

*Final Evaluation Findings*

*Maine Coastal Program  
September 2000 – May 2004*

*Wells National Estuarine Research Reserve  
December 1998 – May 2004*



Office of Ocean and Coastal Resource Management  
National Ocean Service  
National Oceanic and Atmospheric Administration



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## I. EXECUTIVE SUMMARY

### A. OVERVIEW

The Coastal Zone Management Act (CZMA) of 1972, as amended, established both the National Coastal Zone Management Program and the National Estuarine Research Reserve System. Sections 312 and 315 of the CZMA require the National Oceanic and Atmospheric Administration (NOAA) to conduct periodic performance reviews or evaluations of all federally approved Coastal Management Programs (CMP) and National Estuarine Research Reserves (NERR). The review described in this document examined the operation and management of the Maine Coastal Program (MCP) during the period of September 2000 through May 2004 and of the Wells National Estuarine Research Reserve (WNERR) during the period of December 1998 through May 2004. The Maine State Planning Office (SPO) administers MCP, and the Wells Reserve Management Authority (RMA) administers WNERR.

This document describes the evaluation findings of the Director of NOAA's Office of Ocean and Coastal Resource Management with respect to MCP and WNERR during the review periods. The fundamental conclusion of these findings is that SPO and RMA are successfully implementing and enforcing the federally approved CMP and NERR. Recommendations made by this evaluation follow the relevant section of findings. Two types of recommendations are possible: (1) Necessary Actions address programmatic requirements and *must* be implemented by the indicated date; and (2) Program Suggestions describe actions that NOAA believes the appropriate lead agency should take to improve the program, but are not currently mandatory. Program Suggestions that are reiterated in consecutive evaluations due to continuing problems may be elevated to Necessary Actions. If no dates are indicated, the lead agency is expected to address the recommendations by the time of the next evaluation. This document contains six Program Suggestions and one Necessary Action. NOAA will consider the findings made by this evaluation when making future financial award decisions regarding MCP and WNERR.

### B. SUMMARY OF ACCOMPLISHMENTS

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

<b>Program</b>	<b>Issue Area</b>	<b>Accomplishment</b>
MCP	Visual Resource Assessment	DEP has positioned itself as a leader in addressing impacts to scenic resources through its development of new rules, the Visual Impact Assessment Form, Visual Impact Matrix, and GIS-based Visual Assessment Tool to codify, standardize and streamline the decision-making process regarding scenic and aesthetic uses.

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MCP	Cumulative Impact Assessment	DEP developed a practical methodology to assess the cumulative impact of projects on protected natural resources.
MCP	Supporting Municipalities	MCP provides outstanding support to municipalities. The coastal program has employed innovative approaches to: (1) improve coastal land use planning and reduce urban sprawl, particularly through development of management tools such as the “Beach Management Scoring System;” (2) enhance training opportunities for coastal professionals, particularly Code Enforcement Officers; (3) increase public access and rediscover historic rights-of-way; and (4) preserve and strengthen working waterfronts.
MCP	Sustaining Coastal Resources and Habitats	MCP works effectively with its partners to sustain coastal resources and habitats. The coastal program received full approval of its coastal nonpoint source pollution control program, expanded the Nonpoint Education for Municipal Officials Program statewide, and developed the Maine Healthy Beaches Program. MCP provided significant funding and staff to Maine’s Aquaculture Task Force. The coastal program strongly supported “Beginning with Habitat,” a unique, cooperative and non-regulatory landscape approach to assessing conservation needs and opportunities. MCP, the Gulf of Maine Council and the NOAA Restoration Program established the Gulf of Maine Council/NOAA Habitat Restoration Partnership. MCP also contributed significantly to innovative information management and data accessibility projects such as the Gulf of Maine Ocean Observing System and the Maine GeoLibrary.
MCP	Promoting Education and Outreach	MCP has developed a strong education and outreach component. The coastal program uses a variety of media as well as personal contact to educate and inform the public about Maine’s coastal resources. MCP representatives regularly attend public events to improve awareness of coastal issues.
WNERR	Staff	WNERR increased its staff in the areas of research, education and stewardship with several full- and part-time positions.
WNERR	Strategic Plan	In 2000, WNERR developed a five-year strategic plan that clearly defined its mission, philosophy, objectives and strategies. The plan has provided overarching guidance for the reserve as its core programs have grown.
WNERR	Facilities	WNERR significantly renovated and upgraded its facilities.

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WNERR	System-wide Monitoring Program	The Research and Monitoring Program expanded and improved the System-wide Monitoring Program at the reserve.
WNERR	Coastal Training and Information Program	The Education and Outreach Program completed initial Coastal Training and Information Program development and began implementing the program.
WNERR	Community Outreach	During the review period, WNERR's Education and Outreach Program increased community outreach through speaking engagements, other presentations and informational booths.
MCP/ WNERR	Staff	MCP and WNERR have outstanding, dedicated staff that are critical to both programs' success.
MCP/ WNERR	Partnerships	MCP and WNERR regularly engage in many diverse partnerships. The programs successfully coordinate with federal, state, local, academic and private agencies and organizations.

**C. SUMMARY OF RECOMMENDATIONS**

In addition to the accomplishments listed above, the evaluation team identified several areas where the two programs could be strengthened. Recommendations are in the form of Program Suggestions and one Necessary Action. Areas for program improvement include:

<b>Program</b>	<b>#</b>	<b>PS/NA</b>	<b>Recommendation</b>
MCP	1	PS	NOAA encourages DEP and its partners to continue to address concerns regarding the revised sand dune rules through the comprehensive stakeholder process and the framework agreement on sand dunes and coastal management in Maine. NOAA also urges DEP to continue to keep NOAA apprised of progress in this area.
MCP	2	PS	NOAA encourages MCP to: (1) examine the extent of riprap along Maine's coastline; (2) review the standards for placement of riprap under the permit-by-rule program; and (3) determine if additional standards or alternative permits should be required to lessen or mitigate for habitat damage resulting from cumulative effects of riprap placement. This suggestion is directed at coastal shoreline only and does not include lakes within the coastal zone.

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MCP	3	PS	NOAA encourages MCP to identify priority management-related information needs, such as data, field assessments, monitoring and research studies to assist with implementation and enforcement of Maine’s core environmental laws. Information needs should be routinely communicated to the scientific community and other appropriate parties.
MCP	4	PS	In order to address challenges presented by the upward trend in permit reviews, NOAA encourages MCP to consider: (1) developing criteria to prioritize enforcement actions; and (2) assessing trends regarding requests for enforcement visits and inquiries about potential violations in order to identify opportunities where additional public outreach materials could clarify activities allowable under current laws and rules, thus minimizing unnecessary field trips.
WNERR	1	PS	WNERR should finalize its revised management plan within six months following receipt of final evaluation findings.
WNERR	2	PS	NOAA strongly encourages WNERR, the Reserve Management Authority and Laudholm Trust to continue their efforts to secure dedicated state funding for reserve operations.
WNERR	3	NA	The Research and Monitoring Program must complete the site profile by December 31, 2006.



## **II. PROGRAM REVIEW PROCEDURES**

### **A. OVERVIEW**

The National Oceanic and Atmospheric Administration (NOAA) began its review of the Maine Coastal Program (MCP) and the Wells National Estuarine Research Reserve (WNERR) in March 2004. The evaluation process involves four distinct components:

- An initial document review and identification of specific issues of particular concern;
- A site visit to Maine including interviews and public meetings;
- 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.

### **B. DOCUMENT REVIEW AND ISSUE DEVELOPMENT**

The evaluation team reviewed a wide variety of documents prior to the site visit, including: (1) federally approved Environmental Impact Statements and program documents; (2) financial assistance awards and work products; (3) semi-annual performance reports; (4) official correspondence; (5) previous evaluation findings; and (6) relevant publications on natural resource management issues in Maine.

Based on this review and on discussions with NOAA's Office of Ocean and Coastal Resource Management's (OCRM) Coastal Programs Division and Estuarine Reserves Division, the evaluation team identified the following priority issues:

- Major accomplishments of both MCP and WNERR during the review period;
- The manner in which MCP and WNERR coordinate with one another and meet individual program goals, as well as how they coordinate with other federal, state and local agencies and programs;
- The status of both MCP and WNERR grant tasks and reporting;
- The manner in which MCP is advancing the goals of the Coastal Zone Management Act set out in §303(2);
- The effectiveness of MCP in permitting, monitoring and enforcing the core authorities that form the legal basis of the program;
- The implementation of state and federal consistency authority;
- The manner in which MCP is monitoring, reporting and submitting program changes;

- The manner in which MCP provides technical assistance to local governments on coastal issues;
- The status of public access opportunities in the coastal zone;
- The status of WNERR facilities, land acquisition projects and resource management;
- The status and effectiveness of WNERR staffing and programs, and participation in national research, monitoring and education programs;
- The status of the management plan revision;
- The role of WNERR at the local level as well as its integration with partners;
- The manner in which MCP has addressed the recommendations contained in the §312 evaluation findings released in 2001, and the manner in which WNERR has addressed the recommendations contained in the §312 evaluation findings released in 1999.

