Final Evaluation Findings

Massachusetts Coastal Zone Management Program

September 2003 through January 2007

Office of Ocean and Coastal Resource Management
National Ocean Service
National Oceanic and Atmospheric Administration
U.S. Department of Commerce

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I. EXECUTIVE SUMMARY

Section 312 of the Coastal Zone Management Act (CZMA) requires NOAA's Office of Ocean and Coastal Resource Management (OCRM) to conduct periodic evaluations of the performance of states and territories with federally-approved coastal management programs. This review examined the operation and management of the Massachusetts Coastal Zone Management Program (MCZMP) by the Massachusetts Executive Office of Environmental Affairs (EOEA), the program's designated lead agency, for the period of September 2003 through January 2007.

This document describes the evaluation findings of the Director of NOAA's OCRM with respect to MCZMP during the review period. These evaluation findings include discussions of major accomplishments as well as recommendations for program improvement. The evaluation concludes that EOEA is successfully implementing and enforcing its federally-approved coastal management program, adhering to the terms of its federal financial assistance awards, and addressing the coastal management needs identified in §303(2)(A) through (K) of the CZMA.

The evaluation team documented a number of MCZMP's accomplishments during the review period. The Communications Program used a strategic and collaborative approach to provide its target audiences with necessary information. MCZMP supported geographic information system application and data management with two staff skilled in geographic information system, remote sensing, relational database development and administration, project design, workflow analysis, information technology and technical report writing. The Wetlands Restoration Program facilitated restoration by identifying new projects, managing project teams, providing technical assistance, securing project funding, and coordinating restoration activities. The Aquatic Invasives Program focused on prevention, monitoring and rapid response through cooperative efforts such as the Marine Invader Monitoring and Information Collaborative. The No Discharge Area Program employed a locally-driven approach that encouraged communities to submit proposals for no discharge areas. The Coastal Nonpoint Source Program operated the Coastal Nonpoint Source and Coastal Pollutant Remediation Grant Programs that provided money at the local level for nonpoint source management activities and encouraged communities to implement current nonpoint source management practices and technologies. The Coastal Hazards Program provided targeted technical assistance to local coastal decision-makers and relevant state and federal agencies. MCZMP provided extensive support to the Massachusetts Coastal Hazards Commission. The Regional Coordination Program ensured that MCZMP's priority issues, programs and products directly met local needs. The Smart Growth Program provided technical assistance to municipalities in order to assist them with understanding, adopting and successfully implementing coastal smart growth techniques. The Ocean Management Program provided comprehensive support to the Massachusetts Ocean Management Initiative. MCZMP hired a full-time Dredging Coordinator who served as a single, knowledgeable

point of contact to work with federal and state agencies as well as various stakeholders and citizen groups.

The evaluation team also identified areas where MCZMP could be strengthened. OCRM's recommendations are in the form of three Program Suggestions. No Necessary Actions were identified. Recommendations address program changes, the Coastal Hazards Commission and regional coordination.

II. PROGRAM REVIEW PROCEDURES

A. OVERVIEW

NOAA's Office of Ocean and Coastal Resource Management (OCRM) began its review of the Massachusetts Coastal Zone Management Program (MCZMP) in November 2006. The evaluation process involves four distinct components:

- An initial document review and identification of specific issues of particular concern;
- A site visit to Massachusetts including interviews and a public meeting;
- Development of draft evaluation findings; and
- Preparation of the final evaluation findings, partly based on comments from the state regarding the content and timetables of recommendations specified in the draft document.

The recommendations made by this evaluation appear in boxes and bold type and follow the findings section where facts relevant to the recommendation are discussed. The recommendations may be of two types:

> **Necessary Actions** address programmatic requirements of the Coastal Zone Management Act's (CZMA) implementing regulations and of the federally-approved MCZMP. Each Necessary Action must be implemented by the specified date.
>
> **Program Suggestions** describe actions that OCRM believes would improve the program, but they are not currently mandatory. If no dates are indicated, the Massachusetts Executive Office of Environmental Affairs (EOEA) is expected to address the recommendations by the time of the next regularly-scheduled evaluation.

A complete summary of accomplishments and recommendations is outlined in Appendix A.

Failure to address Necessary Actions may result in a future finding of non-adherence and the invoking of interim sanctions, as specified in CZMA §312(c). Program Suggestions that are reiterated in consecutive evaluations to address continuing problems may be elevated to Necessary Actions. OCRM will consider the findings in this evaluation document when making future financial award decisions relative to MCZMP.

B. DOCUMENT REVIEW AND ISSUE DEVELOPMENT

The evaluation team reviewed a wide variety of documents prior to the site visit, including: (1) the federally-approved Environmental Impact Statement and program

documents; (2) financial assistance awards and work products; (3) semi-annual performance reports; (4) official correspondence; and (5) relevant publications on natural resource management issues in Massachusetts.

Based on this review and on discussions with OCRM staff, the evaluation team identified the following priority issues:

- MCZMP's major accomplishments during the review period;
- Effectiveness of EOEA in permitting, monitoring and enforcing the core authorities that form the legal basis of MCZMP;
- Implementation of state and federal consistency authority;
- Extent to which MCZMP is monitoring, reporting and submitting program changes to OCRM;
- Status of MCZMP's grant tasks and reporting;
- MCZMP's coordination with other federal, state and local agencies and programs;
- Effectiveness of local technical assistance programs in assisting coastal communities;
- Status of Massachusetts' Ocean Management Initiative and Coastal Hazards Commission;
- Status of public access opportunities in the coastal zone;
- MCZMP's approach to emerging local and regional coastal management issues;
- MCZMP's advancement of the CZMA goals set out in §303(2); and
- The manner in which the state has addressed the recommendations contained in the previous §312 evaluation findings released in 2004. MCZMP's assessment of how it has responded to each of the recommendations in the 2004 evaluation findings is located in Appendix B.

C. SITE VISIT TO MASSACHUSETTS

Notification of the scheduled evaluation was sent to MCZMP, EOEA, relevant state and federal environmental agencies, members of Massachusetts' congressional delegation and regional newspapers. MCZMP published notification of the evaluation and of the scheduled public meeting. In addition, a notice of OCRM's "intent to evaluate" was published in the *Federal Register* on January 3, 2007.

The site visit to Massachusetts was conducted on February 5-9, 2007. Ms. Rosemarie McKeeby, Evaluation Team Leader, OCRM National Policy and Evaluation Division; Ms. Diana Olinger, MCZMP Specialist, OCRM Coastal Programs Division; and Mr. Danny Clayton, Environmental Manager, Florida Coastal Management Program, formed the evaluation team.

During the course of the site visit, the evaluation team interviewed MCZMP staff, representatives of federal, state and local government agencies, and members of institutions and interest groups involved with or affected by MCZMP. Appendix C lists individuals contacted during this review.

As required by the CZMA, OCRM held an advertised public meeting on February 6, 2007, at 5:30 p.m., at the Massachusetts Office of Coastal Zone Management, Atrium, 251 Causeway Street, Boston, Massachusetts. The meeting gave members of the general public the opportunity to express their opinions about the overall operation and management of MCZMP. Appendix D lists individuals who registered at the meeting. OCRM's response to written comments submitted during the review is summarized in Appendix E.

The evaluation team gratefully acknowledges the support of MCZMP staff with site visit planning and logistics.

III. COASTAL ZONE MANAGEMENT PROGRAM DESCRIPTION

More than half of all development in Massachusetts occurs in the coastal zone, and approximately 40 percent of the state's population lives in coastal communities. The Massachusetts coastal zone extends from the three-mile limit of the state territorial sea to 100 feet beyond the first major land transportation route encountered.[1] Additionally, the coastal zone includes all of Cape Cod, Martha's Vineyard, Nantucket and Gosnold. Massachusetts' coastal zone comprises: (1) 78 coastal cities and towns that cover more than 1,500 miles of coastline; (2) 681 mapped barrier beaches with a total area of more than 18,750 acres; (3) 46,964 acres of saltmarsh; and (4) 41,514 acres of tidal flats.

NOAA's Office of Ocean and Coastal Resource Management approved the Massachusetts Coastal Zone Management Program (MCZMP) in 1978.[2] The program was designed to improve the administration of existing state laws through a networked approach to coastal management. As a networked program with a strong regional and local role, MCZMP emphasizes coordination, collaboration and partnerships to achieve effective and balanced coastal zone management. The Massachusetts Office of Coastal Zone Management serves as the lead policy and planning agency on coastal and ocean issues for the Executive Office of Environmental Affairs. A team of multi-disciplinary professionals implements MCZMP's mission to balance the impact of human activities with the protection of coastal and marine resources through planning, public involvement, education, research, and sound resource management. MCZMP focuses on the following program areas: ocean management, coastal hazards, project and permit review, smart growth, wetlands restoration, regional technical assistance and coordination, communications, data management, emergency management, aquatic invasive species, coastal water quality, port and harbor planning, shoreline public access and special natural areas protection.

MCZMP has 20 enforceable program policies and nine management principles that govern activities in the coastal zone. The program's enforceable policies are executed through the regulatory responsibilities of other state agencies, particularly the Department of Environmental Protection (DEP), which administers the state's environmental regulatory programs for the protection of water, air and land resources. DEP's programs addressing the Public Waterfront Act, the Wetlands Protection Act and water quality certification are the most relevant to MCZMP.

[1] Such as a road, highway, rail line, etc.
[2] Massachusetts was the first eastern state to receive federal approval of it coastal zone management program.

IV. REVIEW FINDINGS, ACCOMPLISHMENTS AND RECOMMENDATIONS

A. OPERATIONS AND MANAGEMENT

1. Communications

The Massachusetts Coastal Zone Management Program's (MCZMP) Communications Program has two primary goals: (1) to provide target audiences with the information required to implement coastal and ocean resource management strategies effectively, and (2) to promote MCZMP as a professional and reliable source of information about coastal and ocean issues. The Communications Team works closely with other program staff to define an audience and its needs, identify communications goals, ensure that program policies and priorities are effectively communicated, and develop an overall implementation strategy. MCZMP's communications strategies strive to make the best use of limited resources and to provide relevant information to the appropriate audience.[3] In order to support more than a dozen program areas, the Communications Team maintains three continuing products:

Website.[4] MCZMP maintains a very impressive website with more than 1,400 pages that provide background about the program, publications lists, funding and job opportunities, calendar items and contact information. The site also includes comprehensive program and project websites for priority issues such as ocean management, coastal hazards, smart growth and public access. MCZMP's comprehensive website allows the program to post and archive information for its primary audiences in a timely and cost-effective manner.

CZ Mail.[5] *CZ Mail* is a monthly electronic newsletter with a distribution list of more than 1,000 recipients. The newsletter provides information on major MCZMP initiatives, available tools and publications, upcoming workshops and events, grants, contracting opportunities, job openings, coastal legislation and other news of interest to coastal practitioners.

Coastlines.[6] *Coastlines* is an annual magazine that offers in-depth information about specific focus areas, such as hurricanes and smart growth. The magazine features professional graphics and an engaging layout. Intended to have a longer "shelf life" than typical agency newsletters, *Coastlines* allows the Communications Team to highlight MCZMP and priority coastal issues. More than 3,500 people receive the magazine.

[3] MCZMP's target audience is "practitioners," those people working to implement coastal management. In Massachusetts, practitioners typically are not coastal management "professionals," but rather local officials and individuals who work with marine-related businesses and nonprofit environmental groups.
[4] http://www.mass.gov/czm/
[5] http://www.mass.gov/czm/czmail/currentczmail.htm
[6] http://www.mass.gov/czm/coastlines/index.htm

In addition to the ongoing efforts described above, the Communications Team also develops products to provide targeted technical assistance:

Coast Guide. The Massachusetts Coast Guide to Boston Harbor and the North Shore is a full-color publication that includes 22 maps and information on approximately 400 public access sites from Salisbury to Hull. Public access sites described in the guide range from expansive beaches with parking and concession stands to more secluded areas with scenic views. The guide's large distribution resulted primarily from a MCZMP press initiative to raise awareness of coastal access issues and of the guide's availability. The program also produced a Coast Guide website[7] complete with maps, site descriptions, photos and ordering information for the printed version of the guide.

