



July 19, 2013

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

Re: Comments on Proposed Scope for 5-year Update of the MA Ocean Plan

Dear Mr. Carlisle:

On behalf of the Association to Preserve Cape Cod (APCC), we submit the following comments on the proposed scope for updates to the 2009 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 Cod-wide environmental 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. Please visit our website at <http://www.apcc.org> for more information.

Comments:

1. Mapping, GIS data and indicators. In its first five years, the Commonwealth has made significant strides in mapping ocean resources and uses, developing a data network (e.g., MORIS), and developing indicators. These advancements should serve as the foundation for further progress in mapping and evaluating resources, evaluating threats, identifying better protection and management measures, and developing more comprehensive, holistic and ecosystem-based approaches to resource management and protection.

2. Ocean Resources and Waterways Trust Fund and Ocean Development Mitigation Fee. The state has made slow but important progress in developing the Fund and obtaining deposits amounting to \$1,042,650. The five expenditures amounting to \$335,540, used for technical studies and mapping of sediment, seafloor, infauna and benthic communities, were all necessary for developing a basic understanding of the seafloor, its habitat and living resources. APCC encourages the state to fully implement the Ocean Development Mitigation

Fee by immediately developing a fee structure and guidance and adopting the fee structure 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.

3. Nutrient loading and eutrophication. After climate change effects, the most significant environmental issue facing Cape Cod communities is coastal eutrophication due to excess nitrogen. The OMP should evaluate potential impacts of long-term nutrient input on the ocean planning area and identify mitigation measures. This is an example where coastal watershed issues are likely impacting the ocean planning area.

4. Ocean Management Plan boundary. The landward boundary of the OMP misses an important link between ocean resources and coastal/coastal watershed resources and processes. Examples of important coastal resources that are linked to ocean resources include salt marshes, diadromous fish runs and eelgrass beds that provide habitat for fish and shellfish. Coastal issues that could impact the ocean planning area include eutrophication which is already impacting most Cape Cod estuaries. Coastal restoration activities in coastal watershed areas benefit ocean resources and should be taken into account in ocean planning. Examples include restoration work conducted by the Massachusetts Division of Ecological Restoration, the Massachusetts Division of Marine Fisheries, NOAA's Restoration Center, the Natural Resources Conservation Service's Cape Cod Water Resources Restoration Project, Massachusetts Bays Program, Buzzards Bay Project, and local agencies and organizations (e.g., Cape Cod Cooperative Extension, towns, and organizations).

5. Ecosystem-based management and protection. The OMP should continue to develop more ecosystem-based approaches to manage and protect our valuable marine and coastal resources. Coastal managers need to understand how entire ecosystems are changing and what their management options are. Watershed restoration and protection efforts aimed at coastal species (e.g., river herring, American eels, etc.) need to be matched by similar efforts in the ocean. A holistic, multi-systems approach to resource protection and management is needed. The dangers of using a non-holistic, piecemeal approach include making poor decisions that could benefit one species 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.

6. Warming oceans. The effects of climate change include warming trends for ocean waters, as indicated by water temperature monitoring by the Massachusetts Division of Marine Fisheries and NOAA (Massachusetts Ocean Management Task Force Technical Report, "Sediment and Water Quality"). Water temperature is a key factor affecting the health and survival of all aquatic ecosystems. There should be thought given to expanding the water temperature monitoring program to include more monitoring stations and other temperature-related parameters such as dissolved oxygen, for both coastal and ocean sites and a variety of habitats. The goals for expanded monitoring could include identifying high-risk areas where coastal managers may have to modify resource management to adapt to rising temperatures, identifying low-risk areas where refugia could be established, and identifying areas where

uses may be affected by rising temperatures (e.g., see below).

7. Thermal pollution and use of seawater for cooling facilities. The OMP should evaluate the effects of thermal pollution from power-plant discharges and other sources and develop and implement a mitigation policy. According to the Massachusetts Ocean Management Task Force, *“There are ten large power-generating facilities that together are permitted to withdraw and discharge up to 4.5 billion gallons of cooling water every day from coastal waters. The discharged cooling water can be heated from 83 to 105 degrees Fahrenheit and can be 20 to 32 degrees Fahrenheit greater than the ambient water.”* These elevated temperatures are harmful for coastal and marine ecosystems and organisms. To compound the impact, ocean temperatures are increasing. The feasibility of using seawater for cooling power plants and other facilities should be re-evaluated to protect coastal and marine ecosystems and human safety. As an example, the Cape Cod Times reported that *“The ongoing heat wave could force Pilgrim Nuclear Power Station to shut down, as soaring temperatures continue to warm the Cape Cod Bay waters that the plant relies on to cool key safety systems”* (Cape Cod Times article by Christine Legere, July 18, 2013, 2:00 am).