### **C. SITE VISIT TO MAINE**

Notification of the scheduled evaluation was sent to the Maine State Planning Office (SPO), Wells Reserve Management Authority (RMA), MCP, WNERR, relevant federal environmental agencies, Maine's congressional delegation and regional newspapers. In addition, a notice of NOAA's "Intent to Evaluate" was published in the *Federal Register* on March 23, 2004.

The site visit to Maine was conducted on June 7-11, 2004. Ms. Rosemarie McKeeby, Evaluation Team Leader, OCRM National Policy and Evaluation Division; Ms. Betsy Nicholson, MCP Specialist, OCRM Coastal Programs Division; Mr. Bill O'Beirne, State Liaison Team Leader, OCRM Coastal Programs Division; Ms. Doris Grimm, WNERR Specialist, OCRM Estuarine Reserves Division; Ms. Tricia Ryan, Manager, Minnesota's Lake Superior Coastal Program; and Mr. Mike DeLuca, Manager, Jacques Cousteau National Estuarine Research Reserve (New Jersey), formed the evaluation team.

During the site visit, the evaluation team interviewed MCP and WNERR staff, senior SPO, RMA and other state officials, federal agency representatives, coastal researchers, environmental educators, civic group representatives and private citizens. Appendix B lists people and institutions contacted during this review.

As required by the Coastal Zone Management Act, NOAA held public meetings during the evaluation to provide opportunities for the public to express their opinions about the overall operation and management of MCP and WNERR. The first public meeting was held on June 8, 2004, at 6:00 p.m., at the WNERR Mather Auditorium, Wells. The

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second public meeting was held on June 10, 2004, at 7:00 p.m., at the Camden Public Library, Camden. Appendix C lists individuals who registered at the meeting.

The crucial support of MCP and WNERR staff with the site visit's logistics and planning is gratefully acknowledged.

### III. THE MAINE COASTAL PROGRAM

#### A. COASTAL AREA DESCRIPTION

Maine's coastal zone reaches from Kittery in the south of Maine to Calais in the north. It also stretches inland to Augusta along the Kennebec River and to Bangor along the Penobscot River. The coastal zone encompasses Maine's territorial waters, which extend outward three miles from the coast. In total, Maine's coastal zone includes 141 towns, several unorganized territories, 4,568 miles of coastline and 4,613 islands.

#### B. PROGRAM DESCRIPTION

The National Oceanic and Atmospheric Administration (NOAA) approved the Maine Coastal Program (MCP) in 1978. The Maine State Planning Office (SPO) administers MCP, which includes various networked state agencies, coastal municipalities, regional planning commissions and many nongovernmental partner organizations. While SPO coordinates local technical assistance efforts pertaining to land management in the state, the Maine Department of Environmental Protection (DEP) administers and enforces most of the environmental protection statutes that serve as MCP's core laws:

- Protection and Improvement of Waters Act
- Mandatory Shoreland Zoning Law<sup>1</sup>
- Subdivision Law<sup>2</sup>
- Land Use Regulation Law
- Protection and Improvement of Air Law
- Maine Hazardous Waste, Septage and Solid Waste Management Act
- Oil Discharges and Pollution Control Law
- Natural Resources Protection Act
- Maine Endangered Species Law
- Erosion and Sediment Control Law
- Nutrient Management Planning Law
- Permit Fees
- Site Location of Development Law

MCP's mission is to sustain coastal resources and to enhance the maritime economy by: (1) helping citizens and municipal officials reduce nonpoint source pollution; (2) building vibrant, healthy communities and maintaining coastal character; (3) building and strengthening local officials' capacity to administer and enforce regulations; (4) conserving ecologically valuable coastal lands; (5) retaining and improving access for water-dependent businesses; (6) managing marine resources in ways that are biologically and socially sound; (7) restoring wetlands and other coastal habitats; (8) preserving

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<sup>1</sup> Administered and enforced by municipalities with state oversight.

<sup>2</sup> Administered and enforced by municipalities.

Maine's sand beaches for protection from storms, habitat conservation and public recreation; and (9) helping Maine's citizens become active coastal stewards.

## **C. REVIEW FINDINGS, ACCOMPLISHMENTS AND RECOMMENDATIONS**

### **1. IMPLEMENTING MAINE'S APPROVED COASTAL PROGRAM**

#### **a. Natural Resources Protection Act**

Maine's Natural Resources Protection Act (NRPA) was created to regulate a range of activities in significant resource areas of the state, including wetlands, great ponds, rivers and streams, significant wildlife habitat areas and sand dunes. However, since its enactment in 1998, the NRPA regulated certain activities adjacent to protected natural resources only if such activities involved soil disturbance. For example, tree cutting and vegetation removal were not regulated. In 2002, the NRPA was amended to regulate all prohibited activities both in and next to protected natural resources, regardless of whether soil disturbance was involved. The effect of this change was to provide better protection of buffers around significant natural resources. As part of the statutory amendments, both permit-by-rule standards and wetland protection rules were amended to include an avoidance and minimization requirement for all regulated activities within 75 feet of a protected natural resource. DEP expects that the amendments will lessen the impact of development on water quality and habitat over time.

#### *Visual Resource Assessment*

Among the impacts considered under the NRPA<sup>3</sup> are those to scenic and aesthetic resources. NRPA Standard One specifically requires a project applicant to demonstrate that a proposed activity will not "unreasonably interfere with existing scenic and aesthetic uses." Scenic resources are defined as public natural resources or public lands that are visited by the general public, in part for the use, observation, enjoyment and appreciation of their natural or cultural visual qualities. Generally, a scenic and aesthetic resources review broadly examines potential impacts on the public's view of natural resources, rather than focusing narrowly on potential impacts to neighbors or abutting private property owners. Staff conduct assessments from locations where the public could view the proposed project.

During the review period, DEP developed new rules to codify, standardize and streamline the decision-making process regarding scenic and aesthetic resources. The codification of the rules:

- specifies state regulatory concerns;
- defines visual impacts;
- establishes a procedure for evaluating visual impacts;
- establishes when a visual assessment may be necessary;
- explains the components of a visual assessment; and

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<sup>3</sup> 38 M.R.S.A. §480 A-Z.

- describes avoidance, mitigation and offset measures that may eliminate or reduce adverse impacts to existing scenic and aesthetic resources.

The rules require an evaluation of each structure for landscape compatibility, scale contrast and spatial dominance. When determining whether an activity could result in adverse visual impacts, staff weigh the existing character of the surrounding area, the expectation of the typical viewer, the extent and permanence of the proposed project, and the project's purpose and context. In many instances, the review process requires the applicant to provide a graphic simulation of how the proposed structure will fit into the landscape.

DEP developed a standard operating procedure (SOP) for visual assessments in order to promote consistent decisions and clear documentation of the decision-making process. The SOPs are included in Maine's Visual Impact Assessment Form. The SOPs and the Visual Impact Assessment Form have reduced uncertainty and increased staff confidence in conducting scenic resource impact reviews. Additionally, DEP is developing a GIS-based Visual Impact Assessment Tool to complement site visits.

A scenic resource impact review produces a score for "Total Visual Impact Severity." The score is entered into a Visual Impact Matrix with "severity" along one axis and "scenic significance" along the other. Using the matrix, staff determine whether the proposed project: (1) is acceptable, (2) is acceptable with mitigation; or (3) has no or low impact.

If DEP determines that a proposed project will have an adverse visual impact, mitigation may be required. Examples of mitigation for visual impacts include: (1) changing the location of the proposed activity to make it less visible; (2) planting a buffer to screen the activity; or (3) limiting the activity's size or scope. If DEP finds that a proposed project will have an unreasonable adverse impact on existing scenic and aesthetic uses, the project will not meet the standards of the NRPA and will not be approved. NOAA commends DEP for its extensive work to develop standards and rules guiding the assessment and mitigation of impacts to scenic resources.

**ACCOMPLISHMENT:** DEP has positioned itself as a leader in addressing impacts to scenic resources through its development of new rules, the Visual Impact Assessment Form, Visual Impact Matrix, and GIS-based Visual Assessment Tool to codify, standardize and streamline the decision-making process regarding scenic and aesthetic uses.

#### *Cumulative Impact Assessment*

Although clear legislative and regulatory language allowed for the consideration of cumulative impact under the NRPA, DEP lacked a systematic process to properly evaluate such impact. The lack of an evaluation process became a persistent area of concern, particularly regarding the permitting of docks in coastal wetlands. In 2003, the Maine Legislature approved a resolution requiring DEP to form a stakeholder workgroup to: (1) design a method for considering the cumulative effect of activities on protected

natural resources permitted under the NRPA; and (2) submit a proposal to the Legislature for its consideration.