Applying the Massachusetts Coastal Wetlands Regulations: A Practical Guide for Conservation Commissions. Administration of the Massachusetts Wetlands Protection Act is one of conservation commissions' most important roles. The purpose of the wetlands guide, currently under development, is to provide conservation commissioners and agents with information about coastal processes so they can better protect key functions of dunes, beaches and other coastal resource areas. The Communications Team is providing project management and overall direction, technical writing, editing, layout and web content development services for the guide. The lead writer is a conservation commissioner and former agent, which facilitates the team's understanding of the target audience's needs.

Low Impact Development Online Resource Center. As part of the new MCZMP coastal smart growth website,[8] the Communications Team is working with the Coastal Smart Growth Coordinator to develop an easily accessible, web-based listing of low-impact development information and technical assistance materials. The team is contributing website and content development, editing and quality control and promotional services for the clearinghouse. In a related effort, the Communications Team also is supporting the development of low-impact development fact sheets, brochures and other outreach materials.

> **Accomplishment: MCZMP's Communications Program uses a strategic and collaborative approach to provide its target audiences with the information required to implement coastal and ocean resource management strategies. The program consistently offers quality technical assistance services and develops high-caliber communications products. MCZMP's exemplary website is particularly noteworthy.**

2. Geographic Information System and Data Management

MCZMP relies heavily on Geographic Information System (GIS) and relational databases to create, analyze and display data and data products. The primary goals of MCZMP's GIS and Data Management Program are to: (1) support coastal programs, policies and

[7] http://mass.gov/czm/coastguide/index.htm
[8] http://www.mass.gov/czm/smartgrowth/index.htm

decisions with data creation, analysis and map-making; (2) ensure that coastal program data are discoverable, properly supported by metadata and archived; and (3) share data and data products with other state agencies and the general public.

The GIS and Data Management Team provides MCZMP with three principal services: (1) data creation to fill information gaps; (2) analysis of spatial data within GIS; and (3) cartographic output. On core projects, MCZMP's GIS and Data Management Team works directly with project managers to identify how GIS might benefit their projects and how GIS should be used to ensure that work proceeds efficiently and effectively. The team also completes complex GIS or database projects after clearly defining goals and outcomes with project managers. Additionally, the team acts independently to add data to the MCZMP archive and to develop new tools. During the review period, the GIS and Data Management Team worked with other MCZMP program areas to develop two important products:

Human Use Geodatabase. In order to improve understanding of anthropogenic impacts to the coastal zone, MCZMP worked with contractors to identify and map common human uses of the coastal zone. Data include locations of underwater infrastructure, mooring fields, ferry routes, coastal energy facilities, dredge sites and beach renourishment.

Shellfish Suitability Mapping. MCZMP worked with the Massachusetts Department of Marine Fisheries (DMF) and NOAA's Coastal Services Center (CSC) to develop a shellfish suitability data layer. The project built on existing shellfish mapping prepared by CSC and other shellfish mapping data developed by DMF.

At the time of the evaluation site visit, the GIS and Data Management Team was working on several large, long-term projects:

Massachusetts Ocean Resource Information System (MORIS).[9] MORIS is a computer mapping program and database of linked information related to coastal Massachusetts. It includes tools to search for and display data as a map, document or image, depending on the data source. At the time of the evaluation site visit, most of the data in the CD-ROM version of MORIS were related to aquaculture and were intended to be used as a broad screening tool to help locate areas suitable for aquaculture or to manage existing aquaculture sites. For example, users can click on a map and get a list of regulations related to aquaculture that apply to that specific area. Users can then access summaries of the legislation, legislative code and information about the appropriate regulatory agency. Continuing phases of the project include creation of a dedicated internet map server and acquisition of data related to a broad range of coastal management issues. MCZMP is collaborating with DMF, the Massachusetts Department of Environmental Protection (DEP) and the Massachusetts Office of Geographic and Environmental Information (MassGIS) on this project.

[9] http://www.mass.gov/czm/morisint.htm

Seafloor Habitat Mapping: In 2003, MCZMP initiated a seafloor mapping project in conjunction with the U.S. Geological Survey to create bathymetric and side-scan sonar mosaic maps for Massachusetts' coastal seafloor.[10] At the time of the evaluation site visit, maps were either in production or completed for Ipswich Bay, North Shore, Boston Harbor, South Shore and eastern Cape Cod. MCZMP is using the data in a GIS pilot study to select a suitable habitat classification framework in order to create a series of seafloor habitat maps. The resultant maps will address the types of habitats that exist in Massachusetts' waters, the areal extent of habitat types and the types of habitats that are likely to change over time. The collection and publication of seafloor mapping and habitat will facilitate the development of ocean resource management plans.

Metadata Panel: To facilitate effective use of the vast amount and variety of data that MCZMP encounters, the program empanelled a group "…to develop, maintain and distribute high quality data in such a way that the data are secure, accessible and usable." The questions that the panel is seeking to answer include:

- What is data?
- How should data be vetted before release?
- How should data be physically distributed?
- What level of metadata is sufficient for different types of data?
- How should data be archived to ensure safety and future compatibility?

Accomplishment: MCZMP has placed a high priority on data management. The program has supported this priority with two staff skilled in GIS, remote sensing, relational database development and administration, project design, workflow analysis, information technology and technical report writing. As a result, MCZMP has developed innovative data management and information technology tools that increase program efficiency.

3. Grants Management

NOAA's Office of Ocean and Coastal Resource Management (OCRM) awards grants to federally-approved coastal management programs to assist in the implementation and enhancement of those programs. During the review period, MCZMP satisfactorily managed its federal funding, achieved desired results from funded tasks and built upon established projects. OCRM also requires coastal management programs to submit semi-annual performance reports for each grant; the reports present consolidated information about accomplishments related to a program's financial assistance awards. MCZMP submitted performance reports containing necessary information on schedule during the review period.

[10] http://woodshole.er.usgs.gov/project-pages/coastal_mass/html/current_map.html

4. Program Changes

When a coastal management program makes changes to its enforceable policies, it is required to submit the changes to OCRM for review and approval. This requirement ensures that changes are consistent with the minimum approval criteria in the Coastal Zone Management Act (CZMA). It also provides OCRM and the public with an opportunity to assess whether the changes, if approved, would trigger the National Environmental Policy Act. Additionally, the requirement facilitates accurate application of federal consistency authority. Section 312 evaluations examine: (1) whether the coastal management program made changes to its program document during the review period, and (2) whether the program submitted the changes to OCRM for processing as program amendments or routine program changes (RPCs). OCRM's regulations define amendments as substantial changes in one or more of the following coastal management program areas:

- Uses subject to management;
- Special management areas;
- Boundaries;
- Authorities and organization; and
- Coordination, public involvement and the national interest.

An RPC is a further detailing of a coastal management program that does not result in substantial changes to the program.

During the evaluation site visit, MCZMP noted it was strategically reviewing its enforceable policies and other areas of the coastal zone management program plan by identifying specific areas needing improvement and making revisions accordingly. The goals of the review are to: (1) update policies as needed; (2) improve standardized presentation of relevant policies; and (3) enhance both project proponents' and reviewers' understanding of enforceable policies. Using its recent Enhancement Grants Program Assessment and Strategy,[11] MCZMP selected habitat and energy policies as improvement areas and began efforts to update the habitat policies. The evaluation team agreed that MCZMP's strategic approach to reviewing its enforceable policies is pragmatic, important and timely. Following MCZMP's review, the program will need to work with OCRM to identify and to develop a reasonable schedule for submitting any necessary program changes. OCRM recognizes that updating program changes is a time- and resource-intensive endeavor. Nevertheless, in addition to being a statutory requirement of the CZMA, formal incorporation does have inherent value.

[11] The Coastal Zone Enhancement Grants Program requires each state periodically to: (1) assess its management program with respect to nine enhancement areas; (2) identify priority management needs; and (3) develop a new multi-year strategy.

1. Program Suggestion: OCRM encourages MCZMP to continue its strategic approach to reviewing its enforceable policies and other areas of the coastal zone management program plan. Following the review, MCZMP should work with OCRM to identify and to develop a reasonable schedule for submitting any necessary program changes.

B. PUBLIC ACCESS

MCZMP's Shoreline Public Access Program seeks to improve public access to coastal waters by: (1) publicizing existing access sites; (2) reclaiming historic rights-of-way; and (3) expanding access through trails. The program provides access advisory services and technical assistance to government agencies, nongovernmental organizations and the public. The Shoreline Public Access Team's activities fall into three broad categories: (1) reviewing tidelands projects; (2) supporting local access initiatives; and (3) tracking coastal access sites.

DEP regulates development in state tidal waters and formerly filled areas, on which property rights are held in trust by the state for the benefit of the public. Regulations promulgated in 1990 require that almost every license DEP issues for shorefront property development, from simple piers to elaborate mixed-use complexes, includes conditions that establish a lateral accessway at the water's edge for public use. MCZMP worked with DEP to authorize the regulations in 1990, and the program has continued its partnership with the department to implement the tidelands regulatory system. MCZMP's Shoreline Public Access Program has prepared model license conditions and outreach and training materials to increase public understanding of the regulations' access-related components. Additionally, MCZMP's Tidelands Policy Coordinator and Regional Coordinators review individual project applications to examine required access improvements.

MCZMP also facilitates public access through its responsibility for oversight of municipal harbor plan preparation.[12] Approved plans are binding on DEP's Chapter 91 licensing decisions, and they often contain detailed, site-specific stipulations meant to enhance physical or visual access to the water. For example, several approved plans include a comprehensive blueprint for a continuous "harborwalk" along the majority of the harborfront. Harborwalks range in length from several hundred feet in Edgartown to nearly 43 miles in Boston.

During the review period, the Shoreline Public Access Program established the "State Register of Protected Coastal Accessways," a GIS database for tracking historic shoreline access entitlements secured for the public. Such entitlements include accessways made available through: (1) government or nonprofit land ownership, and (2) easements, rights-of-way, Chapter 91 license conditions, or other encumbrances on private shorefront property. The development of the register's database led to publication of *The Massachusetts Coast Guide to Boston Harbor and the North Shore*, previously described

[12] Municipal harbor plans must be approved by the Secretary of the Executive Office of Environmental Affairs.

in Section IV-A-1 of this document. Additionally, the Shoreline Public Access Program, in cooperation with MassGIS, created a website[13] that provides maps and attribute descriptions of all publicly-accessible waterfront properties owned by government agencies and non-profit land conservation organizations.

C. COASTAL HABITAT

1. Wetlands Restoration

Massachusetts has lost approximately one-third of its pre-colonial era wetlands to historic human impacts, and many of the state's remaining wetlands are degraded. MCZMP's Wetlands Restoration Program facilitates restoration by identifying new projects, managing project teams, providing technical assistance, securing project funding and coordinating restoration activities. The program works with a large network of federal, state and local partners to support restoration activities and to complete restoration projects. The program provides the following core services:

- Project Assistance: The Wetland Restoration Program's project managers assist partners by providing scientific and technical guidance, managing contracts and consultants, preparing grant applications and acquiring project funding, organizing and managing project participants, reviewing project designs and permit applications, and addressing challenges encountered throughout project development and construction.

- Planning: The program prepares regional wetlands restoration plans that help partners identify, assess and prioritize restoration opportunities. MCZMP's Restoration Planner works closely with partners to advance potential restoration projects; subsequently, promising projects are directed to project managers for full development. The program also tracks all coastal restoration projects using a linked GIS and database system.

- Grants and Technical Services: The Wetlands Restoration Program provides $400,000 annually in technical assistance through pre-qualified consultants who are assigned to complete technical tasks that support priority projects. Additionally, the program offers $200,000 annually in competitive grants to fund project construction and site monitoring.