8. Sand and gravel removal for beach nourishment. Cape Cod is truly a “Land of Sand and Water” and faces serious threats from the effects of climate change, including sea level rise, increasing storm intensity and coastal erosion, and changes in coastal landforms. Together with nutrient loading, the consequences of climate change and coastal change pose the most serious threats to Cape Cod. Sediment management is therefore critically important for the Cape, and it is likely that beach restoration/ nourishment and shoreline protection will be an important adaptation tool for communities. However, APCC feels that it is premature at this time to identify locations for offshore sand mining for beach nourishment and shoreline stabilization, for the following reasons:

- 1) The need for sand for such uses has not been quantified, either on a Cape-wide basis or town by town;
- 2) 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.
- 3) Before sand mining activities or sites are contemplated, sediment budgets should be determined. A sediment budget for an area is based on the sediment input and output (fluxes by volume) for that area. The sediment budget is necessary to determine whether the site will support mining at a given rate over a given period of time. If an area is losing sand (negative budget), it would likely not be suitable for sand mining.
- 4) Potential negative impacts of sand mining and sand mining activities on shellfish, eelgrass, benthic habitat, water quality, other marine resources, aquaculture and human uses needs to be evaluated and weighed against the benefits.
- 5) Sediment quality (e.g., contaminants, organic content) and potential contaminant exposure pathways for aquatic organisms and human uses should be considered in evaluating options for sources of sand and gravel.

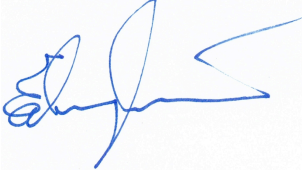
- 6) Local needs for sand and preferences for obtaining it may differ from town to town. Local input is needed for identifying sand needs and suitable sources.
- 7) Sediment transport crosses political boundaries, and sediment management requires coordination between local, regional, state and federal agencies and stakeholders. To be effective, the OMP should seek ways to increase inter-agency coordination and cooperation at the local, regional, state and federal levels to efficiently manage sand resources.
- 8) The state should first re-evaluate its coastal armoring regulations and procedures to determine what role, responsibility and contribution these policies have in creating sediment transfer challenges.

APCC recommends that a regional working group be appointed to develop recommendations for sediment management for Cape Cod that address the issues above. Tasks for the group and/or Commonwealth include: quantifying the need for sand, prioritizing high-need areas, identifying and quantifying existing sources of sand such as dredging, identifying data gaps (e.g., sediment budgets), developing a plan for obtaining sand from different sources including mining if needed, and developing local and regional plans for sediment management to promote natural sediment processes that benefit coastal resources and sustainable human uses while minimizing the need for active management and coastal armoring. Sediment management plans should characterize sediment processes, identify and prioritize resources to protect, provide guidelines for beach management, and set goals to alleviate and reduce coastal flooding and storm damage. Local input from towns, resource managers and the public should be incorporated into the plans.

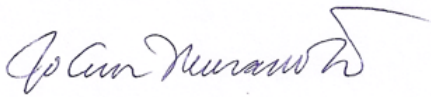
9. Sediment contaminants. The Massachusetts Ocean Management Task Force Technical Report chapter on “Sediment and Water Quality” provided recommendations concerning sediment contaminants and sediment quality. There is a large body of scientific and technical information available concerning the relationship between sediment quality and impacts on aquatic organisms, as well as sediment quality criteria that protect aquatic organisms (e.g., EPA webpage on sediment quality guidelines, NOAA Status and Trends Program webpage, Massachusetts Bays Program 2010 State of the Bays chapter on contaminants, USGS publications). Sediment contaminants are often overlooked when benthic habitat quality and water quality are being evaluated. We urge CZM to implement the recommendations in the Task Force’s report as summarized in the last paragraph of the chapter on “Sediment and Water Quality”: *“Specific management issues that must be addressed, especially in consideration of the ecological and human health risks associated with chemical contamination, are the development of contaminant guidelines for benthic habitats. These should include consideration of guidelines for the disposal of contaminated dredge materials, development of interim sediment criteria, and the routine determination of concentrations of contaminants in harvestable resource species.”*

Thank you. We greatly appreciate the opportunity to provide our comments on the update of this important ocean management plan.

Sincerely,



Edward J. DeWitt
Executive Director



Jo Ann Muramoto, Ph.D.
APCC Senior Scientist
Mass Bays Program Regional Coordinator, Cape Cod region

cc: Pamela DiBona, Executive Director, Massachusetts Bays Program
Barnstable County Coastal Resources Committee

References cited:

Cape Cod Times article, July 18, 2013, "Seawater temps too high for Pilgrim cooling," by Christine Legere.

EPA webpage on sediment quality guidelines at:
<http://water.epa.gov/polwaste/sediments/cs/guidelines.cfm> .

Massachusetts Bays Program. December 2010. State of the Bays. Published by the Massachusetts Bays Program, 84 pp.

Massachusetts Ocean Management Task Force Technical Report, "Sediment and Water Quality."

NOAA National Status and Trends Program data portal, at:
<http://oceanservice.noaa.gov/news/weeklynews/mar11/nst-data.html> .

USGS Fact Sheet 150-97, "Metal Concentrations in Sediments of Boston Harbor and Massachusetts Bay Document Environmental Change".

USGS Contaminated Sediments Database for the Gulf of Maine, OFR-02-403, Sediment Quality Guidelines and toxicity screening for estuarine sediments. About Sediment Toxicity: a NOAA State of the Coastal Environment essay on sediment toxicity.