In response, DEP convened a workgroup that included representatives of state natural resource agencies, environmental organizations, the regulated community, local and regional governments and private consultants. The workgroup focused its attention on utilizing existing criteria in DEP's Wetlands and Waterbodies Protection Rules. As described in the preceding section of this document, DEP created an assessment methodology and matrix scoring process to evaluate impacts to scenic resources. Building on those efforts, DEP adapted the methodology and scoring process for use in assessing cumulative impact and created "Guidelines for Assessing Cumulative and Secondary Impacts to Protected Natural Resources." The guidelines apply to all NRPA applications processed by permitting and licensing staff in DEP's Division of Land Resources. The guidelines include a Cumulative Impact Assessment Form, a Potential Cumulative Impact of Development Matrix and definitions to assist in using the form and matrix. The Cumulative Impact Assessment Form generates a total cumulative impact score of severe, strong, moderate or negligible, which is then used in the matrix. Resource significance also is entered into the matrix, which then generates a potential impact rating of unacceptable, major, moderate, minimal or none. Staff use potential impact as grounds for approval, modification, request for mitigation or denial of the project.

The cumulative impact assessment methodology was found to be a reasonable, practical and easy-to-use approach that employed appropriate criteria in existing statutes and rules. NOAA applauds DEP for its development of a methodology to assess the cumulative impact of projects on protected natural resources.

**ACCOMPLISHMENT:** DEP developed a practical methodology to assess the cumulative impact of projects on protected natural resources.

*Coastal Sand Dune Rules Revision*

During the review period, revisions to Maine's coastal sand dune rules were proposed for the following reasons: (1) to improve understanding of the rules by the public, municipal officials and the regulated community; (2) to amend a number of definitions to improve the rules' clarity; (3) to establish new regulatory variance provisions for construction in frontal dunes; and (4) to include a provision allowing for one-time reconstruction of buildings damaged more than 50 percent by an ocean storm.

The revision process was very involved, time consuming and occasionally contentious. Maine's Board of Environmental Protection provisionally adopted the amended rules in 2003. Major amendments to the rules included:

- The requirement that reconstructed and new building in frontal dunes and unstable back dune areas be elevated on post or pile foundations;
- The elimination of an exemption for second story additions or the addition of dormers. All such construction now requires a permit and is required to meet the

- requirements for post or pile foundations. A variance provision has been included to allow for other types of foundations to address undue hardship;
- A new definition for a building's value. The exemption in the previous rules for maintenance and repair as well as the prohibition for reconstruction of buildings damaged by more than 50 percent by an ocean storm relied on a determination of appraised market value. The revised rules allow for a building's value to be determined in either of two ways: (1) the assessed value as established by the municipality and adjusted by the state's certified ratio, or (2) the appraised market value as determined by a state certified appraiser within the previous five years;
  - Exemptions to the prohibition on new structures or additions to existing structures in frontal dunes to allow for the construction of ramps, fire escapes and other structures to meet Americans with Disabilities Act and local fire code requirements;
  - A provision allowing for the issuance of a permit for new residential buildings to be constructed on vacant lots in frontal dune areas where the surrounding lots are already developed. The provision is applicable whenever there is a structure located within 100 feet on both sides of a vacant lot. The building is required to have a post or pile foundation and is limited to covering 20 percent of the lot with limited additional areas for parking and walkways;
  - A variance provision allowing in certain circumstances the construction of new buildings on vacant lots in less developed frontal dunes areas and for buildings in V zones. An applicant needs to demonstrate that several criteria are met to obtain a permit; and
  - Buildings located in V zones in frontal dunes that have been damaged more than 50 percent by wave action from an ocean storm will be allowed to be rebuilt one time subject to all of the applicable licensing criteria being met.

A stakeholder process was created when the provisionally adopted rules were brought to the Maine Legislature in 2004.<sup>4</sup> DEP provides lead staff assistance and facilitates the stakeholder group, and SPO and the Maine Geological Survey (MGS) provide additional staff support. The stakeholder process resulted in a framework agreement on sand dunes and coastal management in Maine among DEP, Maine Department of Conservation, Save Our Shores Maine, Maine Coastal Coalition, Maine Audubon, Inn Keepers and SPO. Signatories agreed to a facilitated broad discussion to improve relations and strengthen all parties' commitment to: (1) coastal sand dune protection and enhancement, (2) hazard mitigation, (3) wildlife habitat management and improvement, (4) beach nourishment, (5) improved construction standards in high risk areas, and (6) improved public access. NOAA commends DEP and its partners for their efforts to address concerns regarding the revised sand dune rules through a comprehensive stakeholder process and encourages continuation of such efforts.

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<sup>4</sup> Major substantive rules require approval from the Board of Environmental Protection and the Maine Legislature.



**MCP #1 – PROGRAM SUGGESTION:** NOAA encourages DEP and its partners to continue to address concerns regarding the revised sand dune rules through the comprehensive stakeholder process and the framework agreement on sand dunes and coastal management in Maine. NOAA also urges DEP to continue to keep NOAA apprised of progress in this area.

*Riprap Permit-by-Rule*

MCP recognizes that many of the activities subject to the NRPA should not significantly affect the environment if conducted in accordance with the regulations' standards. Therefore, MCP has established a permit-by-rule procedure to save applicants the time and expense of filing a full permit application. One of the activities with permit-by-rule guidelines is the placement of riprap.

Permit-by-rule applies to the placement of riprap along the shoreline of coastal wetlands,<sup>5</sup> great ponds, rivers, streams and brooks only where erosion already exists and cannot be controlled by planting vegetation. Riprap must not extend higher on the bank than the level at which vegetation can be established to control erosion. Applicants must plant trees and shrubs above the riprap to replace any material removed, and vegetation must be similar in type and placement to that removed. Riprap slope must not exceed one horizontal to one vertical or be shallower than three horizontal to one vertical.

Applicants must:

- Anchor riprap at the base of the existing bank by placing the bottom row of rock in a trench excavated at least to a depth equal to the height of the largest rock;
- Place a layer of filter fabric or crushed rock or washed gravel under the riprap to prevent the washing of soil particles into the water;
- Not install any fill material below the normal high water line and must cut back eroding banks to required slopes to allow for riprap installation;
- Not put riprap in front of a retaining wall in a manner that it extends further into the water; and
- Combine riprap with tree and shrub planting to provide bank stabilization, shading of water and cover for wildlife along any river, stream or brook.

During the site visit, several participants raised questions related to potential cumulative habitat effects resulting from pervasive shoreline hardening via riprap. The amount of riprap routinely applied in Maine's coastal zone and its potential cumulative effects are unclear. Therefore, the evaluation team and MCP discussed the option of reviewing the riprap permit-by-rule.

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<sup>5</sup> Only to protect a structure within 100 feet of an eroding bank and never in any portion of a coastal sand dune system or in areas containing soft-bottom/mudflat sediments or salt marsh vegetation.

**MCP #2 – PROGRAM SUGGESTION:** NOAA encourages MCP to: (1) examine the extent of riprap along Maine’s coastline; (2) review the standards for placement of riprap under the permit-by-rule program; and (3) determine if additional standards or alternative permits should be required to lessen or mitigate for habitat damage resulting from cumulative effects of riprap placement.<sup>6</sup>

### **b. Site Location of Development Law**

The Site Location of Development Law (Site Law) was created to regulate uses of regional or statewide concern, such as mining, certain subdivisions and structures, and developments in excess of 20 acres. In 2002, the Site Law was amended to remove language in the Municipal Capacity Section that would have exempted all municipalities with populations in excess of 5,000 from jurisdiction under the law beginning January 1, 2003. The language had been added to the law in 1997 in order to encourage municipalities to assume greater responsibility for regulating development in their communities. At that time, there was an expectation that MCP would increase its efforts to build local and regional development review processes. NOAA, as well as others, expressed significant concerns with the potential exemption of the localities from the program.<sup>7</sup> Although some progress was made in the development of technical assistance bulletins for regional governments, staff resource limitations precluded a concerted effort. A total of eight municipalities were originally determined to have capacity and continued to maintain that capacity at the time of the evaluation site visit. Essentially no other municipalities have expressed an interest in seeking the capacity determination.

### **c. Mandatory Shoreland Zoning Act**

The Mandatory Shoreland Zoning Act requires each of Maine’s 452 organized municipalities to adopt and administer ordinances regulating land use activities in the shoreland zone. The shoreland zone consists of those areas within 250 feet of the normal high-water line of great ponds, rivers and tidal waters; within 250 feet of the upland edge of freshwater and coastal wetlands; and within 75 feet of streams. The purposes of the ordinances are numerous, including: (1) protection of water quality, wildlife habitat, freshwater and coastal wetlands, and commercial fishing and maritime industries; (2) conservation of shore cover and visual as well as actual points of access to inland and coastal waters; (3) conservation of natural beauty; and (4) anticipation of and response to development impacts.