- Monitoring: One of the program's top priorities is restoration site monitoring. Through a combination of grants and direct assistance, the Wetlands Restoration Program supports regional nonprofit groups that use volunteers to monitor restoration projects. For example, the program funds volunteer training to monitor sites using standard protocols for parameters such as vegetation and salinity. Data are entered into a universal monitoring database for analysis and

[13] http://www.mass.gov/czm/access_locator.htm

reporting. In 2007, the Wetlands Restoration Program will assist with development of a standardized reporting system for monitoring data.

- Coordination and Policy Development: The Wetlands Restoration Program leads Massachusetts' Habitat Restoration Network and Partnership to Restore Aquatic Habitats. The goal of these groups is to enhance the coordination and collaboration of all organizations involved in aquatic habitat restoration throughout the state. The program also works closely with regulators and policymakers to streamline the regulatory process and to increase habitat restoration capacity.

Several examples of the Wetlands Restoration Team's accomplishments during the review period are highlighted below.

Restoration Project Completions. In 2006, four restoration projects encompassing 30 acres of wetlands were completed. Since the Wetlands Restoration Program's inception in 1994, the program has helped its partners complete 50 restoration projects comprising more than 580 acres of wetlands.

Funding Obtained. In 2006, projects supported by the Wetlands Restoration Program secured more than $3 million in non-state funding for development and implementation. In January 2007, the program received a $350,000 National Coastal Wetlands Grant from the U.S. Fish and Wildlife Service (USFWS) for the 60-acre Sesuit Creek Restoration Project in Dennis.

Policy Development. At the time of the evaluation site visit, the Wetlands Restoration Program was collaborating with state regulators to develop a formal policy and guidance document that clarifies regulatory requirements for coastal wetland restoration. The goal of the policy is to increase consistency in permitting across all regions and to establish recommendations for streamlining the process to reduce both time and cost.

Accomplishment: MCZMP's Wetlands Restoration Program facilitates restoration by identifying new projects, managing project teams, providing technical assistance, securing project funding and coordinating restoration activities. The program has effectively used partnerships to achieve its goals.

2. Aquatic Invasive Species

Aquatic Invasive Species (AIS) are non-native species that threaten native species, ecological stability and uses of affected waters. The primary goals of MCZMP's AIS Program are to: (1) prevent non-native species introductions through education and outreach; (2) monitor existing AIS populations and detect new arrivals; and (3) promote a rapid response to new introductions. The AIS Program collaborates with other MCZMP program areas, community groups, nonprofit organizations, and state and federal government agencies. The AIS Program also works with and provides leadership for several intergovernmental and nongovernmental groups, such as the Northeast Aquatic

Nuisance Species Panel, the Marine Invader Monitoring and Information Collaborative (MIMIC), and the AIS Working Group. To achieve its goals, the AIS Program engages in the following ongoing initiatives:

- MIMIC: The AIS Program leads detection and monitoring efforts by training interested groups to use a standardized monitoring protocol. Salem Sound Coastwatch developed MIMIC's standardized monitoring protocol with MCZMP technical assistance and financial support. The protocol continues to be updated to ensure that the information it yields is useful to state managers and decision-makers, the scientific community and others.

- Early Detection and Rapid Response: The eradication of an invasive species once it is established is often either impossible or prohibitively expensive. Therefore, the AIS Program has begun developing a rapid response protocol. Key components of the protocol that were completed during the review period include: (1) a reporting network that serves as a quick reference for taxonomic questions and primary contacts when target species are detected; and (2) a species evaluation questionnaire that helps managers assess the potential impacts and manageability of a species of concern.

In addition to the continuing work described above, the AIS Program also develops specific products to provide targeted technical assistance:

Marine Invader Tracking Information System (MITIS).[14] The AIS Program and the Massachusetts Institute of Technology's (MIT) Sea Grant Program collaborate on MITIS, which serves as the single data system for MIMIC and several other monitoring groups. Data is entered into MITIS through online forms. The AIS Program and MIT Sea Grant are developing several new features for the system, including search functions for species sightings, fact sheets, maps of species sightings and population trend information.

Invasive Species Identification Cards.[15] In order to improve detection and monitoring, MCZMP provided funding to Salem Sound Coastwatch to develop 20 identification cards for Gulf of Maine marine invasive species. Thirteen of the 20 invasive species are established in the region, and seven are considered potential invaders.

Economic Impacts of AIS. While it is clear that AIS have had negative economic impacts in Massachusetts, these impacts have not been quantified, particularly in economic sectors like tourism and recreation, commercial seafood and recreational fishing. The AIS Program is seeking funding and collaborative opportunities to improve the economic information available regarding the impacts of AIS to state managers and decision-makers.

[14] http://chartis.mit.edu/mitis/
[15] http://www.mass.gov/czm/invasives/monitor/id.htm

Accomplishment: MCZMP's AIS Program focuses on prevention, monitoring and rapid response through collaborative efforts such as MIMIC. The program has significantly contributed to the development of innovative tools such as MITIS and invasive species identification cards.

D. WATER QUALITY

1. NPDES Permit Reviews

MCZMP's National Pollutant Discharge Elimination System (NPDES) Program reviews all NPDES permits issued jointly by the U.S. Environmental Protection Agency (USEPA) and DEP for consistency with the coastal program's enforceable policies. The NPDES Permit Review Program evaluates draft permits to ensure that: (1) chemical constituents do not violate state water quality standards; (2) plumes do not stretch bank to bank or otherwise impede anadromous fish migration; (3) discharge constituents do not adversely affect populations inhabiting receiving waters; and (4) coastal habitats are not degraded. The program typically reviews 10-20 permits annually, including permits for oil terminals, power plants, wastewater facilities, desalination plants, industrial facilities, laboratories and aquaculture facilities. When reviewing permits for power and desalination plants, the NPDES Permit Review Program examines each project's discharge as well as its proposed intake structures to determine whether the best available technology has been incorporated into the project. The program also periodically reviews general permits that address stormwater, small wastewater facilities and a range of other commercial and industrial facilities. Additionally, the NPDES Permit Review Program collaborates with its agency partners to develop monitoring plans for large projects. For example, during the review period, the program:

- Helped write supporting documentation for a permit that required closed-cycle cooling at the Brayton Point Power Station;[16]
- Reviewed NPDES permits and supporting documents for eight coastal power plants;
- Secured additional protections for anadromous fish at two proposed desalination plants and two coastal power plants;
- Collaborated with USEPA and DEP to tighten metals limitations and monitoring requirements in USEPA's Multi-sector General Permit at boat building facilities and marinas; and
- Worked with DEP and MassPort to identify and remediate sources of bacteria found in stormwater outfalls.

2. No Discharge Areas

MCZMP's No Discharge Area (NDA) Program employs a locally-driven approach that encourages communities to submit proposals for NDAs. Such a strategy is well-advised

[16] Changing "once-through" cooling to air-cooled turbines resulted in a 96 percent reduction in the plant's water use.

given that the degree to which an NDA achieves its intended goal is dependent upon the local community's commitment to educate boaters and to provide them with necessary resources. During the site visit, the evaluation team met with stakeholders who participated in NDA designations. These stakeholders thoroughly endorsed the NDA Program's locally-driven approach to designation.

When a community indicates its interest in designating an NDA, the NDA Program and USEPA meet with the sponsoring organization or municipality. Following receipt of an application, the program reviews it for the elements required by federal law and to ensure that pumpout facilities are "adequate and reasonably available" to all boaters in the proposed area. When the NDA Program completes its review, it forwards the application to USEPA for approval. The NDA Program offers technical assistance to communities throughout the application process. MCZMP is also able to fund pumpouts through its Coastal Pollution Remediation (CPR) Grants.

During the review period, the NDA Program developed a comprehensive webpage that describes the NDA application process.[17] The program also designed an NDA application template[18] to help applicants with the process. In addition to assisting applicants, the template facilitates the review process by standardizing the information presented. Shortly before the evaluation site visit, MCZMP and USEPA designated all coastal waters of Plymouth, Kingston and Duxbury as NDAs. At the time of the site visit, the program was working with: (1) the municipalities of Cohasset, Scituate and Marshfield to designate an NDA in southern Massachusetts; (2) Salem Sound Coastwatch to establish an NDA for the waters of Salem Sound; and (3) the newly-formed Cape Cod Council to develop an NDA for all of Cape Cod Bay.

> **Accomplishment: MCZMP's NDA Program employs a locally-driven approach that encourages communities to submit proposals for NDAs. This practical strategy ensures that local communities are committed to the success of the NDA.**

3. Coastal Nonpoint Source Pollution

In 1990, Congress established the Coastal Nonpoint Source Pollution Control Program (CNPCP), which works within the framework of existing Coastal Zone Management Programs developed under the CZMA and Nonpoint Source Pollution Management Programs developed under the Clean Water Act. Two of the CNPCP's key purposes are to strengthen the links between federal and state coastal zone management and water quality programs and to enhance state and local efforts to manage land use activities that degrade coastal waters. NOAA and USEPA must approve each state's coastal nonpoint program.

MCZMP's Coastal Nonpoint Source Pollution (NPS) Program received full federal approval in October 2001. The program uses NPS management grants, technical

[17] http://www.mass.gov/czm/nda.htm
[18] http://www.mass.gov/czm/ndatemplate.htm

assistance and interagency coordination to address NPS pollution in Massachusetts. The Coastal NPS and CPR Grant Programs form the core of the Coastal NPS Program. These grants provide opportunities to fund NPS management activities and to encourage grant recipients to implement the latest NPS management practices and technologies.

- Coastal NPS Grant Program: The Coastal NPS Program funds a broad array of projects, such as watershed-scale NPS assessments, outreach and education, and implementation of non-structural NPS management practices. During the review period, the program awarded more than $400,000 to 19 projects. Examples include:

    - Stormwater Financing Solutions (Municipalities of Medford and Franklin): This project is allowing the municipalities of Medford and Franklin to evaluate their ability to: (1) assess fees for stormwater management services; and (2) set up separate stormwater utilities to manage all stormwater operation, maintenance and improvement projects.

    - Next Steps to Salem Sound NDA (Salem Sound Coastwatch): This project will implement recommendations from an assessment of boat waste disposal practices by: (1) increasing the visibility of pumpout facilities; and (2) developing a comprehensive marina outreach program to reduce the discharge of sanitary waste into Salem Sound.

- CPR Program: The Coastal NPS Program annually awards CPR grants to coastal watershed municipalities to assess and to mitigate stormwater pollution from paved surfaces or to install pumpout facilities. During the review period, the program awarded more than $1.67 million to 21 projects. Examples include:

    - Farley Brook Stormwater Assessment (Town of Ipswich): Farley Brook runs under the center of downtown Ipswich and is suspected of being a primary contributor of bacterial contamination to the town's shellfish beds. The town will use existing data, storm drain mapping efforts, and water quality sampling to document sources and to design appropriate stormwater best management practices.

    - Hall's Corner Best Management Practices (BMP) Construction (Town of Duxbury): Based on an assessment conducted under a Coastal NPS Grant, Duxbury will complete final design plans and construct a series of stormwater infiltrators at a downtown pollution "hot spot."

Because the majority of nonpoint management measures are implemented at the local level, providing timely and relevant technical assistance to local governments and other stakeholders is critical to the Coastal NPS Program's success. The program identifies technical assistance needs by working directly with local entities and organizations, often through the Coastal NPS and CPR Grant Programs. During the review period, the

program emphasized technical assistance regarding stormwater, marinas and septic systems, consistent with OCRM's priorities. Examples are described below.

CPR Stormwater BMP Operation and Maintenance Performance Evaluation. The Coastal NPS Program contracted with the Horsley Witten Group to inspect all BMPs installed with CPR funding over the last five years. The report[19] culminates in a set of recommendations for improved siting, design and maintenance of stormwater BMPs.

Wellfleet Harbor Vessel Washdown Assessment. Funded through a Coastal NPS Grant, the assessment evaluated the town of Wellfleet's needs for a pressure-washing facility based on the number of boats to be washed, industrial waste disposal options and available technologies. This report will be used as the basis for the forthcoming *Massachusetts Pressure Washing Handbook.*

Septic Manager Database. Through a Coastal NPS Grant, the program contracted with the Merrimac Valley Planning Commission to develop a Microsoft Access database for tracking age, capacity, inspection history and other operational factors related to septic systems. The commission has trained four towns in the use of the system, which has also been delivered to Health Agents throughout the state.

