



November 24, 2014

Mr. Bruce Carlisle, Director
Massachusetts Office of Coastal Zone Management
251 Causeway Street, Suite 800
Boston, MA 02114

Re: Comments on the 5-year update, Massachusetts Ocean Management Plan

Dear Mr. Carlisle:

On behalf of the Association to Preserve Cape Cod (APCC), we are pleased to submit the following comments on the proposed 2014 update of the Massachusetts Ocean Management Plan (OMP).

APCC is a non-profit environmental organization founded in 1968 to promote policies and programs that foster preservation of Cape Cod's natural resources. APCC is a Cape-wide organization with over 5,000 members from all 15 towns on the Cape. Our goals include protection of groundwater, surface water and wetlands; preservation of open space; promotion of responsible planned growth; and achievement of an environmental ethic. APCC is also the regional service provider for the Cape Cod region of the Massachusetts Bays Program whose mission is to protect and restore the coastal ecosystems and coastal heritage of Massachusetts Bay and Cape Cod Bay. APCC provides science-based technical assistance, outreach, education and advocacy to our members and 15 communities (see <http://www.apcc.org> for more information).

In July 2013 APCC provided comments to your office concerning the proposed scope for the five-year update of the Ocean Management Plan. APCC also provided input to the proposed Cape Cod Ocean Management District of Critical Planning Concern (DCPC). Our comments on the 2014 revision of the OMP follow up on most of these comments.

- 1) Continue ecosystem-based approach to ocean management and protection. In the first five years of the OMP, the Commonwealth has made great strides in mapping ocean resources and uses, developing a data network (e.g., MORIS), developing indicators, and coordinating permitting among agencies. These advancements should serve as the foundation for further progress in mapping and evaluating resources, monitoring and evaluating threats, identifying better protection and management measures, and developing more comprehensive, holistic and ecosystem-based approaches to resource management and protection. We encourage the Commonwealth to continue working to increase coordination of ocean and coastal management planning, policies and protection at all levels. In particular, the Commonwealth should expand use of holistic, ecosystem-based approaches for management and protection of our valuable marine and coastal resources. The dangers of using a non-holistic, piecemeal approach include making poor decisions that could benefit one species or resource to

the detriment of another, spending resources on restoring one part of an ecosystem while other parts are ignored, creating a false sense of achievement, inefficiency, greater costs, and potentially undoing gains made through restoration.

- 2) Extend the OMP boundary. As we previously stated in our July 2013 comments on the proposed scope for the five-year update, the landward boundary of the OMP should be extended to the Mean High Water (MHW) line. As it stands now, the landward boundary of the OMP represents a significant gap between ocean resources and coastal resources and watershed processes. This gap is where many human activities occur and sensitive resources exist; leaving this gap in place does not make sense scientifically or for resource management or protection. Examples of important coastal resources that are linked to the ocean include estuaries, salt marshes, shellfish beds, fish habitat, eelgrass beds, and sand. Examples of coastal issues that could impact the ocean planning area include, but are not limited to, eutrophication and the need for sand for beach nourishment. Coastal restoration activities in coastal watershed areas benefit ocean resources and should be taken into account in ocean planning.

Extending the OMP area to include coastal waters up to the MHW line would provide the following benefits:

- a. It would represent a science-based and ecosystem-based approach to ocean management;
- b. It would enable consideration of the effects of estuarine nutrient loading on ocean resources;
- c. It would include salt marshes, tidal flats and other sensitive coastal resources which provide critically important habitat for marine species that are already included in the OMP;
- d. It would enable consideration of sediment processes which cross boundaries and extend from upland areas down through intertidal, subtidal and ocean areas as well as along the shore.

We are aware that there are concerns that some activities such as maintenance dredging may end up within the extended OMP area. However, OMP standards could be applied to new or non-navigational dredging projects. APCC also acknowledges that extending the landward boundary of the OMP would require an act of the state legislature. Still, APCC believes extending the boundary is critical to development of a truly comprehensive ocean management policy, and such an effort should be pursued.

- 3) Consider impact of nutrient loading and eutrophication on ocean resources. After climate change, the most significant environmental issue facing Cape Cod is coastal eutrophication due to excess nitrogen. Water quality and habitat in the OMP are likely to be impacted by long-term nutrient loading and other pollutants from land-based sources. The disconnect between the current OMP boundary and land-based pollution means that the OMP framework may not effectively address the impact of these

pollutants as they spread into the OMP area. As recommended above, the OMP boundary should be extended to the Mean High Water (MHW) mark to facilitate coordination of protection and restoration efforts between upland, coastal, intertidal and subtidal environments. Most importantly, the OMP should evaluate potential impacts of long-term nutrient input on resources in the OMP area and identify mitigation measures.