MCP is responsible for ensuring that the municipalities are reasonably administering and enforcing the ordinances adopted pursuant to the Mandatory Shoreland Zoning Act. During the review period, MCP reviewed and acted upon more than sixty ordinances and amendments. MCP conditionally approved an average of five ordinances annually. The number of state-imposed shoreland zoning ordinances did not decline significantly during

<sup>6</sup> This program suggestion is directed at Maine’s coastal shoreline only. It does not include lakes within the coastal zone.

<sup>7</sup> This issue is discussed in detail in the MCP Final Evaluation Findings released in 2001.

the review period. It appears that most towns with state-imposed ordinances are content to maintain that status.

#### **d. Federal Consistency**

The Coastal Zone Management Act (CZMA) requires federally conducted, licensed or funded activities in or affecting Maine's coastal zone to be consistent with the enforceable policies of Maine's federally approved coastal program. For Maine's networked program, the enforceable policies consist of generally applicable state statutes and rules. MCP's objective is to use the same review and decision-making process for both federal consistency review and licensing and permitting to the greatest extent possible. Such an approach promotes both efficiency and fairness in considering all proposals subject to state environmental standards.

MCP staff at SPO coordinate the implementation of federal consistency authority with assistance from DEP and other state agencies. One of the strengths of MCP's federal consistency implementation is its emphasis on early coordination. The initial step in federal consistency review is contacting the Federal Consistency Coordinator at SPO to inform the state of the proposed action. This early coordination answers questions regarding whether a review is necessary and the scope of the review. In many instances, SPO will refer the federal agency to DEP to discuss whether and how enforceable policies apply to the federal proposal. If necessary, SPO will arrange an "early coordination" meeting at which the activity is discussed by the relevant state authorities to identify and, whenever possible, to resolve any issues that are likely to arise when the formal consistency request is made. NOAA commends MCP for its emphasis on early coordination in its implementation of federal consistency.

Most of the activities requiring consistency determinations during the review period involved wetland alterations under the NRPA and construction activities under the Site Law. The majority of the projects were located at either the Portsmouth Naval Shipyard or the Brunswick Naval Air Station. While MCP has emphasized early coordination in federal consistency implementation, the coastal program often encountered resistance from some of the federal agencies involved. Some agencies routinely balk at providing the level of information necessary to allow for an adequate and timely consistency review. Although MCP has ultimately been successful in resolving such issues, improved cooperation would greatly facilitate the consistency review process. NOAA and MCP should continue to work together to identify options for improving cooperation among federal agencies regarding federal consistency implementation.

#### **e. Enforcement**

MCP administers enforcement efforts through DEP. Permit data, including full permits and permit-by-rule notifications, indicates increased permitting in the southern areas of the state and more moderate growth in the central and eastern areas. For the majority of the review period, MCP witnessed a reduction in the number of full permit applications filed. However, a significant upturn in full permit application filings occurred at the end

of the review period. At the time of the site visit, MCP expected the upward trend in the number of full permit applications filed for review to continue into the foreseeable future. As full permit applications increase, so too will enforcement challenges. In Maine, as in most states, resources to enforce program policies are stretched thin, and programs must prioritize enforcement activities.

**MCP #3 – PROGRAM SUGGESTION:** NOAA encourages MCP to identify priority management-related information needs, such as data, field assessments, monitoring and research studies to assist with implementation and enforcement of Maine’s core environmental laws. Information needs should be routinely communicated to the scientific community and other appropriate parties.

During the site visit, the evaluation team learned that approximately half of all complaints received by enforcement staff are “dead file complaints,” i.e. the activity in question is not an actual violation. Many such complaints appear to be the result of public confusion surrounding the revision of the coastal sand dune rules.<sup>8</sup> Unfortunately, investigating such complaints results in a great deal of wasted staff time. At the time of the site visit, enforcement staff were exploring options for reducing dead file complaints. For example, informational brochures, handbooks and targeted workshops are potential methods of providing the public with accurate enforcement information. NOAA encourages MCP to continue exploring options to reduce complaints about non-violations, particularly those related to the revision of the coastal sand dune rules.

**MCP #4 – PROGRAM SUGGESTION:** In order to address challenges presented by the upward trend in permit reviews, NOAA encourages MCP to consider: (1) developing criteria to prioritize enforcement actions; and (2) assessing trends regarding requests for enforcement visits and inquiries about potential violations in order to identify opportunities where additional public outreach materials could clarify activities allowable under current laws and rules, thus minimizing unnecessary field trips.

## 2. SUPPORTING MUNICIPALITIES

Municipal capacity in Maine is defined by a community’s ability to make appropriate and qualified decisions about land development review and enforcement of land use ordinances and standards. Such capacity requires: (1) knowledge, training and support of local officials and boards, and (2) other professional support for planning, land use regulation and technical review of development proposals. MCP actively works with communities on zoning and other forms of land use management that are integral to local matters, state planning goals and coastal management objectives. NOAA applauds MCP for its support to municipalities. Examples of MCP’s strong support to municipalities are described below.

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<sup>8</sup> See §III-C-1-a of these findings for a description of the coastal sand dune rules revision.

### **a. Land Use Planning**

As in many states, Maine's population has steadily spread outward from town centers. This development pattern, called sprawl, often creates unintended side effects such as degraded air and water quality. SPO evaluated Maine's Growth Management Program and arrived at four key findings: (1) no one entity can achieve the state's goals; (2) sprawl is not linear; (3) data to measure success is lacking; and (4) resources are limited. SPO's evaluation also identified nine priority action areas for the office and its partners:

- Support collaborative forums of smart growth interests;
- Evaluate tax reform options;
- Coordinate planning and investment;
- Plan for local street and infrastructure investment;
- Optimize school construction funds;
- Focus environmental regulation;
- Provide housing choices;
- Build capacity to measure outcomes of smart growth efforts; and
- Set priorities.

During the review period, MCP worked extensively to reverse the trend of urban sprawl by encouraging dialogue on smart growth. In 2001, the coastal program co-hosted the Maine Smart Growth Institute, an intensive two-week professional development program that was attended by 50 planners, engineers, designers and local officials. MCP also helped create and distribute the Smart Growth Toolbox, a kit containing publications, videos, model ordinances and other resources to help professionals and volunteers plan for smart growth.

MCP provides funding and technical assistance to support coastal municipalities' planning efforts. During the review period, the coastal program funded the development of a new planning tool. The "Beach Management Scoring System" was designed to help municipal officials, permit-issuing agencies, and others make sound management decisions along Saco Bay, Maine's longest contiguous sandy shoreline.<sup>9</sup> The goal of the project was to utilize historic shoreline change data, in addition to various physical beach characteristics, to develop a scoring system that identifies the need for beach management and helps to determine applicable beach management actions. Led by the MGS, the project team packaged the information in a useful geographic information system (GIS) map showing the entire shoreline with a color-coded scoring system.

The Beach Management Scoring System characterizes shoreline segments<sup>10</sup> based on criteria such as historic shoreline change, shoreline type, dry beach width, total width, beach and dune profiles, difference from base flood elevation, and beach volume change.

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<sup>9</sup> During the review period, Beach Management Scoring was also completed for the Wells Embayment (Ogunquit, Moody, Wells, Drakes, Laudholm, Parsons, Kennebunk and Kennebunkport); Goose Rocks Beach and Fortunes Rocks Beach in Biddeford; Scarborough Beach and Higgins Beach in Scarborough; Small Point Beach, Popham Beach and Reid State Park.

<sup>10</sup> Intervals of 100 feet.

Each shoreline characteristic is assigned a ranking that staff use to calculate a normalized score that describes the overall management need for the shoreline segment. The system then addresses specific management actions such as beach nourishment, dune restoration or no action. Weights for various actions are based on each characteristic's importance to the management action. The final score identifies the most appropriate action or combination of actions for each shoreline segment.

Coastal program funds also enabled the Southern Maine Regional Planning Commission to acquire new software that analyzes existing development patterns. The software displays a variety of future land-use scenarios that demonstrate how different policies and standards will affect development. In addition, MCP funds allowed the Greater Portland Council of Governments to purchase a new smart growth component for its web-based mapping service. The new technology helps municipalities analyze development patterns and determine the effectiveness of smart growth planning.

During the review period, MCP developed a variety of planning guides to help communities better manage growth. "The Community Visioning Handbook" provides a process for residents to imagine the best possible future for their town and to craft a comprehensive plan to achieve that vision. "Financing Infrastructure Improvements through Impact Fees" helps municipalities fund some of the public costs associated with residential development. "The Land Stewardship Incentives and Education Project Report" presents ways that towns can help manage growth using incentives instead of regulations.