Accomplishment: MCZMP's Coastal NPS Program operates Coastal NPS and CPR Grant Programs that provide money at the local level for NPS management activities and encourage communities to implement current NPS management practices and technologies.

E. COASTAL HAZARDS

1. Coastal Hazards Program

The priorities of MCZMP's Coastal Hazards Program are to develop state policy, provide technical assistance, and create tools, maps and other data about the geologic features and processes that characterize coastal hazards within the coastal zone. The Coastal Hazards Program's target audiences include: (1) local coastal managers responsible for implementing coastal hazards strategies, such as building inspectors, Conservation Commissioners, and representatives of planning and health boards, and (2) relevant state environmental agencies. Examples of priority products developed by the program during the review period follow.

South Shore Coastal Hazards Characterization Atlas.[20] This web-based pilot project characterizes shoreline variables that typically inform the review of projects vulnerable to coastal hazards. The atlas is part of MCZMP's state-wide effort to make its technical assistance program more efficient by providing local officials with direct access to the information necessary to approach local project reviews and decision-making. There are plans to expand map coverages to additional regions as funding permits.

[19] http://www.mass.gov/czm/docs/pdf/cpr/cpr_bmp_report.pdf
[20] http://www.mass.gov/czm/hazards/ss_atlas/atlas.htm

South Shore Coastal Infrastructure Inventory and Assessment Project. This project, completed with financial support from the Massachusetts Department of Conservation and Recreation (DCR), builds on the work of the *South Shore Coastal Hazards Characterization Atlas*. The objectives of the project were to: (1) inventory and assess the condition of the state's coastal hazards protection infrastructure with a standard methodology; and (2) develop a working database of coastal structure information, with appropriate GIS files, that can be expanded to include future work covering the remainder of the coast and that can be used by the state to plan and budget for maintenance, repair and reconstruction needs.

Velocity Zone Delineation Methodology. The Coastal Hazards Program is working cooperatively with the Federal Emergency Management Agency (FEMA) to develop a methodology to delineate the boundaries of velocity zones along coastal dunes in four North Shore communities. A technical report describing the methodology to delineate the landward boundary of velocity zones for inclusion on updated FEMA maps was a significant component of the project. FEMA approved the methodology and will use the dune delineations conducted for this project to update portions of the flood insurance rate maps in each of the four communities.

Accomplishment: MCZMP's Coastal Hazards Program provides targeted technical assistance to local coastal decision-makers and relevant state and federal agencies. The program has developed innovative products such as the *South Shore Coastal Hazards Characterization Atlas* and the South Shore Coastal Infrastructure Inventory and Assessment.

2. Coastal Hazards Commission

With more than 1,500 miles of coastline, Massachusetts experiences regular damage from relatively minor storms and is particularly vulnerable to northeasters and hurricanes. To address these issues, the Massachusetts State Legislature asked the Executive Office of Environmental Affairs (EOEA), through MCZMP, to launch a Coastal Hazards Commission (CHC). The Legislature charged the Commission with reviewing existing coastal hazards practices and policies, identifying data and information gaps, and drafting recommendations for administrative, regulatory and statutory changes where appropriate.

During the review period, MCZMP chaired and staffed the CHC, which held its first meeting in February 2006. Commission members received background information on coastal hazards at meetings in March, April and May. To assist with recommendation development, the CHC formed five working groups: (1) coastal hazards data and tools; (2) policies; (3) planning and regulations; (4) structural measures to protect coastal development; and (5) public coastal infrastructure. In May, the Commission held five forums that allowed the public to express their thoughts about storms, flooding, erosion and sea level rise. When the CHC met in June and July, members discussed public

concerns and 29 draft recommendations, which were subsequently released in August.[21] Public comments on the draft recommendations were presented to the Commission in September and addressed by the working groups during the fall. The working groups also drafted short implementation plans for each of the recommendations.[22]

The CHC is also responsible for producing a report that will include a 20-year Coastal Infrastructure and Protection Plan for the South Shore. The plan will focus on prioritization of coastal structure maintenance and repairs necessary to protect the state's coastal natural resources and ensure the safety of both human life and property. MCZMP drafted the report. After public review and comment, the report will be filed with the Clerk of the House of Representatives and the Clerk of the Senate. Twenty-year Coastal Infrastructure and Protection Plans for the remaining coastal regions of the Commonwealth will be completed by November 2007.

Accomplishment: MCZMP's Coastal Hazards Program provides extensive support to the Massachusetts Coastal Hazards Commission.

Given that MCZMP is the potential lead on 14 of the CHC's 29 recommendations, the evaluation team and the program discussed the merits of hiring a Coastal Hazards Coordinator. Such a position would assist in final report development, oversee implementation of the Commission's recommendations, and ensure that state policy is coordinated between key agencies. As MCZMP is likely to continue its extensive involvement in the work of the CHC, the evaluation team agreed that a Coastal Hazards Coordinator would likely be a useful addition to MCZMP.

2. Program Suggestion: OCRM encourages MCZMP to remain involved in the work of the Coastal Hazards Commission. As the Commission moves toward implementation of its recommendations, MCZMP should assess the value and feasibility of adding a Coastal Hazards Coordinator to its staff.

F. COASTAL DEPENDENT USES AND COMMUNITY DEVELOPMENT

1. Regional Coordination

Massachusetts is a home rule state. Thus, regional coordination is a critical component of MCZMP. The primary goals of the Regional Coordination Program are to: (1) serve as a liaison between federal and state programs and municipal authorities on key initiatives within the coastal zone; (2) provide technical assistance to coastal communities when needed; (3) lead MCZMP's project reviews and comment on development projects; and (4) facilitate local initiatives, such as harbor planning and restoration, consistent with MCZMP goals. The Regional Coordination Program ensures that MCZMP's priority programs and products meet local needs. It also strengthens local program implementation.

[21] http://www.mass.gov/czm/chc/recommendations/recommendations.htm
[22] In February 2007, following the end of the current review period, the CHC reviewed and adopted the draft recommendations and implementation plans.

MCZMP has divided Massachusetts' 78 coastal towns and cities into five regions: North Shore, Boston Harbor, Cape Cod and Islands, South Shore and South Coastal.[23] Regional Coordinators live in the regions they serve and have extensive familiarity with the region's coastal resources, municipal officials and staff, environmental organizations and coastal issues. They are well-versed in state and federal regulatory programs as well as local governmental processes. Regional Coordinators serve as the primary point of contact for municipal officials, environmental advocacy groups and the public. They filter requests for technical assistance and information, involve staff from MCZMP's other program areas as necessary, and support core coastal management efforts throughout the regions. The Regional Coordinators also deliver MCZMP's products and services to local coastal managers and decision-makers. Examples of several of the key services that the Regional Coordination Program provides are described below.

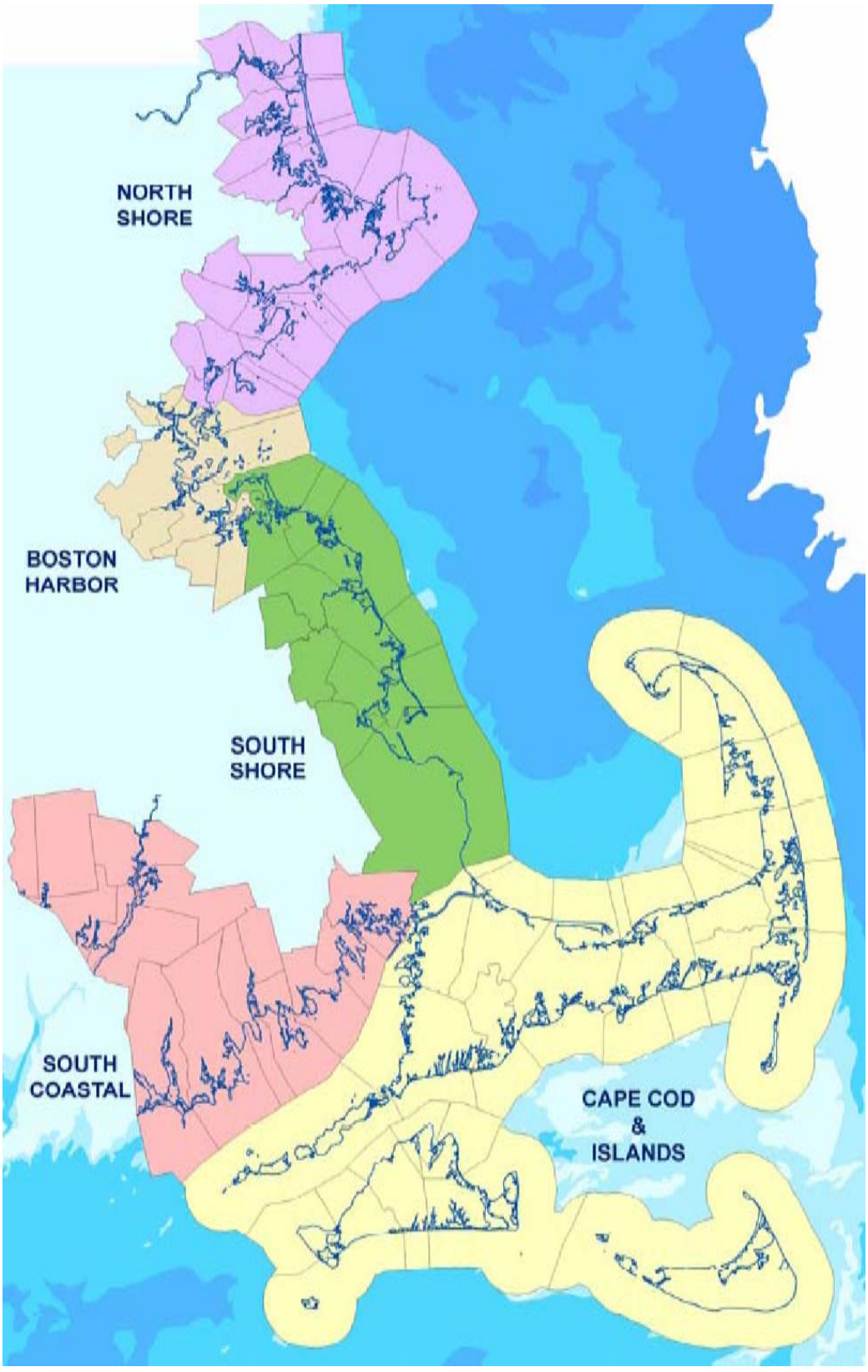
- Project Review: Regional Coordinators review and prepare comment letters for all Massachusetts Environmental Policy Act (MEPA) documents associated with proposed development projects within the coastal zone. Projects range from large energy infrastructure projects, such as liquefied natural gas (LNG) and wind-energy facilities, to small seawall or residential pier construction. Comment letters are often the vehicle through which MCZMP's policies are applied to projects. Regional Coordinators also review federal consistency determinations.

- Municipal Cooperation: Regional Coordinators cooperate with municipal officials to ensure that all projects are consistent with MCZMP's policies and have a high likelihood of success. Examples of project coordination areas include: port and harbor plans, Area of Critical Environmental Concern management plans and wetland restoration projects.

- Network Meetings: Some Regional Coordinators organize and coordinate regular network meetings of Conservation Commissioners and Health Agents. Network meetings provide a mechanism to: (1) deliver MCZMP's technical assistance and products, and (2) to encourage communication between municipal staff confronting similar issues and challenges. For example, the North Shore Regional Networks are informal groups that meet monthly. Each meeting begins with updates on job postings, new regulations or policies, and grant opportunities. Updates are followed by a presentation on a topic of interest to the network. Presentations to Conservation Commissioners usually focus on regulatory, policy, or technical issues related to wetlands or open space protection, while presentations to Health Agents are typically related to septic system regulation and permitting. At the end of the meeting, network participants engage in a question and answer session to discuss particular issues of regulatory concern. Additionally, both networks offer list-serves that allow members to consult with each other, as well as with representatives of DEP, the Massachusetts Association of Conservation Commissions and various nonprofits.