- 4) Sand mining for beach nourishment. Beaches are important for the Cape's economy, fish and wildlife habitat, aesthetic reasons, and coastal resiliency. The OMP identifies 20 communities with the highest short-term erosion rates; ten (10) of these are on Cape Cod (Table 2-7). The OMP also identifies 20 public beaches in Massachusetts with the highest short-term erosion rates; eleven (11) of these are on Cape Cod (Table 2-8). Beach nourishment does indeed offer one approach for increasing coastal resiliency. Nevertheless, offshore sand mining represents another potential impact on fish and wildlife, their habitat and on water quality that needs to be considered as part of the overall cumulative impact of human activities. APCC is concerned that allowing sand mining for beach nourishment will encourage the sense that abundant sand is available, leading eventually to mined sand being used for other purposes or stockpiled. This is especially troubling if the ecological impacts of mining are not monitored and fully mitigated. From there, it is a short step to offshore sand mining emerging as another industry that extracts a valuable, natural, public resource with little or no public benefit. Before sand mining is proposed or tested through a pilot project, the following issues must be addressed in full:
 - a. The need for sand for beach nourishment should be demonstrated in a quantitative manner, including estimates of the volume of sand needed and alternatives to beach nourishment. This has not been done yet. Without a fact-based demonstration of need and an alternatives analysis, it is premature to plan sand mining projects.
 - b. There are existing sources of sand (e.g., dredging of Cape Cod Canal and federal navigation projects, local dredging projects) where better inter-agency coordination between federal, state and local coastal managers would likely address some local sand needs. Utilizing suitable dredged material before any other sources are considered would avoid or minimize new impacts due to new sand mining operations.
 - c. Sediment processes and sediment budgets need to be understood before sand mining is planned or proposed, otherwise mining may be unsustainable and cause harmful and costly impacts. Sediment budgets have not yet been developed for Cape Cod Bay, the proposed areas for sand mining, or other coastal areas of Massachusetts that are looking to mine sand for beach nourishment. Sand mining should not be proposed for areas where sediment budget studies indicate that mining is unsustainable.

- d. New high-quality sediment mapping data should be obtained for areas where sand mining is proposed. The OMP map of the southern part of Cape Cod Bay shows a potential sand mining area in or near Billingsgate Shoals. This map was based on a USGS study which was published in 1990. Likewise, the OMP identifies potential sand sources in Nantucket Sound based on a USGS study published in 1987. Sediment distributions may have changed significantly in the quarter-century since these studies were conducted and published. Obtaining new high-quality maps of sediment should be a priority, along with a study of sediment processes and sediment budget, for an area proposed for sand mining.
- e. Regional and local sediment management plans should be developed to understand and characterize sediment processes, particularly for communities that are experiencing high rates of coastal erosion and are looking to beach nourishment as a solution. Sediment management plans should identify causes of problems (e.g., sea level rise, armoring of sediment sources, blockage of sediment transport by jetties and groins, coastal structures that cause scour, etc.), include sediment budgets, and identify a range of coastal resiliency measures to address coastal erosion. Removal of barriers to sediment sources and transport and structures that cause increased scour should be a top priority.
- f. Sand mining represents a subtraction of habitat from the mined area. Alternative soft solutions that do not involve sand mining and have fewer impacts than sand mining should be considered and prioritized. Living shoreline approaches that increase coastal resiliency by adding habitat rather than subtracting habitat should be developed as viable options. Examples include oyster reefs, shellfish bed restoration, restoration of degraded salt marshes, and creation of new salt marshes.
- g. Beach nourishment should not be the sole “go-to” method for increasing coastal resiliency. Comprehensive coastal resiliency planning for specific regions of the Massachusetts coast should identify a suite of coastal resiliency measures and a comparison of their costs and benefits. A tiered system should be used to evaluate the impacts of coastal resiliency measures, prioritizing avoidance of impacts, then minimizing or mitigating impacts. Managed retreat is an important tool for protecting communities and onshore habitats from coastal erosion and needs to be prioritized. In the long run, managed retreat may be safer and more cost-effective for many communities. Incentives for coastal protection need to be reexamined to better facilitate natural, resilient coastlines.
- h. The landward boundary of the OMP does not allow for oversight of beach nourishment activities under the OMP. This disconnect between an activity proposed within the OMP (sand mining) and activities outside the OMP (beach nourishment) could potentially lead to costly impacts. Extending the

landward boundary of the OMP to meet the shore would enable better coordination and planning for coastal resiliency and resource protection.