## **b. Training**

Training is a critical aspect of capacity building. One of MCP's significant training efforts supports the Municipal Code Enforcement Officer Training and Certification Program. Maine's Growth Management Act of 1987 specifically prohibits municipalities from employing uncertified individuals as Code Enforcement Officers. The purpose of the training and certification program is to build and strengthen local officials' capabilities to administer and enforce ordinances. Certification areas include shoreland zoning, land use and zoning, building standards, internal plumbing and subsurface wastewater disposal. The coastal program provides initial training and certification as well as continuing education to ensure that Code Enforcement Officers have the most current information about land use, shoreland zoning and plumbing and building standards. The training has resulted in the placement of certified officers in 98.5 percent of municipalities and has become a national model.

## **c. Public Access**

During the review period, MCP continued to emphasize the importance of public access to Maine's coastal waters. The coastal program works closely with the Land for Maine's Future (LMF) Program,<sup>11</sup> state agencies, municipalities and local land trusts to protect

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<sup>11</sup> The program was created in 1986 by recommendation of the Governor's Special Commission on Outdoor Recreation. The program's mission is to reduce threats to Maine's natural heritage and traditions

properties that improve public access to the coast. MCP provides one-half of a full time equivalent in staff time to the LMF Program and counts LMF projects in the coastal zone towards its non-federal match. During the review period, numerous acquisitions in the coastal zone occurred through LMF. MCP also worked with the Maine Department of Conservation and Transportation and the National Park Service to assist the towns of Isle au Haut and Stonington to purchase half an acre of shorefront property with a natural granite boat launch, thus ensuring water and island access for the public. Additionally, the coastal program updated its coastal access inventory and developed a strategic planning document, “Coastal Water Access Priority Areas for Fishing and Boating.”

MCP operates the Right-of-Way Rediscovery Program, which awards small grants to coastal municipalities to rediscover or reaffirm public rights-of-way to the coast that might otherwise be forgotten or lost. The grants have financed deed research, surveying, legal fees and the preparation and publication of town reports. The grant program has supported strong projects throughout coastal Maine that have resulted in important new public rights-of-way. Cumberland, Jonesboro, Freeport, Searsport, Woolwich and Tremont are among the towns that have benefited from the Right-of-Way Rediscovery Program.

#### **d. Working Waterfronts**

MCP’s efforts to advance the CZMA goal of giving priority consideration to water dependent uses along the coast is evidenced in its work with municipalities to preserve and enhance Maine’s working waterfronts. Only 25 miles of Maine’s extensive coastline support working waterfronts. The commercial fishing and marine trades that occur along working waterfronts contribute more than \$800 million to the state’s economy and employ approximately 30,000 people. Unfortunately, many public facilities are struggling to accommodate the growing number and size of recreational boats, which can crowd out commercial fishermen. Additionally, private access points are yielding to economic and development pressures and being converted into exclusive residential or recreational use.

With concerns mounting over the future of working waterfronts, a variety of organizations joined together to form the Maine Working Waterfront Coalition. Members include:

- Associated Fisheries of Maine
- Coastal Enterprises, Inc.
- Island Institute
- MCP
- Maine Department of Marine Resources
- Maine Department of Inland Fisheries and Wildlife
- Maine Fishermen’s Wives Association

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through land conservation. By January 2004, the program had protected more than 192,000 acres in 115 projects funded through two public bonds and a legislative appropriation.

- Maine Lobstermen’s Association
- Maine Marine Trades Association
- Maine Sea Grant Program
- Muscongus Bay Realty
- Northend Cooperative
- Sunrise County Economic Council

The Coalition’s agenda comprises public policy initiatives, education, investment and research. Members are working to develop a variety of programs and techniques that will help communities solve waterfront problems. The Coalition is developing policy initiatives in property taxation as well as exploring new forms of conservation ownership and opportunities for education and outreach. For example, the Coalition has advocated for, but not yet won, a tax reform package that assesses properties related to commercial fishing on their current use rather than their “highest and best use,” which is the typical assessment standard.

MCP provides technical support, workshops and web resources to municipalities as part of its work with the Coalition. The coastal program also guides towns towards water access grant opportunities. For example, MCP provided two grants for working waterfront projects in Rockland and Jonesboro. Rockland analyzed several options for improving municipal management of its fishing pier, while Jonesboro completed an engineering evaluation and preliminary design for refurbishing the town’s commercial fishing pier and an adjacent property.

**ACCOMPLISHMENT:** MCP provides outstanding support to municipalities. The coastal program has employed innovative approaches to: (1) improve coastal land use planning and reduce urban sprawl, particularly through development of management tools such as the “Beach Management Scoring System;” (2) enhance training opportunities for coastal professionals, particularly Code Enforcement Officers; (3) increase public access and rediscover historic rights-of-way; and (4) preserve and strengthen working waterfronts.

### 3. SUSTAINING COASTAL RESOURCES AND HABITATS

Maine’s coastal zone contains a myriad of economically vital resources and habitats spanning rocky shores and estuaries to large forested tracts. MCP effectively collaborates with local partners to protect and enhance the health of these coastal resources and habitats. For example, the coastal program works closely with coastal watershed groups to: (1) identify and eliminate sources of polluted runoff; (2) develop watershed management plans; (3) educate residents about coastal pollution; and (4) restore important habitat areas in coastal watersheds. During the review period, MCP helped sustain coastal resources and habitats through efforts such as those described below.



### **a. Water Quality Improvement**

MCP has engaged in many initiatives to improve coastal water quality through the reduction of nonpoint source pollution. Section 6217 of the CZMA Reauthorization Amendments of 1990 requires that each state with a federally approved coastal management program develop a coastal nonpoint source pollution control program (NPS Program). In 2003, Maine became the 13<sup>th</sup> state to receive full approval of its NPS Program from NOAA and the U.S. Environmental Protection Agency (EPA). NOAA congratulates MCP on final approval of its NPS Program.

MCP worked with EPA, DEP and local partners to launch Maine's Nonpoint Education for Municipal Officials (NEMO), an educational program for land use decision-makers.<sup>12</sup> NEMO addresses the relationship between land use and natural resource protection with a focus on water resources. NEMO begins with a customized basic presentation that explains the links between land use, water quality and community character. The program subsequently offers follow-up presentations and materials to assist communities begin natural resource-based planning.

Maine NEMO began as a pilot effort in a few communities. For example, initial NEMO presentations to residents of Freeport, South Portland, Bar Harbor and Rockport described controlling polluted stormwater runoff through improved development practices. At the time of the evaluation site visit, Maine NEMO had transitioned from a local pilot project to a statewide program through the establishment of a train-the-trainer program and a Maine NEMO Network. The train-the-trainer program was offered to key personnel from DEP, MCP, Soil and Water Conservation Districts, Maine Sea Grant and Wells National Estuarine Research Reserve (WNERR). Once trained and equipped with the "NEMO Toolbox," personnel presented NEMO to communities throughout the state.

In 2003, MCP and the Casco Bay Estuary Project joined with the Cumberland County Soil and Water Conservation District and other partners to co-host the "Stormwater Management in Cold Climates: Planning, Design and Implementation Conference" in Portland. As the first North American meeting of its kind, the conference drew nearly 400 attendees from five countries and 22 states. National and international experts shared case studies and new technology on the specific challenges of managing stormwater in cold regions. Evaluation forms indicated that the conference was very successful.

MCP also created the Maine Coastal Watersheds Pledge Book, which explains how watersheds work and outlines ways that citizens can promote healthy watersheds and coastal waters by controlling household pollution. The pledge book describes overlooked sources of pollution (such as pets, household cleaners and yard maintenance) and 54 practices that residents can readily employ to conserve and protect their watersheds.

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<sup>12</sup> Maine modeled its NEMO program after comparable programs in other states. NEMO originally was conceived as a pilot project to assist local officials in three Connecticut coastal towns address the issue of nonpoint source pollution. In addition to training and educational programs adapted from Connecticut's work, Maine NEMO developed a lakes educational module.

Citizens are encouraged to sign and return their Watershed Pledge Cards to MCP. Everyone who takes the pledge receives a watershed-themed clay tile designed by the Watershed Center for the Ceramic Arts. The pledge book was developed as part of a pilot campaign in the Penobscot Bay and Muscongus Bay regions, in collaboration with MCP priority watershed partners. Other elements of the pilot campaign included posters, book covers, radio spots, public service ads and a television show.

During the review period, MCP and several partners used EPA funding to develop the Maine Healthy Beaches Program.<sup>13</sup> The goal of the program is to ensure that the state's swimming beaches remain safe and clean. The Healthy Beaches Program notifies the swimming public when the water quality at a pond, lake or coastal beach is poor. The program has established a unified beach-water quality monitoring and education system that includes:

- Gathering extensive information on the individual beaches throughout Maine;
- Identifying and promoting healthy practices for beachgoers;
- Surveying beachgoers to determine levels of public awareness and rates of water-related illness;
- Development and implementation of sampling and detection methodologies for lake, pond and coastal beach water; and
- Public education programs and notification plans.