[23] See Figure 1.

Figure 1. Massachusetts' Five Coastal Regions.



During the review period, the Regional Coordination Team worked closely with other MCZMP programs and contributed to the following products:

NDAs. NDAs were designated in Plymouth, Duxbury, Kingston, Barnstable, Buzzards Bay, Waquoit Bay, Chatham, Harwich, Three Bays/Centreville Harbor, Wellfleet Harbor and Nantucket.

MEPA Comment Letters. Regional Coordinators submitted MEPA comment letters for major infrastructure projects such as Weaver's Cove LNG, Northeast Gateway LNG, Neptune LNG, Cape Wind, South Coast Wind, Siasconsett Sand Mining, several large sewer extension and treatment plant upgrade projects, and others.

Workshops. Regional Coordinators conducted workshops on smart growth, low impact development (LID), transfer of development rights (TDR), FEMA Coastal Construction Manual, FEMA flood insurance rate maps' flood zone determinations, coastal erosion management, land management, and others.

Accomplishment: The Regional Coordination Program is a hallmark of MCZMP. The program ensures that MCZMP's priority programs and products directly meet local needs. The program's emphasis on regional coordination and technical assistance increases local capacity and strengthens local program implementation.

As described above, Massachusetts' 78 coastal towns and cities are divided into five regions. At the time of the evaluation site visit, the Boston Harbor Regional Coordinator position had been vacant for some time. The MCZMP Acting Director noted that the program is actively working to fill the position. Given the critical role of MCZMP's Regional Coordinators, the evaluation team encouraged the program to fill the position expeditiously.

3. Program Suggestion: OCRM strongly encourages MCZMP to fill the Boston Harbor Regional Coordinator position with a qualified individual as soon as possible.

2. Smart Growth

MCZMP's Smart Growth Program has three primary goals: (1) assist local officials to understand, adopt and successfully implement coastal smart growth techniques that will result in change; (2) empower public and private partners to assist municipalities directly; and (3) ensure consistency with MCZMP program areas and regions as well as with state and federal sustainability principles. The Smart Growth Program's target audience is coastal management practitioners. The program also works with development and real estate industry professionals who are responsible for design and location of development, choice of BMPs and creative marketing. Additionally, the Smart Growth Program trains nonprofit environmental groups, such as watershed associations, that advocate locally for smart growth. In order to achieve its goals, the Smart Growth Program employs a multi-

tiered approach: (1) catalogue, develop and distribute planning, technical, regulatory and outreach tools for growth management that protects coastal resources; (2) build coalitions that pool financial and technical resources; and (3) involve other MCZMP program areas as well as state and federal agencies in smart growth initiatives.

At the time of the evaluation site visit, the Smart Growth Program was engaged in four major initiatives:

- LID results from a site planning process that first identifies critical natural resources and then determines appropriate areas for development. LID also incorporates a range of BMPs that preserve the natural hydrology of the land. During the review period, the Smart Growth Program held 12 LID conferences. Subsequently, 14 communities passed LID bylaws.

- Open Space Residential Design (OSRD) begins with identification of conservation value areas on the development site. Residential units are subsequently placed on the site in a manner that avoids the conservation areas but provides residents with scenic views. Roads and walkways that align with the natural topography of the site are then built. Finally, lot lines are drawn around the units. The conservation value of the open space preserved through this technique is often greater than that of traditional cluster subdivisions. During the review period, the Smart Growth Program held 12 OSRD conferences. Subsequently, 25 communities passed OSRD bylaws.

- TDR is a regulatory strategy that harnesses private market forces to accomplish two smart growth objectives. First, open space is permanently protected for water supply, agricultural, habitat, recreational, or other purposes through the transfer of some or all of the development that would otherwise have occurred in these sensitive places to more suitable locations. Second, other locations, such as city and town centers or vacant and underutilized properties, become more vibrant and successful as the development potential from the protected resource areas is transferred to them. Communities using TDR shift development densities within the community to achieve both open space and economic goals. During the review period, the Smart Growth Program launched a TDR Initiative in partnership with the Buzzards Bay National Estuary Program. Attendance at the TDR Initiative's first workshop exceeded registration limits. Planners from the Towns of Plymouth and Falmouth presented successful case studies at the workshop.

- "No adverse impact" is an approach to floodplain management promoted by the Association of State Floodplain Managers and FEMA that includes a set of principles for designing or evaluating development activities. MCZMP is hosting a NOAA Coastal Management Fellow whose "no adverse impact" project is titled, "Smart Growth in Coastal Floodplains." The Fellow is collaborating with MCZMP staff to develop materials on strategic planning, regulatory revisions, policy changes and outreach for local officials.

Examples of the Smart Growth Program's products during the review period are described below.

Development and Real Estate Industries LID Conference. Through a new partnership with the National Association of Home Builders Research Center, Home Builders Association of Massachusetts and the National Association of Industrial and Office Parks, the Smart Growth Program planned the state's first LID conference for the development and real estate industries. Scheduled for April 2007, the event will include an LID vendor fair with 30 exhibits. At the time of the site visit, the Smart Growth Program expected attendance to reach approximately 400, based on registration interest and projections.

State Stormwater Standards Update. DEP updated Massachusetts' state stormwater standards and policy to include and to promote LID. The Smart Growth Program promoted this effort through the Stormwater Advisory Committee.

Smart Growth Toolkit.[24] The Smart Growth Program co-authored EOEA's Smart Growth Toolkit, a CD that provides materials to promote greater understanding of smart growth measures. The toolkit also includes the information necessary to customize the techniques to local circumstances. The CD is a visual resource with extensive images, graphics, maps and diagrams. It includes LID, OSRD, TDR and traditional neighborhood development concepts, case studies, slideshows suitable for both the general public and practitioners, and model bylaws and regulations.

Accomplishment: MCZMP's Smart Growth Program provides technical assistance to municipalities in order to assist them with understanding, adopting and successfully implementing coastal smart growth techniques. The program has significantly matured during the review period. Stakeholders frequently request information about the program, and workshops and conferences regularly reach or exceed their registration limits.

3. Port and Harbor Planning

MCZMP's Port and Harbor Planning Program's two primary goals are to: (1) help ensure that waterfront areas grow in a safe, environmentally sound and economically prosperous manner, and (2) balance potentially competing uses within a harbor or port to maximize public benefits. Program strategies include promoting meaningful public access to the water's edge and encouraging the creation or expansion of water-dependent facilities in developed port and harbor areas. This approach maximizes the value of developed ports and ensures that businesses requiring close proximity to harbors have a place to flourish. Success, however, often rests on the ports' navigability and thus is closely linked to navigational dredging activities.

[24] http://www.mass.gov/envir/sgtk.htm

The Port and Harbor Planning Program works mainly with local municipal officials. Port and harbor planning processes generally include significant stakeholder involvement from property and business owners in and around the harbor, as well as from the general public. The program also works closely with the staff of DEP's Waterways Regulation Program on state-approved harbor plans due to the potential impact on projects subject to DEP jurisdiction under the Public Waterfront Act.

The Port and Harbor Planning Program developed a set of regulations that articulate the steps and standards that must be met in order for a harbor plan to receive formal state approval. These steps and standards are necessary because state-approved harbor plans have the ability to modify certain dimensional and use standards and to guide the application of other requirements within the state's Public Waterfront Act regulations. At the time of the evaluation site visit, many of the major ports in Massachusetts, including Boston, New Bedford/Fairhaven, Fall River, Salem and Gloucester, had either completed a state-approved harbor plan or were in the process of developing one. Smaller harbors that do not wish to customize the statewide regulatory controls established under the Public Waterfront Act may choose to seek state approval of their harbor plans. The Port and Harbor Planning Program provides these less formal harbor planning activities with assistance and guidance as needed. In certain cases, such efforts may still result in a relatively comprehensive harbor plan that addresses the majority of the harbor's issues. At other times, harbor planning activities might only address a single issue and take the form of a limited-scope harbor management plan, such as a pier or mooring management plan.[25]

During the review period, the Port and Harbor Planning Program assisted many harbors with planning activities. Several examples follow.

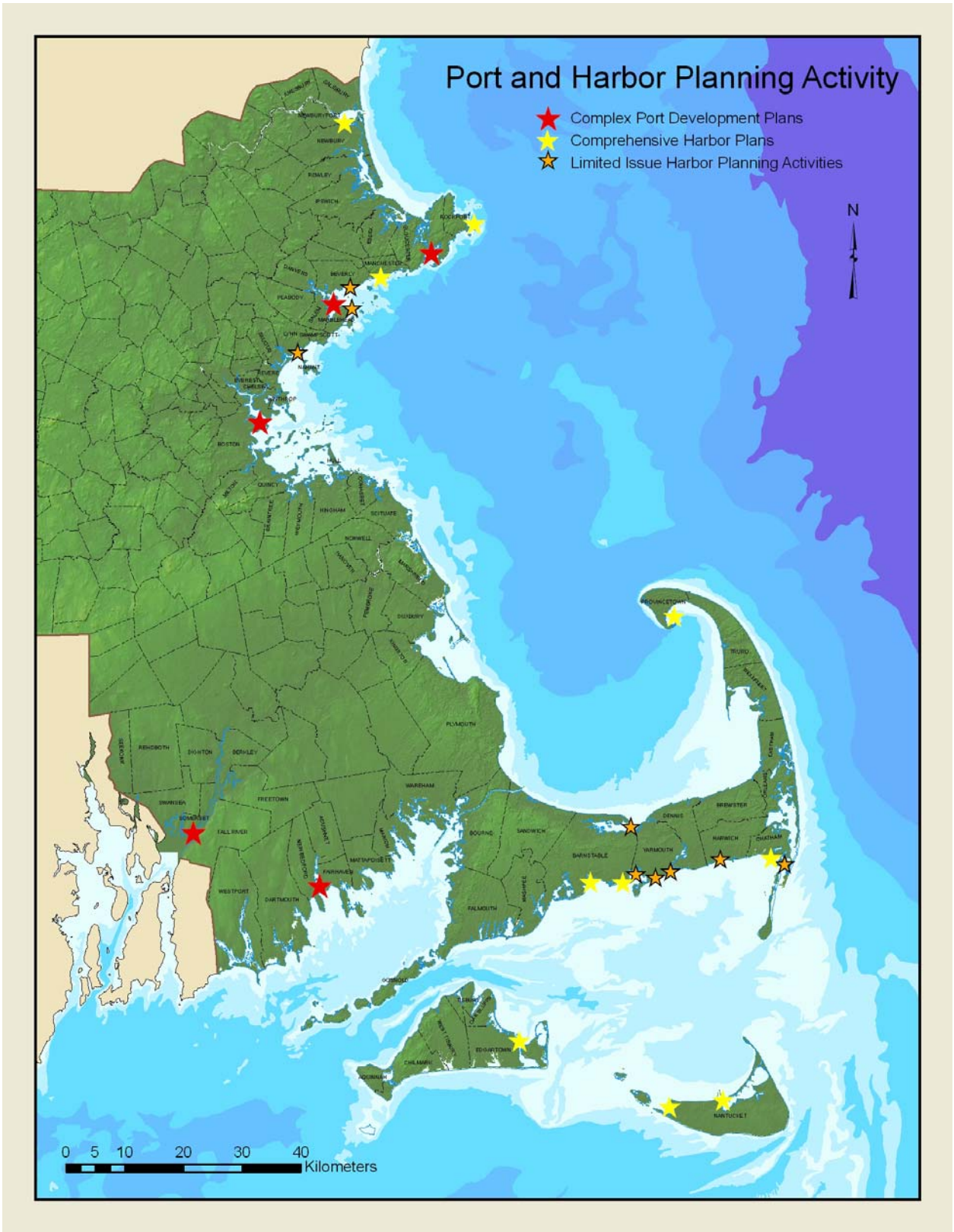
Boston. In October 2006, Boston received approval for the Lovejoy Wharf Amendment to the Boston Municipal Harbor Plan. At the time of the evaluation site visit, the city was working on additional amendments for the Charlestown Navy Yard and Fort Point Channel subdistricts and anticipated submitting them for EOEA review in 2007.