- 5) If these conditions are met and sand mining is allowed offshore of Cape Cod, it should be regulated according to the following principles:
- a. Permits for sand mining and beach nourishment should be coordinated and regulated according to the Cape Cod Commission's Development of Regional Impact (DRI) minimum performance standards of the Regional Policy Plan. These performance standards were developed following a formal public process and will help to protect the Cape's natural resources.
 - b. Sand represents a public resource. Mined sand should be used only for beach nourishment of public beaches and in accordance with sediment management plans that are based on sound understanding of local and regional sediment processes and sediment budgets.
 - c. Sand that is mined from the Cape Cod ocean management plan area identified in the Cape Cod Commission's Regional Policy Plan should be used only for beach nourishment projects within Barnstable County. Sand mined from a particular sediment system should be used within the same system in order to maintain sustainability.
 - d. Meaningful state funds should be allocated annually for a coastal land buy-back program. The goal would be to purchase repetitive-loss coastal properties and restore them to natural coastal habitats or public beaches to improve coastal resiliency. A coastal land buy-back program would reduce property damage, enable managed retreat, and eliminate the need for costly sand mining and beach nourishment.
 - e. Regulation of sand mining and beach nourishment activities should be coordinated jointly among different regulatory agencies. A proposed sand mining project should also be tied to a specific beach nourishment project and regulated as one project.
 - f. Beach nourishment projects should be monitored by CZM to determine whether goals are met, whether problems have arisen, and to provide recommendations as to whether continued beach nourishment will be useful or should be discontinued. Criteria for determining success of a beach nourishment project are needed.
 - g. An adaptive approach to sand mining is needed, particularly if fish, invertebrate and wildlife populations or their habitat continues to deteriorate due to cumulative impacts. Monitoring must be capable of early detection of any ecological harm from mining. Agencies and the public should be prepared to re-examine the need for sand mining and to eliminate sand mining as an

option if cumulative impacts of pollution, overfishing, development, other human activities and climate change result in a worsening marine environment.

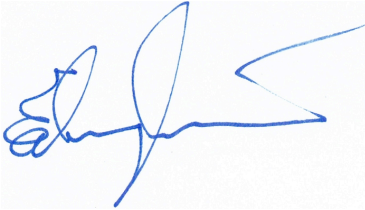
- h. The impacts of sand mining on water quality, habitat and marine life should be monitored, and the results should be used to determine whether sand mining continues to be permitted or not. The use of fixed dates for time-of-year (TOY) restrictions should be avoided since the arrival and duration of sensitive species such as right whales and other rare species varies from year to year and will likely vary more as climate change impacts marine ecosystems. Monitoring programs should be established to catch any early indications that whales and terns (or other species of concern) are not impacted by sand mining underway at that time or by the effects of mining that has already occurred.
 - i. New England's fisheries are in trouble, impacted by overfishing, habitat loss, human activities, pollution, and climate change. Allowing yet another activity that impacts fisheries habitat could be costly for the fishing industry, for coastal managers and regulators, and for the public. Important fisheries habitat, including nursery habitat, feeding habitat, juvenile habitat and High Use Fishing Areas should be excluded from the areas marked as Potential Sand Resources.
- 6) Ocean Resources and Waterways Trust Fund and Ocean Development Mitigation Fee. APCC encourages the state to implement the Ocean Development Mitigation Fee for all applications. We urge that the highest priority for fund expenditures should be for projects involving restoration, protection and coordinated management of resources according to ecosystem-based principles. Also, it may be useful to examine whether mitigation fees or permit fees for sand mining can help support a coastal land buy-back program (see above) that reduces the demand for sand mining.
- 7) Monitor climate change impacts on marine ecosystems and resources. Climate change impacts such as ocean warming, ocean acidification, changes in ocean circulation, sea level rise and other physical and chemical changes could profoundly disrupt marine ecosystems and resources. Marine and coastal monitoring of water temperature and chemistry, ocean acidity, sea level rise, fish, shellfish and biological resources should be a priority. The information from such a climate change monitoring program will be vitally important for coastal resiliency planning for communities, ecosystems and coastal industries such as fishing, shellfishing and aquaculture.

In summary, the five-year update of the OMP has made significant progress in mapping and characterizing ocean resources and in setting up a framework for coordinated ocean management and review. However, more needs to be done, particularly in ecosystem-based management, planning for coastal resiliency and avoiding new impacts from new activities such as sand mining. For projects located within Cape Cod waters, APCC urges that these projects be required to meet the regulatory requirements of the Cape Cod Regional Policy

Plan in addition to meeting all applicable local, state and federal permitting requirements, and that the Cape Cod Commission's jurisdictional authority for regulatory oversight of proposed uses remains consistent with the jurisdictional boundaries identified in the Regional Policy Plan.

Thank you for the opportunity to provide comments. Please feel free to contact us at (508) 362-4226 if you have questions.

Sincerely,



Edward DeWitt
Executive Director



Jo Ann Muramoto, Ph.D.
Senior Scientist