Each year, DEP provides grants for NPS projects to help restore or protect lakes, streams or coastal waters that are impaired or considered threatened by polluted runoff.<sup>14</sup> An interagency review committee composed of representatives from DEP, EPA, Maine Department of Transportation and MCP evaluate and score all proposals. The evaluation team noted that, in general, inland NPS projects tend to be stronger than coastal NPS projects. NEMO's transition to a statewide program will likely help improve the quality of proposals submitted for NPS funding. However, NOAA also encourages the interagency partners to consider additional means of improving the quality of coastal NPS projects.

The revision of DEP's stormwater management rules is another of MCP's significant achievements during the review period. Maine's Stormwater Management Law was adopted in 1996 and created "most at risk" and "sensitive or threatened" categories. Under the law, 235 lakes, seven estuaries and two streams were classified as "most at risk" while all other lakes and 15 rivers and streams were classified as "sensitive or threatened." Unfortunately, implementation of Maine's Stormwater Management Law was problematic. For example, the law did not cover: (1) quality standards outside of "most at risk" or "sensitive or threatened" areas; (2) disturbances of less than five acres if an impervious surface threshold was not reached; (3) existing development; and (4) new single-family homes. According to several interviewees during the site visit, the law's quality and quantity standards were inadequate, and maintenance of best management

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<sup>13</sup> EPA provided \$259,000 for the Maine Healthy Beaches Program.

<sup>14</sup> Funding for DEP's NPS grant program is provided by EPA under §319 of the Clean Water Act.

practices was weak. Additionally, stormwater management rules were very complex and poorly coordinated with the requirements of the National Pollutant Discharge Elimination System Program.

In May 2003, MCP reconvened a stakeholder process<sup>15</sup> to provide input on a stormwater management report to the Maine Legislature and to draft revisions to the stormwater management rules. The group agreed on several guiding principles:

- Stormwater standards should provide “meaningful protection;”
- Stormwater standards should not foster sprawl as an unintended consequence;
- Stormwater standards should be understandable; and
- Stormwater standards should not conflict with other major environmental initiatives.

The resulting report to the legislature proposed three changes to the stormwater statute: (1) set a one-acre disturbance threshold for jurisdiction; (2) eliminate restrictions on where quality standards apply; and (3) allow DEP to regulate significant existing sources where urban runoff is identified as a problem through Total Maximum Daily Load. In March 2004, DEP proposed major changes to the stormwater management rules: (1) replace “quantity” and “quality” standards with one set of standards; (2) apply standards in all watersheds; (3) drop the “most at risk” designation except for lakes; (4) drop the “sensitive or threatened” designation; (5) adopt additional requirements for impaired urban streams. In response, the Maine Legislature mandated that the Board of Environmental Protection must adopt provisional stormwater management rules and submit them to the legislature by January 2, 2005. The legislature also directed DEP to submit a bill to resolve the inconsistencies between the rules and the stormwater law.

## **b. Fisheries Management**

During the review period, MCP was actively involved in a variety of fisheries management efforts in Maine. For example, the state broadened its co-management approach to include the scallop fishery. The coastal program supported a cooperative forum for improving scallop management that culminated in a set of new harvesting rules and practices. An ad hoc scallop committee composed of fishermen, regulators and other industry members identified measures to improve the fishery’s overall biological health. New regulations were established in concert with a Scallop Advisory Council and a license surcharge to fund scallop research.

MCP funding helped the Department of Marine Resources (DMR) to create marine habitat maps that identify associations between juvenile fishes and their habitats. Such maps assist fisheries managers in considering ecosystem approaches to management. The study integrated the use of both traditional and more technologically advanced research tools to generate new information about Maine’s nearshore habitats in Penobscot Bay, Saco Bay and the Sheepscot River.

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<sup>15</sup> Originally convened in 2001 to address NPDES Program requirements.

During the past three decades, Maine’s marine aquaculture industry has grown from a handful of experimental farms into an industry with an estimated production value of \$57 million that employs more than 300 full-time workers. In 2003, the state legislature established an Aquaculture Task Force and charged it with specifically reviewing:

- Bay management;
- Current and predicted characteristics of the industry, including economic impact;
- Impacts of aquaculture on tourism, recreation, conserved lands, fisheries, ecology and options for mitigation of impacts;
- Leasing impacts;
- Role of municipalities in leasing;
- Current laws; and
- Submerged lands policy and rights of riparian landowners.

MCP provided staffing and funding to the Aquaculture Task Force. Recognizing the limitations of the current leasing process and the need for greater community involvement, the Task Force set out to improve the planning and regulatory process and support the growth of the industry in an economically and ecologically sustainable way. After six months of intensive work, the Task Force issued its findings in January 2004.<sup>16</sup> The Maine Legislature adopted the statutory recommendations of the Aquaculture Task Force in Spring 2004.

The coastal program, in partnership with Maine Sea Grant, also produced an informative booklet for municipal officials and interested citizens called, “Marine Aquaculture – How the Public Can Participate in the Leasing Process.” The booklet discusses: (1) the definition of aquaculture; (2) the location of Maine’s aquaculture farms; (3) the process for granting leases; (4) DMR’s application processing; (5) public participation; and (6) sources for additional information.

### **c. Habitat Protection and Restoration**

MCP works in a variety of ways to protect and restore Maine’s coastal habitats. For example, MCP provides staff and funding support for the “Beginning with Habitat Program,” a prime example of MCP’s innovative conservation efforts. Cooperative and non-regulatory, Beginning with Habitat is a landscape approach to assessing conservation needs and opportunities to maintain current levels of biodiversity in the state and along the coast. The goal of the program is to provide municipal officials, land trusts and other conservation organizations with the most up-to-date wildlife and plant habitat information available for use in open space, conservation and comprehensive planning efforts.

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<sup>16</sup> The final report and complete proceedings of the Aquaculture Task Force are available at <http://www.maine.gov/dmr/aquaculture/aqtaskforce/aqtfhomepage.htm>.

The program compiled geo-referenced habitat information from a wide variety of state and federal sources and conducted a GIS analysis. By overlaying species of interest habitat needs maps with Maine's primary land cover types in GIS, the state was able to identify priority habitats needed to support species of interest. The GIS analysis led staff to report that 80-95 percent of all Maine's terrestrial vertebrate species would likely be present if riparian habitats, high value animal habitats, and large habitat blocks are protected.

The Beginning with Habitat program is unique because it represents the first effort in which diverse organizations<sup>17</sup> with different goals have partnered to provide habitat information through one focused project. The program provides towns with both a collection of maps and information about significant habitat in the area as well as the technical assistance needed to understand and use the information. At the time of the site visit, the program had completed 138 town maps and given 102 presentations. Towns have used Beginning with Habitat information in a variety of ways, including:

- Making maps available for public inspection;
- Screening applications and development;
- Supporting increased shoreland zoning protection;
- Prioritizing lands for purchase or easement using local bond monies;
- Addressing natural resource issues in comprehensive plans; and
- Providing a baseline for a regional open space or land use plans.

During the review period, MCP, the Gulf of Maine Council and the NOAA Restoration Program established the Gulf of Maine Council/NOAA Habitat Restoration Partnership. MCP staffs the partnership and administers funding for habitat restoration grants. The effort focuses on community-based habitat restoration in the Gulf of Maine, including salt marsh tidal flow and barriers to diadromous fish passage as well as subtidal habitats. The partnership has funded 43 restoration projects since 2002 and granted approximately \$1.2 million, with non-federal match greatly exceeding this amount.<sup>18</sup> The establishment of the partnership is one of MCP's significant accomplishments during the review period. While the program's staff position is funded by a National Marine Fisheries Service grant, the partnership represents a significant new program area for MCP, and MCP resources are integral to its success.

One of MCP's habitat restoration focus areas has been economically valuable fisheries. During the review period, MCP facilitated coastal habitat conservation projects to restore salt marsh, riverine habitat for anadromous fish and tidal mudflats. For example, MCP

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<sup>17</sup> Program partners include Maine Department of Inland Fisheries and Wildlife, Maine Natural Areas Program, MCP, Regional Planning Commissions, Maine Audubon Society, The Nature Conservancy, U.S. Fish and Wildlife Service and University of Maine.

<sup>18</sup> In addition to providing grants for projects, the Partnership also completed the Gulf of Maine Habitat Restoration Strategy in October 2004 (following the review period). The document provides a framework for coastal and estuarine habitat restoration efforts in the Gulf of Maine. It also describes types of habitats, impacts and threats to habitats, and alternatives for restoring impacted habitats. The strategy identifies two regionally significant habitats within each of the Gulf of Maine's five jurisdictions that are in need of restoration.

provided a small matching grant to assist with the removal of Smelt Hill Dam on the Presumpscot River Estuary, opening seven miles of riverine habitat above the head of tide to anadromous fish. The coastal program also assisted with a project to restore fish runs below Sebasticook Lake.