Fall River. The Port and Harbor Planning Program worked closely with the City of Fall River on the general design of a new State Pier Facility that will maintain historic and current marine industrial uses while allowing greater tourist and pedestrian access to the pier. This innovative attempt to balance potentially incompatible uses employs the concept of vertical separation. It is expected to be both fully licensable under the Waterways Licensing Program and consistent with MCZMP port policies.

Chatham. Chatham began to execute its state-approved harbor plan during the review period. The town is assessing mooring management in town waters, a recommendation of its harbor plan, and expects to implement new mooring regulations in 2007.

[25] See Figure 2.

Figure 2. Massachusetts' Port and Harbor Planning Activity



4. Board of Underwater Archaeological Resources

Established in 1973, the Board of Underwater Archaeological Resources (BUAR) is the sole trustee of the state's underwater cultural heritage. The nine-member state Board is an EOEA statutory program, and MCZMP has administratively hosted BUAR since 1986. The Board is charged with encouraging the discovery, reporting, preservation and protection of underwater archaeological resources. The state holds title to these resources and retains regulatory authority over their use. BUAR's jurisdiction extends over Massachusetts' inland and coastal waters.

BUAR implements its mission through programs such as resource stewardship and permitting, technical assistance and project review, and public outreach and education:

- Resource Stewardship and Permitting: BUAR compiles a comprehensive inventory of the state's underwater archaeological and historical assets, reviews permit applications, monitors permitted activities, and undertakes site investigations and assessments.

- Technical Assistance and Project Review: The Board provides specialized technical assistance in support of environmental reviews and public planning to various state and federal agencies, such as the MEPA Unit, DCR, Massachusetts Historical Commission, U.S. Army Corps of Engineers (USACE), USFWS and the Coast Guard. BUAR also provides guidance to project proponents' technical consultants.

- Public Outreach and Education: The Board holds public hearings and meetings. It also offers exhibits, activities and lectures to sport-diving clubs, social organizations and school groups. Additionally, BUAR delivers professional presentations and implements the Shoreline Heritage Identification Partnerships Strategy.

Several examples of BUAR's specific accomplishments are described below:

Permitting and Stewardship. During the review period, the Board developed: (1) policy guidance on the discovery of unanticipated human remains; (2) policy guidance for the discovery of unanticipated underwater archaeological resources; and (3) frequently asked questions on isolated finds and discovering artifacts in Massachusetts waters. BUAR also adopted BMPs for the treatment of underwater archaeological resources.

Technical Assistance and Project Review. The Board spent considerable time reviewing LNG, wind energy and dredging projects for impacts to underwater archaeological resources.

Public Outreach. As part of Massachusetts Archaeology Month, BUAR organized a program at Newburyport Maritime Society that included a "mock underwater archaeological dig" for children. The Board's Director and Deputy Director also contributed a chapter to

the forthcoming book, *Out of the Blue: Interpretation of Maritime Cultural Resources*.[26] Additionally, the BUAR Director has co-chaired the Government Managers of Maritime Cultural Resources Forum at the Society for Historical Archaeology's annual meetings since 1995.

G. GOVERNMENT COORDINATION AND DECISION-MAKING

1. Project Review and Federal Consistency

The CZMA's federal consistency provision is a major incentive for states to join the National Coastal Zone Management Program. It is also a powerful tool that states use to manage coastal uses and resources and to facilitate cooperation and coordination with federal agencies. The provision imposes a requirement on federal agencies conducting, licensing, or funding activities that have reasonably foreseeable effects on any land or water use or natural resource of the coastal zone to be consistent to the maximum extent practicable with the enforceable policies of a state's federally-approved coastal management program.

Federal consistency reviews are the responsibility of the lead state agency that implements or coordinates a state's federally-approved coastal management program. Thus, MCZMP exercises its authority to review federal activities in the coastal zone to ensure that they are consistent with the program's enforceable policies. The goal of MCZMP's Project Review and Federal Consistency Program is to ensure that proposed projects are designed and constructed in accordance with MCZMP's 20 enforceable policies and nine management principles. The Project Review and Federal Consistency Program participates in the following initiatives:

- Technical Assistance: In Massachusetts, local conservation commissions implement the state's Wetlands Protection Act. Therefore, most coastal projects require local approvals. The Project Review and Federal Consistency Program's technical experts assist communities to evaluate proposals. The program's technical assistance helps to ensure that projects' environmental impacts are considered early in the design process.

- MEPA Participation: Massachusetts' MEPA process requires projects that exceed specific thresholds to undergo a thorough review and analysis of their environmental consequences before state agencies begin their respective permitting processes. The Project Review and Federal Consistency Program actively participates in the MEPA process by attending site visits and providing written comments during reviews. The MEPA process offers MCZMP an additional opportunity to ensure appropriate project design.

- Federal Consistency Review: MCZMP employs a formal process to review the various federal activities listed within its program plan. To ensure that the

[26] Della Scott-Ireton and John Jameson, authors. At the time of the evaluation site visit, the book was anticipated for release in February 2007.

program's efforts focus on the most significant proposals, the program cooperated with USACE and USEPA to review and to approve two Programmatic General Permits. Therefore, relatively small-scale projects that qualify for Programmatic General Permit approvals are categorically deemed to be consistent with MCZMP's enforceable policies.

The Project Review and Federal Consistency Program regularly collaborates with many federal agencies on routine consistency matters. However, during the review period, the program also addressed highly complex projects, several of which are described below.

Wind Energy. The Cape Wind Energy Generation Project is one of the most controversial projects undergoing review in Massachusetts. The proposal calls for the construction of 130 wind turbines in Nantucket Sound. While proposed for federal waters, the project area is surrounded on three sides by state waters, and the project would be visible from many points on Cape Cod as well as from Martha's Vineyard and Nantucket. Additionally, a proposal was submitted for approximately 90 wind turbines entirely within state waters in Buzzards Bay.

LNG. Massachusetts is the site of two proposals for deepwater ports that are designed to accommodate the transfer of LNG through a floating "port" and pipeline. A controversial proposal to create a gas terminal in Fall River would transport LNG in ships through a relatively confined channel adjacent to a densely populated area.

Sand Mining. At the time of the evaluation site visit, two proposals for sand mining projects were under review. One of the proposals is a state-sponsored project in Massachusetts Bay, and the other is a private proposal targeting approximately 2.5 million cubic yards of material. The purpose of both projects is to provide suitable material to complete beach nourishment projects on severely eroding shorelines at a relatively affordable cost.

2. Ocean Management

Massachusetts' interests extend beyond the reaches of the coastal zone through its bays and into the Gulf of Maine and the Atlantic Ocean. These ocean areas provide the state with vast economic and recreational opportunities. However, no one lead agency is charged with managing the state's many ocean resources and activities. Thus, Governor Romney announced the Massachusetts Ocean Management Initiative in 2003, making Massachusetts the first state to attempt to plan for multiple ocean uses. To lead this initiative, the EOEA Secretary appointed the Massachusetts Ocean Management Task Force and charged it with: (1) investigating ocean use trends and existing governance mechanisms; (2) drafting recommendations for administrative, regulatory and statutory changes; and (3) developing ocean management principles that address the pace and complexity of current opportunities and challenges. The Task Force met more than 30 times, held six public meetings and received more than 300 public comments. In March 2004, the Task Force released *Waves of Change: The Massachusetts Ocean Management*

Task Force Report and Recommendations.[27] The 16 recommendations forwarded by the Task Force focused on strengthening state agencies to address environmental, planning and public trust issues in both state and federal waters and initiating ocean education and stewardship initiatives.

Growing regional and national energy demands have renewed interest in siting or generating energy in the ocean, as evidenced by the recent increase in such proposals for state and federal waters off Massachusetts. Proactive ocean planning could help the state balance competing uses offshore and work toward sustainable economic development. On behalf of EOEA, MCZMP has played a leading role in the Massachusetts Ocean Management Initiative by providing extensive technical expertise and staffing support. The program also leads implementation of the Task Force's recommendations. Several of the Ocean Management Program's accomplishments during the review period are described below. OCRM encourages MCZMP to continue its strong participation in the Massachusetts Ocean Management Initiative.

Oceans Legislation. Working closely with the Massachusetts State Legislature, interest groups and state agencies, the Ocean Management Program coordinated EOEA's efforts to craft legislation authorizing development of a statewide Ocean Management Plan. Specifically, the legislation addresses current planning and regulatory gaps by creating a comprehensive state planning process that combines input from stakeholders and experts to inform the development of sound ocean policy. Governor Romney and Senator O'Leary filed the legislation in early 2005, and the Massachusetts Senate passed the bill in July 2006. Senator O'Leary and 26 other legislators co-filed the language in January 2007 for the current legislative session.

Information Base for Ocean Planning. A strong information base is necessary for fully-informed ocean planning. In partnership with other state agencies, the Ocean Management Program continues to provide technical expertise and to build upon existing sources to acquire baseline information through several projects: (1) seafloor mapping; (2) human use data; (3) potential ocean-based energy facilities; and (4) coastal and marine economies.

Regional and National Coordination. Massachusetts is both regionally and nationally recognized for its ocean management activities, and the state continues to share lessons learned and to build partnerships with coastal organizations such as the Coastal States Organization, Joint Ocean Commission Initiative, National Governors Association, Northeast Regional Ocean Council, the Gulf of Maine Council, and the Communications Partnership for Science and the Sea. The Ocean Management Program has also met with planners in Maine, British Columbia, Nova Scotia and New Brunswick to discuss different approaches to ocean planning and has initiated a similar dialogue with the governments of Australia and New Zealand.

[27] http://www.mass.gov/czm/oceanmanagement/waves_of_change/index.htm

Accomplishment: MCZMP's Ocean Management Program has provided comprehensive support to the Massachusetts Ocean Management Initiative. As a result, the program has advanced the effort to replace the existing approach to permitting offshore projects with a more coordinated and proactive procedure that: (1) complements existing authorities; (2) is responsive to both traditional and emerging needs; and (3) provides predictability for project applicants.

3. Dredging Coordination

In Massachusetts, the scope of dredging projects in the coastal zone ranges from marina maintenance to the proposed deepening of federal channels. The primary goal of MCZMP's Dredging Coordination Program is to assist in the planning and review of dredging projects, programmatic dredging and dredged material management. The program strives to balance infrastructure maintenance and development needs with environmental protection. In order to achieve its goal, the Dredging Coordination Program provides technical and policy assistance to municipalities as well as to federal and state agencies. Fostering partnerships is a key component of the program's efforts to include all stakeholders early in dredging projects. During the review period, MCZMP hired a full-time Dredging Coordinator who serves as a single, knowledgeable point of contact to work with federal and state agencies as well as various stakeholders and citizen groups.

To effectively and efficiently coordinate dredging projects among the many local, state and federal agencies involved, the Dredging Coordination Program engages in six major activity areas:

- Providing technical assistance to other MCZMP programs and municipalities related to project planning and regulatory review;
- Coordinating with state and federal agencies to review individual dredging projects;
- Representing MCZMP and actively participating in the Boston Harbor Deep Draft Navigational Improvement Project Technical Assistance Committee;
- Participating in interagency discussions about revisions to dredging-related policies and practices;
- Providing technical and policy assistance to other MCZMP program areas regarding beneficial reuse and beach renourishment projects; and
- Serving as MCZMP's representative to regional and state-wide interagency working groups.

During the review period, the Dredging Coordination Program contributed to several key initiatives:

Beach Nourishment. The Dredging Coordination Program worked closely with DEP on *Beach Nourishment: MassDEP's Guide to Best Management Practices for Projects in Massachusetts*. The guide offers assistance to beach nourishment project proponents on

how to: (1) lessen erosion and maximize the time that sand remains on the beach; (2) minimize potential adverse impacts to natural resource areas; (3) promote the beneficial reuse of clean, compatible dredge material; and (4) retain appropriate material in the longshore sediment transport system. Proponents can help to expedite the permitting process by following the guidance.

