial and recreational fishing and navigation). This requires acquisition of baseline information on the offshore distribution, abundance and migratory patterns of living marine resources and existing ocean uses. The unique value to an interstate cooperative effort will be to coordinate efforts to determine and avoid, to the maximum extent practicable, any negative effects on habitats and biota, such as on bird species along the Atlantic Flyway, and consider coordinated research, rather than state by state assessments of individual projects.

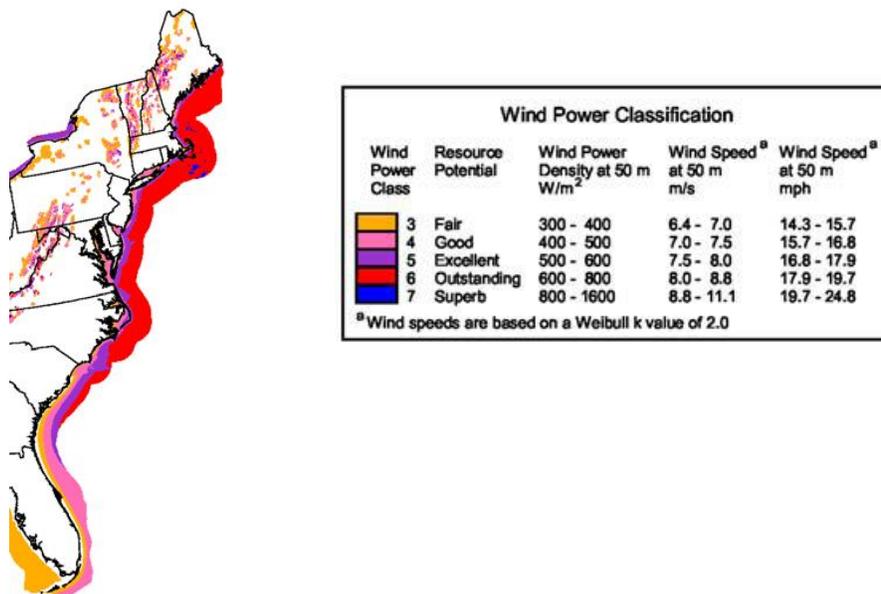
The States are particularly interested in understanding and addressing the cumulative impacts of multiple projects. By assessing the desirability and technical capabilities to inter-connect offshore wind development transmission lines from multiple projects to existing electrical grids, the states may be able to better protect against adverse impacts to marine habitats or other resources. In addition, through the development of marine spatial planning tools, projects which present the least adverse impacts to other ocean users and the environment can be assessed. Collaborative funding and development of these types of tools may encourage the development of offshore wind projects, make effective use of resources, and avoid user conflicts.

⁶ Report to the Secretary, U.S. Department of the Interior - Survey of Available Data on OCS Resources and Identification of Data Gaps - OCS Report - MMS 2009-015 (<http://www.doi.gov/ocs/report.pdf>)

Through regional efforts, the States can establish siting mechanisms and requirements for renewable offshore energy systems with careful consideration to the health of ocean ecosystems and the regional economy, and reduce the barriers to streamlined permitting through focused research, science-based local decision-making, regulatory ingenuity, and early coordination. In order to responsibly develop these renewable energy systems, all levels of government must engage, collaborate, and make information readily available. Efficient processes may also make the region more attractive for energy developers thereby facilitating new economic growth through the creation of new jobs and revenue base that stem from the manufacturing, distribution and installation, and maintenance and operation of these systems.

Figure 1. Atlantic Wind Speed Maps

(from Report to the Secretary, U.S. Department of the Interior - Survey of Available Data on OCS Resources and Identification of Data Gaps - OCS Report - MMS 2009-015
<http://www.doi.gov/ocs/report.pdf>)



Framework Session Discussion

Issue expert Peter Mandelstam, Chair of the American Wind Energy Association (AWEA) Wind Working Group provided the general context of the issue of renewable energy development. Mr. Mandelstam’s presentation focused on the current state of offshore wind energy development from the industry perspective, available technologies, and issues associated with ocean-sited infrastructure. Mr. Mandelstam characterized wind energy development projects by five “pillars”: wind resource, site control/access, permits, interconnection to grid, and energy buyers. Issues include competition from Canada’s aggressive encouragement of wind energy development via Feed-in Tariffs. Workforce is another issue, in particular trained wind technicians and wind planners to coordinate between states and the Federal government.