Additionally, MCP devoted considerable staff time to significant river restoration projects associated with hydroelectric relicensing during the review period. For example, the Penobscot River Basin has long been a focus of federal and state diadromous fishery restoration efforts. Much of the basin's best habitat for Atlantic salmon lies in the Piscataquis River watershed. The Piscataquis is a major tributary of the Penobscot River. The Federal Energy Regulatory Commission's relicensing proceedings for several hydroelectric projects in this region provided a unique opportunity to secure river conditions necessary for restoration of self-sustaining populations of Atlantic salmon, alewife, shad, American eel, and other diadromous species indigenous to the Penobscot Basin. MCP staff coordinated with DMR and other state and federal agencies to facilitate the state's participation in these relicensing matters in order to address state diadromous fisheries restoration objectives.

#### **d. Information Management and Data Accessibility**

In addition to efforts such as water quality improvement and fisheries management, the development of unique tools to improve information management and data accessibility is an important component of sustaining coastal resources and habitats. During the review period, MCP played a pivotal role in creating the Gulf of Maine Ocean Observing System (GoMOOS). The system is dedicated to the delivery of real time or near real time oceanographic information to a variety of users. GoMOOS includes a moored array consisting of 13 buoys equipped with physical and optical sensors, shore-based radar for detecting surface waves, satellite sensing of sea surface temperature, ocean color and wind, and numerical modeling of ocean currents and waves. All the information is available to the public, free of charge, through the Internet.<sup>19</sup> While ocean observing systems exist in other areas, GoMOOS is one of the first designed to meet the needs of a variety of users on a large scale. It is also one of the first systems organized as a membership organization. GoMOOS is considered a national model for integrated ocean observing.

In response to a previous evaluation recommendation, MCP conducted a statewide assessment of GIS and assisted the Maine Legislature with the creation of, and establishment of a funding source for, the Maine GeoLibrary. The "library" is a statewide network officially sanctioned by the Legislature through which data custodians or their designees organize, catalog and provide access to public geographic information to all levels of government and the public. The GeoLibrary One-Stop Portal includes: (1) geospatial data and service discovery; (2) an interactive Internet map to view data; (3) the ability to clip, zip and ship data within a limited extent; (4) print tools for basic maps; (5) tools for organizations to register data; and (6) integration with *Geospatial OneStop* and

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<sup>19</sup> <http://www.gomoos.org>

*The National Map.* NOAA commends MCP for its work to improve information management and data accessibility.

**ACCOMPLISHMENT:** MCP works effectively with its partners to sustain coastal resources and habitats. The coastal program received full approval of its coastal nonpoint source pollution control program, expanded the Nonpoint Education for Municipal Officials Program statewide, and developed the Maine Healthy Beaches Program. MCP provided significant funding and staff to Maine’s Aquaculture Task Force. The coastal program strongly supported “Beginning with Habitat,” a unique, cooperative and non-regulatory landscape approach to assessing conservation needs and opportunities. MCP, the Gulf of Maine Council and the NOAA Restoration Program established the Gulf of Maine Council/NOAA Habitat Restoration Partnership. MCP also contributed significantly to innovative information management and data accessibility projects such as GoMOOS and the Maine GeoLibrary.

#### **4. PROMOTING EDUCATION AND OUTREACH**

Recognizing that citizen involvement is critical to the protection of Maine’s coastal resources, MCP has developed a strong education and outreach component. MCP uses a variety of methods to foster increased public participation through heightened awareness of coastal issues, and has demonstrated national leadership in the areas of promoting stewardship and the use of volunteers. NOAA commends MCP on its education and outreach efforts. Several examples of MCP’s innovative education and outreach work are described below.

MCP provides ongoing support to local volunteers who help sustain the health of Maine’s coast through monitoring efforts, community projects and cleanups. For example, MCP and its partners manage the Coastal Stewards, an adult education program that provides Maine residents with detailed information about their region in exchange for a commitment of volunteer time. The Coastal Stewards Program encourages citizen involvement by having each steward participate in a course that meets twice-weekly for five weeks. The course explores the natural and cultural features of the local region. After completing the course, participants contribute at least 30 hours of community service to help conserve their coastal natural and cultural resources. Volunteer activities include assessing habitats, monitoring coastal waters and watersheds, conserving land, preserving historical areas, protecting and restoring habitat, participating in community planning, and other activities. Currently, three Coastal Stewards programs operate in Maine: Penobscot Bay, Midcoast, and St. Croix Estuary. In the Penobscot Bay region, 120 people have completed the course and contributed more than 5,000 hours of volunteer time to their communities.

In 2001, the coastal program helped launch a volunteer monitoring program to survey Maine’s breeding horseshoe crab population at 15 locations between Brunswick and eastern Maine. With staff support funded by MCP, DMR coordinated more than 50 volunteers to conduct the crab counts. The survey was the first such study in more than two decades and provided the baseline for an ongoing monitoring program.

MCP also organizes a Coastweek Celebration and coastwide cleanup each fall. During the review period, participation in the coastwide cleanup expanded considerably. In 2002 and 2003, more than 5,000 volunteers covered 236 miles of coastline and collected more than 12 tons of marine debris. Cigarette filters, plastic packaging, and fishing-related materials topped the list of trash. To help reduce marine debris at its source, coastal program staff developed a Coastweek activity called “Making a Debris-free Lunch.” The activity asks school students to consider and discuss alternatives to product packaging by substituting containers that can be reused or recycled.

Additionally, MCP produces a variety of educational materials to inform residents and visitors about coastal resources and to inspire coastal stewardship. For several years during the review period, MCP, Maine Sea Grant and WNERR produced “Sea and Shore,” a series of radio spots about coastal resources. The spots featured topics ranging from alewife migration to beach restoration. MCP has provided editorial contributions to “The Gulf of Maine Times.” The program also regularly produces several highly informative newsletters such as “Maine Coastline,” which provides excellent information on timely coastal issues such as aquaculture, nature-based tourism and working waterfronts.

**ACCOMPLISHMENT:** MCP has developed a strong education and outreach component. The coastal program uses a variety of media as well as personal contact to educate and inform the public about Maine’s coastal resources. MCP representatives regularly attend public events to improve awareness of coastal issues.



## **IV. THE WELLS NATIONAL ESTUARINE RESEARCH RESERVE**

### **A. RESERVE SITE DESCRIPTION**

The Wells National Estuarine Research Reserve (WNERR) protects fields, forests, freshwater wetlands, salt marsh and sandy beach on the densely populated southern coast of Maine. The reserve's properties include: (1) the historic Laudholm Farm; (2) a 1,016 acre portion of the Rachel Carson National Wildlife Refuge; (3) approximately 200 acres of a state park; (4) a conservation easement of nearly 23 acres; (5) 37 acres of conservation land owned by the WNERR Management Authority (RMA); and (6) 60 acres of submerged tidal lands.

WNERR encompasses nearly 1,600 acres in the lower drainage basins of the Webhannet and Little River estuaries. Both rivers empty into Wells Bay, a sandy basin stretching approximately ten miles. Double spit barrier beaches attached to the mainland border each river's inlet. Due to a relatively low freshwater flow, the estuarine system is dominated by semi-diurnal tides having a range of 8.5 to 9.8 feet. The Little River system is largely undeveloped; however, the mouth of the Webhannet River is surrounded by development that includes Wells Harbor.

The site's diverse natural features form an ecosystem that is unique for its location and supports a broad variety of plants and animals. Major habitat types in the reserve include sand beach and dune systems, wetlands and upland fields and forests. Upland communities range from mowed fields to mature oak-pine forests. Small areas of predominantly swamp and floodplain freshwater wetlands as well as expanses of salt marshes and mud flats are found within the reserve.

WNERR is an integral part of the Atlantic Coast Bird Migration Corridor, and more than 200 species of birds depend on the reserve during the course of the year. Species of loons, grebes, cormorants, bitterns, herons, ibises, swans, geese, ducks, vultures, hawks, falcons, grouse, pheasants, plovers, sandpipers, gulls, terns, owls, woodpeckers, swallows, crows, chickadees, kinglets, waxlets, warblers, sparrows and finches are some of the many types of birds that use the reserve as a home or as a migration resting place.

Mammals that live on or visit the reserve include beavers, porcupine, eastern chipmunk, raccoons, red and gray foxes, gray squirrels, muskrats, skunks, woodchucks, white-tailed deer, coyote and bobcat. Common reptiles include snapping and wood turtles and several types of non-venomous snakes. The reserve's amphibian population comprises salamanders, toads, frogs and peepers.

The Webhannet and Little River estuaries are important breeding grounds for soft shell clams, green crabs and other invertebrates. The estuaries also provide excellent habitat for finfish. Striped bass and brown and brook trout support a small recreational fishery in the area.

WNERR contains three Registered Critical Areas designated by the state: (1) Wells Piping Plover Nesting Area, (2) Wells Slender Blue Flag Area and (3) Laudholm Beach. Endangered or rare species found at the reserve include least tern and piping plover. Bald eagles and peregrine falcons, both federally recognized as endangered species, hunt in the reserve's salt marshes and tidal flats. Two rare plant species, the slender blue flag iris and sassafras, are located on the reserve. Both species are at the northern range of their limit at WNERR. Two varieties of joe-pye weed, a plant species formerly thought to be extinct in Maine, also are found on the reserve.