Massachusetts State Dredging Team. National dredging policy directives have identified regional and state dredging teams as the most effective means of addressing complex and controversial issues related to dredging and dredged material disposal. At the direction of the EOEA Secretary, MCZMP led the establishment of a coordinated state dredging team. The main goal of the team is to improve communications and to identify constructive approaches to issues associated with state and federal project planning and review. The team is responsible for assisting MCZMP's Dredging Coordinator with: (1) re-establishing a pre-application review process; (2) coordinating the identification of priority projects for federal construction; (3) managing the state's dredged material disposal sites to ensure adequate monitoring; and (4) facilitating resolutions to policy issues.

State of Our Harbors Survey. In 1990, DCR conducted a survey and analysis of existing harbor conditions along the Massachusetts' coastline and the harbors' economic impacts. The Dredging Coordination Program is collaborating with DCR to update the survey by developing a new questionnaire for Harbormasters and marine interests. The information generated will be used to: (1) identify trends in harbor capabilities and uses over the past 16 years; (2) assist with planning future improvements; and (3) identify specific harbors to target as "special needs" areas.

> **Accomplishment: MCZMP hired a full-time Dredging Coordinator who serves as a single, knowledgeable point of contact to work with federal and state agencies as well as various stakeholders and citizen groups. The Dredging Coordination Program fosters key partnerships among stakeholders and provides technical and policy assistance to municipalities as well as to federal and state agencies.**

4. Coordination and Partnerships

The evaluation team was very impressed with MCZMP's successful coordination with partners both within EOEA as well as with external state, local, academic, business and private agencies and organizations. Evaluation participants often praised the program's expertise and collaborative approach as well as the work achieved as a result of MCZMP's assistance. The team saw many examples of MCZMP's efforts to bring diverse groups together by actively coordinating coastal policy-making and implementation with local, state, regional, national and international organizations.

At the local level, MCZMP works closely with Massachusetts' 78 coastal cities and towns. The program provides technical assistance and support to local officials and other interested parties. As noted previously in this document, regional coordination is a

critical component of MCZMP, and the program employs Regional Coordinators who serve as direct liaisons to coastal communities.

At the state level, MCZMP's policies were written to reflect the state's environmental regulations, and the program is closely linked with state regulatory agencies. MCZMP's involvement in the regulatory process takes many forms, including: (1) providing timely technical information for the development of new regulations; (2) resolving policy questions that affect permitting processes; (3) providing comments to the MEPA Unit during project review; and (4) bringing together federal and state regulatory officials to address problems that have stalled important projects. MCZMP also coordinates state efforts by convening interagency task forces to solve complex problems, developing networks on coastal issues, and serving as the coastal lead for MEPA issues.

MCZMP is also part of a regional coastal network that includes municipalities, state and federal agencies, academic and research institutions, environmental groups and the business community. In addition to its regional offices, MCZMP's major regional efforts include administering two National Estuary Programs, the Massachusetts Bays Program and the Buzzards Bay National Estuary Program. While not housed within MCZMP, the Stellwagen Bank National Marine Sanctuary and the Waquoit Bay National Estuarine Research Reserve are also notable regional partners.

At the national level, the MCZMP Director is the Governor's representative to the national Coastal States Organization, an advocacy group for state coastal and ocean interests in Washington, DC. In addition, MCZMP assists Massachusetts' Congressional Delegation by providing briefings and advice on coastal policy and legislative issues. MCZMP also serves on the Minerals Management Service's Outer Continental Shelf Advisory Committee, which meets twice a year to advise the agency on offshore oil and gas policy and program development.

MCZMP's largest international effort is the Gulf of Maine Council on the Marine Environment. In 1989, the Governors of Massachusetts, New Hampshire and Maine signed an agreement with the Premiers of New Brunswick and Nova Scotia pledging to protect the environmental integrity of the Gulf of Maine. The Gulf of Maine Council was established to execute the agreement, and MCZMP's Director and the EOEA Secretary represent the Governor on the Council. Council activities include habitat protection, marine monitoring, marine debris reduction and public participation.

V. CONCLUSION

For the reasons stated herein, I find that Massachusetts is adhering to the programmatic requirements of the Coastal Zone Management Act and its implementing regulations in the operation of its federally-approved Massachusetts Coastal Zone Management Program (MCZMP).

MCZMP has made notable progress in the following areas: communications, geographic information system and data management, wetlands restoration, aquatic invasive species, no discharge areas, coastal nonpoint source pollution, coastal hazards, regional coordination, smart growth, ocean management and dredging coordination.

These evaluation findings also contain three recommendations. The recommendations are all in the form of Program Suggestions. The evaluation team did not identify any Necessary Actions. The Program Suggestions should be addressed before the next regularly-scheduled program evaluation, but they are not mandatory at this time. Program Suggestions that must be repeated in subsequent evaluations may be elevated to Necessary Actions. Summary tables of program accomplishments and recommendations are provided in Appendix A.

This is a programmatic evaluation of MCZMP that may have implications regarding the state's financial assistance awards. However, it does not make any judgment about or replace any financial audits.

/s/ David M. Kennedy
David M. Kennedy
Director, Office of Ocean and
Coastal Resource Management

June 1, 2007
Date

VI. APPENDICES

Appendix A. Summary of Accomplishments and Recommendations

The evaluation team documented a number of MCZMP's accomplishments during the review period. These include:

Issue Area	Accomplishment
Communications	MCZMP's Communications Program uses a strategic and collaborative approach to provide its target audiences with the information required to implement coastal and ocean resource management strategies. The program consistently offers quality technical assistance services and develops high-caliber communications products. MCZMP's exemplary website is particularly noteworthy.
GIS and Data Management	MCZMP has placed a high priority on data management. The program has supported this priority with two staff skilled in GIS, remote sensing, relational database development and administration, project design, workflow analysis, information technology and technical report writing. As a result, MCZMP has developed innovative data management and information technology tools that increase program efficiency.
Wetlands Restoration	MCZMP's Wetlands Restoration Program facilitates restoration by identifying new projects, managing project teams, providing technical assistance, securing project funding and coordinating restoration activities. The program has effectively used partnerships to achieve its goals.
Aquatic Invasive Species	MCZMP's AIS Program focuses on prevention, monitoring and rapid response through collaborative efforts such as MIMIC. The program has significantly contributed to the development of innovative tools such as MITIS and invasive species identification cards.
No Discharge Areas	MCZMP's NDA Program employs a locally-driven approach that encourages communities to submit proposals for NDAs. This practical strategy ensures that local communities are committed to the success of the NDA.
Coastal Nonpoint Source Pollution	MCZMP's Coastal NPS Program operates Coastal NPS and CPR Grant Programs that provide money at the local level for NPS management activities and encourage communities to implement current NPS management practices and technologies.
Coastal Hazards Program	MCZMP's Coastal Hazards Program provides targeted technical assistance to local coastal decision-makers and relevant state and federal agencies. The program has developed innovative products such as the *South Shore Coastal Hazards Characterization Atlas* and the South Shore Coastal Infrastructure Inventory and Assessment.
Coastal Hazards Commission	MCZMP's Coastal Hazards Program provides extensive support to the Massachusetts Coastal Hazards Commission.

Regional Coordination	The Regional Coordination Program is a hallmark of MCZMP. The program ensures that MCZMP's priority programs and products directly meet local needs. The program's emphasis on regional coordination and technical assistance increases local capacity and strengthens local program implementation.
Smart Growth	MCZMP's Smart Growth Program provides technical assistance to municipalities in order to assist them with understanding, adopting and successfully implementing coastal smart growth techniques. The program has significantly matured during the review period. Stakeholders frequently request information about the program, and workshops and conferences regularly reach or exceed their registration limits.
Ocean Management	MCZMP's Ocean Management Program has provided comprehensive support to the Massachusetts Ocean Management Initiative. As a result, the program has advanced the effort to replace the existing approach to permitting offshore projects with a more coordinated and proactive procedure that: (1) complements existing authorities; (2) is responsive to both traditional and emerging needs; and (3) provides predictability for project applicants.
Dredging Coordination	MCZMP hired a full-time Dredging Coordinator who serves as a single, knowledgeable point of contact to work with federal and state agencies as well as various stakeholders and citizen groups. The Dredging Coordination Program fosters key partnerships among stakeholders and provides technical and policy assistance to municipalities as well as to federal and state agencies.

In addition to the accomplishments listed above, the evaluation team identified several areas where MCZMP could be strengthened. Recommendations are in the form of Program Suggestions. The evaluation team did not identify any Necessary Actions. Areas for improvement include:

Issue Area	Program Suggestion
Program Changes	OCRM encourages MCZMP to continue its strategic approach to reviewing its enforceable policies and other areas of the coastal zone management program plan. Following the review, MCZMP should work with OCRM to identify and to develop a reasonable schedule for submitting any necessary program changes.
Coastal Hazards Commission	OCRM encourages MCZMP to remain involved in the work of the Coastal Hazards Commission. As the Commission moves toward implementation of its recommendations, MCZMP should assess the value and feasibility of adding a Coastal Hazards Coordinator to its staff.
Regional Coordination	OCRM strongly encourages MCZMP to fill the Boston Harbor Regional Coordinator position with a qualified individual as soon as possible.

Appendix B. MCZMP's Response to 2004 Evaluation Findings

#1. Program Suggestion: MCZMP should work with coastal communities to build enhanced awareness and increase local protection of Areas of Critical Environmental Concern and continue enhancements to Areas of Critical Environmental Concern boundaries.

The statewide Areas of Critical Environmental Concern (ACEC) Program is administered by the Department of Conservation and Recreation (DCR) on behalf of the Secretary of Environmental Affairs. MCZMP collaborates with DCR in implementing ACEC goals and objectives in the coastal zone.

Since 2003, the ACEC Program and MCZMP's Regional Coordinators (RC) cooperated in land protection, grant programs, and stewardship and outreach opportunities to provide protection and enhanced awareness of the 14 coastal ACECs in 29 coastal Massachusetts towns. Land protection efforts by DCR and MCZMP resulted in conservation interest in approximately 600 acres in six ACECs.

A full-time staff member at MCZMP, the Coastal ACEC Stewardship Coordinator, was funded jointly by DCR and MCZMP from 2000 to 2005 (MCZMP funding was reduced in 2006). The Coastal ACEC Stewardship Grant Program, funded by MCZMP since 2002, awarded $50,000 between 2004 and 2005 for stewardship work in seven ACECs. This highly successful grant program enabled communities to implement critical planning, outreach and monitoring projects within ACECs. The grant program was not funded in 2006.

Other MCZMP staff specialists (e.g., geology, wetlands, stormwater management and public access) provide technical assistance and cooperation for ACEC projects and regulatory reviews. MCZMP's Wetlands Restoration Program (WRP) has included multiple restoration efforts within ACECs. RC stewardship and outreach activities included technical assistance to all coastal ACECs, participation in regional issues and state regulatory reviews, and grant-writing assistance focused on the ACECs with active stewardship groups including the Parker River/Essex Bay, the Pleasant Bay, the Sandy Neck/Barnstable Harbor, the Weir River Estuary, and the Wellfleet Harbor ACECs.

More specific examples of outreach projects and stewardship activities in ACECs are listed below:

Ellisville Harbor ACEC

- The acquisition of 28 acres in Plymouth within the Ellisville Harbor ACEC through the Coastal and Estuarine Land Conservation Program (CELCP).
- Development, submittal and approval of a No Discharge Area (NDA) application to EPA for the Plymouth, Kingston, and Duxbury region, including Ellisville Harbor ACEC.
- Participated in a pre-application meeting for a proposed project, within the boundary of the Ellisville Harbor ACEC, that includes the construction of

approximately 1,300 linear feet of revetment to protect the toe of an eroding coastal bank. The project, as proposed, is regulatorally prohibited and the applicant is seeking a variance from the state Wetlands Protection Act. Comments during this coordination effort included recommendations for non-engineered shoreline protection alternatives, regulatory requirements for projects within ACECs, MEPA filing considerations, mitigation and implications for adjacent resource areas.