Following the issue expert presentation, Delaware Secretary of the Department of Natural Resources and Environmental Control Collin P. O'Mara provided a state's perspective, sharing permitting lessons, the importance of including all business and societal costs and benefits in energy conversations, particularly full life cycle costs and public health costs, and the need for clear, collective goals that are consistent across the market. He emphasized the importance of the link between renewable energy and climate.

The group discussed a variety of issues regarding offshore wind energy development in the Mid-Atlantic. These included the development of decommissioning guidelines, and the potential to coordinate federal and state information gathering, permitting, and funding. Issues identified as needing further examination included research and development and comprehensive offshore mapping,

Goal

The Mid-Atlantic Governors' goal is to promote sustainable development of offshore renewable energy resources by addressing regulatory barriers and regional issues regarding the potential impacts of development.

Objectives

- 1) Develop and finalize shared research and monitoring protocols for assessing the construction and operations impacts of energy development on ocean and coastal resources, and identify appropriate opportunities for integration into permitting conditions.
- 2) Define regulatory steps, time frames, and potential barriers to the development of the region's offshore renewable energy resources and identify appropriate coordinating measures.
- 3) Complete a comprehensive offshore use map and decision-support tool to facilitate siting of renewable energy projects to minimize adverse impacts to other ocean users and ecological communities.

Initial Actions

As a result of the discussion, the States have committed to the following actions:

1. Remove unnecessary Federal/state barriers to the appropriate development of offshore renewable energy development. Lead: Delaware. Advances objective 2.
 - a. Review MMS regulations, guidance document, and industry publications for recommendations on how to better coordinate between the MARCO States and the Federal government (ongoing action).
 - b. By December 1, 2009, create a concept document to start discussion on ways to streamline state-federal permitting, looking at inconsistencies, duplication, stakeholder involvement and greater planning coordination.
 - c. By January 1, 2010, engage our congressional delegations to support the alignment of the Federal and State issues related to offshore wind energy permitting, including agency planning efforts and the broad coordination effort underway through the Interagency Ocean Policy Task Force.

2. Proactively investigate and provide for future needs, funding options, best practices, and innovative research and development. Lead: Delaware. Advances objective 2.
 - a. By October 1, 2009, submit a joint request to modify the production tax credit for wind development by extending it from its current expiration in 2012 to instead expire in 2016.
 - b. By October 1, 2009, submit a joint request to modify Section 1603 of the American Recovery & Reinvestment Act of 2009, to extend the deadline from 2010 to 2016 for offshore wind energy developers to submit applications under the Renewable Energy Cash Grant Program.
 - c. By March 1, 2010, define and flesh-out actions that could address anticipated future research and development needs.

3. Integrate renewable energy siting concerns into the data management and comprehensive offshore mapping effort underway for the MARCO habitat protection goal. Through the effort outlined in the habitat protection section, MARCO member States will create a single, publicly accessible internet portal which would allow access to all publicly-available data and maps of ecologically, economically, and socially important Mid-Atlantic ocean resources and uses as well as state and federal jurisdictional boundaries. This information is critical for the appropriate siting of new energy projects, including through marine spatial planning efforts. MARCO member States will continue to share data and information, in anticipation of potential permitting and timing issues and to avoid duplication. Coordinated efforts will result in efficiencies regarding the development of wind energy. Advances objectives 1 and 3.
 - a. By March 1, 2010, identify, and develop work plans for, ecological and cultural baseline data needs for marine spatial planning, including siting of offshore wind projects (see also actions in the Habitat section). Lead: New York
 - b. By March 1, 2010, begin to develop consistent survey and monitoring protocols to be used for individual offshore wind projects. Lead: New Jersey.