Parker River/Essex Bay ACEC

- The CZM Coastal ACEC Stewardship grant supported: (1) the design of public outreach materials in support of passing an Open Space Residential Design bylaw in Essex; (2) the initial collection and monitoring of emergent Phragmites plant stands in the Newbury portion of the ACEC; (3) the development of an Estuarine Management Plan for the Town of Newbury; and (4) the planning and implementation of a smart growth workshop exhibiting the tools and strategies available for implementation in the Parker River/Essex Bay ACEC.
- Participation in Great Marsh Coalition meetings to promote public awareness and enhanced protection of the Great Marsh, of which Parker River/Essex Bay ACEC is a part.

Pleasant Bay ACEC

- The CZM Coastal ACEC Stewardship grant supported the purchase and installation of mutt mitt dispensers as well as a public awareness campaign with signs and brochures that addressed the connection between pet waste and water quality in the Pleasant Bay ACEC.
- Participation in Pleasant Bay Alliance Technical Resource Committee for implementation of the Pleasant Bay ACEC Resource Management Plan.

Sandy Neck/Barnstable Harbor ACEC

- The acquisition of significant property within the Sandy Neck ACEC to protect the area's critical natural resources.
- The CZM Coastal ACEC Stewardship grant supported salt marsh monitoring efforts in areas prioritized for tidal restoration within the Sandy Neck ACEC.

Rumney Marshes ACEC

- The CZM Coastal ACEC Stewardship grant supported: (1) the design and public outreach associated with a gateway park to the Rumney Marshes ACEC; (2) the development of a public outreach brochure discussing pollution sources and the significance of the ACEC's natural resources within the Rumney Marshes ACEC.

Weir River ACEC

- Coordinated with the Straits Pond Watershed Association (SPWA) to conduct on-going water quality monitoring within the Weir River ACEC necessary to inform management/restoration options and facilitated coordination between SPWA and the Center for Student Coastal Research to incorporate local monitoring into regional effort.

- CZM, DCR and the Weir River Estuary Park Committee (WREP Committee) coordinated and facilitated follow-up WREP Visioning Workshop where working group initiative updates were presented and short, mid, and long term action items were defined and prioritized for implementation.
- Coordinated with the WREP Committee and aided in the development of the Weir River Estuary Park Land Protection Plan which performed a parcel level analysis of property within the Weir River ACEC for purposes of identifying and targeting land protection opportunities in the ACEC towns of Hull, Hingham and Cohasset. A recent grant was written to the USFWS to acquire several of these parcels.
- Worked with the Straits Pond Watershed Association) to develop and present a four-part informational forum series on history, issues, and management alternatives for Straits Pond, a hydraulically restricted coastal salt pond. The informational forum series concluded with a community feedback session to identify and prioritize management issues for action which focused on reestablishment of tidal hydrology between Straits pond and the estuary.
- Convened and facilitated working group activities (including municipal representatives, state and federal agencies, stewardship groups, and local legislators) in support of the Rockland Street Comprehensive Rehabilitation Project within the Weir River Estuary ACEC. The focus for activities during this reporting period include the development of a comprehensive stormwater assessment and feasibility study and development of a bridge replacement design that is proceeding for the Rockland/Kilby Street Bridge.
- The CZM Coastal ACEC Stewardship grant supported: (1) the development of a brochure entitled, "Paddling the Weir Estuary: A Canoe and Kayaking Guide" and (2) signage for the Weir River Watershed Association's public education center, the Weir River Estuary Center.

Wellfleet Harbor ACEC

- Aided in the review and completion of the Wellfleet Harbor Management Plan which surveys, identifies and proposes recommendations to address the many uses and resources of the Wellfleet Harbor ACEC.
- The CZM Coastal ACEC Stewardship grant supported funding for three free public education workshops addressing habitat restoration, wildlife, and coastal development. These workshops also helped inform the Wellfleet Harbor Management Plan.

#2. Program Suggestion: MCZMP should continue to enhance its Coastal Nonpoint Source Pollution Control Program and should continue to address important sources of nonpoint pollution, including failing septic systems.

Since 2003, the CZM Coastal Nonpoint Program has continued to evolve to more effectively address important nonpoint sources of pollution. The program includes two primary components: (1) administration of the Coastal Pollutant Remediation and Coastal NPS Grant Program, through which applicants are encouraged to consider progressive approaches to NPS pollution management; (2) technical assistance for towns and

industries on challenging NPS management issues. The following are a few highlights of CZM's technical assistance efforts since 2003.

- Septic System Data Management: CZM contracted with the Merrimac Valley Planning Commission to develop the "Septic Manager" database. This database was designed to assist Board of Health agents to organize and spatially reference data on septic system age, condition, and inspections. MVPC piloted the system in three towns on the North Shore, and the database has been made available to towns throughout the Commonwealth.

- Operation and Maintenance of Stormwater BMPs: CZM contracted with the Horsley Witten Group to evaluate the design and condition of stormwater BMPs installed with funding from the CPR program between 2000 and 2004. Based on this review, CZM has developed a set of recommendations for improved operation and maintenance and required that all CPR proposals address these concerns. Recommendations can be found in the summary report posted at http://www.mass.gov/czm/docs/pdf/cpr/cpr_bmp_report.pdf.

- Technical Assistance for the Marina Industry: CZM continues to provide technical assistance to the marina industry on a variety of NPS management issues. In particular, CZM has played a key role in moving this industry towards compliance on pressure washing issues. Through an EPA grant, CZM provided awards to two marinas for the installation of pressure washwater recycling and treatment systems. Through a Coastal NPS grant, CZM contracted with the town of Wellfleet to develop a pressure wash facility needs assessment. This assessment will serve as a foundation for a pressure washing handbook scheduled for completion late in 2007.

- Digital Water Quality Tools: CZM continues to provide technical assistance to grant recipients on the management and analysis of water quality data. This spring and summer, CZM will work with a contractor to roll out a set of GIS based water quality tools for storing, reporting, and analyzing water quality data, and develop a strategy for ensuring that these tools are compatible with the most current GIS technology.

In addition to these efforts, the CZM Coastal Nonpoint Program continues to work with coastal municipalities to incorporate principles of Smart Growth and Low Impact Development into local by-laws and review processes. In FY 07, CZM is providing funding to one NGO and two municipalities to explore new ways to establish long-term financing for local stormwater management. CZM will continue to seek opportunities to advance NPS management in Coastal Massachusetts and fill technical assistance needs that are otherwise not being met.

#3. Program Suggestion: MCZMP is encouraged to integrate the goals of the Wetlands Restoration Program into existing MCZMP programs.

In the last 309 Assessment, wetlands as an issue was ranked as a high priority and one of the key strategies that CZM developed was to institutionalize the Wetlands Restoration Program within the Massachusetts coastal program. As the 309 strategy details, we are currently working on this integration under a 309 grant task which involves three key components:

- A detailed description of the Wetlands Restoration Program will be submitted to OCRM containing a narrative of how the program: (1) connects with the CZM program enforceable policies and its network of state/federal agencies; (2) relates to state capital and fiscal planning, with past and projected budgets for operations/grants; (3) relates to NOAA grants, with past years, current year, and forecasted budgets; (4) builds on public-private partnerships through the CWRP; (5) provides technical assistance to cities and towns, regional groups, NGOs, and private landowners; (6) conducts regional and watershed planning to identify restoration opportunities; (7) provides comprehensive project management, including project feasibility analysis, design and permitting, construction oversight, and site monitoring and assessment; and (8) delivers outreach and educational resources.

- A portfolio of past and current projects is being developed, including examples of representative restoration projects as well as descriptions and examples of regional restoration plans. Further, a geo-database of all WRP projects is being developed to enable GIS or database querying and analysis. The list will be updated annually.

- Two groups, a WRP Coordinating Committee and a state Restoration Network, are convened regularly by WRP.

These deliverables will be presented to NOAA as a routine program change in summer 2007. The restructuring of the coastal restoration program within CZM is a logical organizational change and capitalizes on the agency's unique position as the state organization whose express focus is technical assistance to coastal communities and their natural resources and habitats. While integrated within the coastal program, restoration efforts would continue to operate on the partnership approach, which demands and realizes close coordination and resource sharing between other state and federal agencies, local project sponsors, non governmental groups, and the private sector.

Appendix C. People and Institutions Contacted

State of Massachusetts Representatives

Name	Title	Affiliation
Jay Baker	Nonpoint Source Program Manager	MA OCZM
Jeremy Bell	Restoration Specialist	MA OCZM
Robert Boeri	Dredging Coordinator	MA OCZM
Jason Burtner	South Shore Regional Coordinator	MA OCZM
Todd Callaghan	Water Quality Specialist	MA OCZM
Bruce Carlisle	Acting Director	MA OCZM
Andrea Cooper	Smart Growth Coordinator	MA OCZM
Joe Costa	Buzzards Bay NEP Director	MA OCZM
Anne Donovan	Communications Director	MA OCZM
Dennis Ducsik	Tidelands Policy Coordinator	MA OCZM
Hunt Durey	Wetlands Restoration Program Manager	MA OCZM
Kathryn Glenn	North Shore Regional Coordinator	MA OCZM
Rebecca Haney	Marine Geologist	MA OCZM
Truman Henson	Project Review and Federal Consistency Coordinator	MA OCZM
Charles Hernick	Invasives Intern	MA OCZM
Dave Janik	South Coast Regional Coordinator	MA OCZM
Kate Killerlain Morrison	Ocean Management Analyst	MA OCZM
Julia Knisel	Coastal Geologist	MA OCZM
Christian Krahforst	Marine Monitoring	MA OCZM
Steve Mague	Coastal Planner	MA OCZM
Victor Mastone	Board of Underwater Archaeological Resources Director	MA OCZM
Steve McKenna	Cape Cod Regional Coordinator	MA OCZM
Joe Pelczarski	Coastal Planner	MA OCZM
Dan Sampson	GIS and Data Manager	MA OCZM
Chris Slinko	Coastal Access Intern	MA OCZM
Jan Smith	Massachusetts Bays Program Director	MA OCZM
Tony Wilbur	Marine Ecologist	MA OCZM
Brendan Annett	WBNERR Manager	DCR
Mike Gildesgame	Director	DCR Office of Water Resources
Liz Sorenson	Director	DCR ACEC Program
Paul Diodati	Director	Division of Marine Fisheries
Lealdon Langley	Director	DEP Wetlands and Waterways Program

Deerin Babb-Brott	Director	MEPA Unit
Ian Bowles	Secretary	EOEA

Local Government Representatives

Name	Title	Affiliation
Don Gourley		Plymouth Harbor Committee
Timothy Routhier	Harbor Master	Town of Plymouth
Karen Quigley		Cohasset Harbor Health Committee
Joan Meschino		Hull Board of Selectmen
Wayne Jaedke	Dredge Superintendent	Barnstable County
Mike Flannagan	Harbor Master	Town of Wellfleet

Federal Agency Representatives

Name	Title	Affiliation
Craig MacDonald	Superintendent	NOAA Stellwagen Bank National Marine Sanctuary
Betsy Nicolson	NE Regional Coastal Program Specialist	NOAA
Bill Hubbard	Chief – Evaluation Unit	USACE
Mel Coté	Manager – Ocean and Coastal Protection Unit	USEPA Region 1
Walter Barnhardt		USGS
Carl Gustafson	State Conservation Engineer	USDA NRCS

Nongovernmental Organization Representatives

Name	Title	Affiliation
Jack Buckley		Center for Student Coastal Research

Appendix D. People Attending the Public Meeting

Name	Affiliation
Joan Bailey	Private Citizen
Dolores Boogdamian	Private Citizen
Vivien Li	The Boston Harbor Association
Chad Sumner	SumCo Eco-Contracting

Appendix E. OCRM's Response to Written Comments

OCRM did not receive any written comments regarding MCZMP during the course of this evaluation.