## **B. RESERVE ADMINISTRATION**

The National Oceanic and Atmospheric Administration (NOAA) designated WNERR in 1984. The Maine State Planning Office administered the reserve during its first six years. In 1990, the Maine Legislature created the RMA as the lead state agency responsible for governing the reserve. The RMA's purpose is to manage and protect acquired lands for research, education, public access and enjoyment consistent with the goals and objectives of the reserve's management plan. The RMA employs the reserve staff and is able to acquire land or hold conservation easements for resource protection. The RMA also functions as the policy-making board for the reserve.

The RMA is governed by a Board of Directors and meets quarterly. It is composed of representatives that have a property, management or financial interest in WNERR. RMA members include representatives from the Maine Department of Conservation, the Maine State Planning Office, the Town of Wells, the U.S. Fish and Wildlife Service, NOAA and Laudholm Trust. A governor-appointed scientist also serves on the RMA.

## **C. REVIEW FINDINGS, ACCOMPLISHMENTS AND RECOMMENDATIONS**

### **1. OPERATIONS AND MANAGEMENT**

#### **a. Staff**

Reserve staff are responsible for on-site development, operations and management of WNERR. During the review period, WNERR increased its staff in the areas of research, education and stewardship with several full- and part-time positions. Staff at the time of the site visit included the Reserve Manager, Maintenance Supervisor, Office Manager, Caretaker, Research Director, five Research Associates, Restoration Scientist, Stewardship Coordinator, two Geographic Information System (GIS) Specialists, Stewardship Associate, Education Director, Coastal Training and Information Program Coordinator and Education Associate.<sup>20</sup> A combination of funds from Laudholm Trust, NOAA and outside sources fund reserve positions. NOAA commends WNERR for hiring a full complement of well-qualified personnel.

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<sup>20</sup> Of the reserve's total staff at the time of the site visit, seven – two Research Associates, Restoration Scientist, GIS Specialist, Education Associate, Coastal Training and Information Program Coordinator and Stewardship Coordinator – were added during the review period.

**ACCOMPLISHMENT:** WNERR increased its staff in the areas of research, education and stewardship with several full- and part-time positions.

#### **b. Laudholm Trust**

The Laudholm Trust was formed in 1982 to protect Laudholm Farm from development and was largely responsible for the establishment of WNERR. The Trust is a private, nonprofit organization with approximately 2,300 members. Laudholm Trust is dedicated to supporting the reserve's facilities and programs. Each year, the trust contributes private funds to the reserve for operations and capital improvement projects. More than 400 volunteers associated with Laudholm Trust assist WNERR in a range of activities and programs by donating in excess of 14,000 hours annually.

#### **c. Management Plan**

National Estuarine Research Reserve System (NERRS) regulations require each reserve to have a NOAA-approved management plan that must be updated every five years. A reserve's management plan has three primary functions: (1) to provide a framework for the direction and timing of the reserve's programs; (2) to allow the reserve manager to assess how successfully the reserve's goals have been met and to determine any necessary changes in direction; and (3) to guide programmatic evaluations of the reserve. The plan must describe the reserve's goals, objectives and management issues. It must also identify the reserve's intended strategies for research, education and interpretation, public access, construction, acquisition and resource preservation, restoration and manipulation. Additionally, the plan is required to describe staff roles in each of these areas.

At the time of the site visit, WNERR was operating under a management plan that NOAA had approved in 1996. WNERR's revised management plan, reflecting the reserve's vision and strategy for 2001-2006 was due in 2001. The reserve completed a draft revised management plan and submitted it to NOAA in May 2004. WNERR and NOAA should work together to finalize the revised management plan as soon as possible.

**WNERR #1 – PROGRAM SUGGESTION:** WNERR should finalize its revised management plan within six months following receipt of final evaluation findings.

#### **d. Strategic Plan**

In 2000, WNERR developed its first five-year strategic plan that identified the reserve's mission, philosophy, objectives and strategies with specific actions. The reserve and Laudholm Trust were the primary contributors to the strategic plan process. The Maine Coastal Program (MCP) also provided input at the beginning of the plan's development.

As described in the strategic plan, WNERR's mission is to investigate coastal environments and to increase understanding of their ecology. Through community partnerships, the reserve promotes wise stewardship of these vital resources throughout

the Gulf of Maine. The reserve's objectives are: (1) investigation; (2) understanding; (3) environmental learning; (4) community; and (5) stewardship. Concomitant strategies include:

- Offer programs and exhibits that make science relevant to people of all ages and backgrounds;
- Encourage and support research investigations regarding salt-marsh fisheries' productivity and quality of estuarine and watershed resources in partnership with Laudholm Trust;
- Fully implement the System-wide Monitoring Program;
- Provide opportunities for educators, researchers, and coastal managers to work together closely and develop integrated programs;
- Build relationships, strengthen collaborations and initiate new partnerships working closely with Laudholm Trust;
- Support actions and behaviors that foster the long-term health of the planet;
- Promote public awareness of the reserve's mission and increase program participation by working closely with Laudholm Trust;
- Build on strong intern and volunteer programs with Laudholm Trust to help the reserve carry out its mission;
- Make the reserve a place of choice to visit and hold ecology-related workshops, conferences and meetings;
- Provide a conservation resource center for those seeking information on coastal habitats and watersheds; and
- Review and evaluate all reserve programs annually.

NOAA congratulates WNERR for developing a five-year strategic plan that clearly defined its mission, philosophy, objectives and strategies. The plan has provided overarching guidance for the reserve as its core programs have grown. During the site visit, the Reserve Manager noted that the reserve planned to produce a revised strategic plan for 2005-2010. NOAA encourages WNERR to continue developing five-year strategic plans.

**ACCOMPLISHMENT:** In 2000, WNERR developed a five-year strategic plan that clearly defined its mission, philosophy, objectives and strategies. The plan has provided overarching guidance for the reserve as its core programs have grown.

#### **e. Dedicated Funding**

Each reserve in the NERRS is funded by an annual grant from NOAA that requires a state match. WNERR is the only reserve in the system that does not receive state matching funds. Rather, Laudholm Trust provides the match. In order to finance programs adequately, WNERR competes for government grants, and Laudholm Trust raises funds through its membership base and applies for foundation grants.

As noted in the reserve's 1999 final evaluation findings, one of Maine's responsibilities under the state-federal partnership that established WNERR is to implement the reserve's management plan and to commit to long-term funding of the reserve to ensure consistent operations. The RMA, as an arm of the state government, can be eligible for funds through the state budget. Minimum state funding would further establish the state's commitment to the reserve and would provide a greater degree of stability and confidence for its programs and staff.

The previous evaluation findings directed the RMA to pursue dedicated state funds for the reserve. Accordingly, WNERR, RMA and Laudholm Trust representatives attempted to secure state funding. York County legislators submitted two separate bills<sup>21</sup> to the Maine Legislature to obtain state funds for WNERR. While there was strong support for one of the bills, state budget shortfalls were cited as the reason it did not pass in the legislature.

NOAA commends WNERR, RMA and Laudholm Trust for their work to secure dedicated state funding for the reserve and encourages them to continue such efforts. While establishing a line-item in the state budget is a time consuming process, it also affords an opportunity to educate state legislators about the reserve and its programs. Although Maine, like many other states, is experiencing budget constraints, even a small amount of dedicated state funding would make a significant difference.

**WNERR #2 – PROGRAM SUGGESTION:** NOAA strongly encourages WNERR, RMA and Laudholm Trust to continue their efforts to secure dedicated state funding for reserve operations.

#### **f. Facilities**

WNERR lands are owned by the U.S. Fish and Wildlife Service, the Maine Department of Conservation, the Town of Wells and RMA. Seven miles of trails throughout the property provide excellent public access. Historic buildings, including a fully restored 19<sup>th</sup>-century farmhouse and turn-of-the-century barn, anchor the site.

During the review period, WNERR significantly renovated and upgraded its facilities. In 2001, the reserve opened the Maine Coastal Ecology Center, a \$1.6 million, 6,000 square foot facility that features a research lab, teaching lab, exhibit wings and GIS center. The reserve also established the Coastal Resource Library, a 700-square foot space in the barn and auditorium complex. The library has books, periodicals and Internet access and is a resource for coastal decision-makers, teachers, students, visiting scientists, environmental organizations and regional residents.

In addition to construction projects, WNERR also enhanced its technological capabilities by: (1) rewiring the historic Visitors' Center with dedicated fiber optic lines for voice and data; (2) installing a T-1 line, routers and three new Internet switches; (3) joining the

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<sup>21</sup> LD 171 in 1999 and LD 433 in 2001.

Maine School and Library Network, allowing T-1 Internet access; and (4) installing videoconferencing equipment in the Coastal Resource Library.

During the evaluation site visit, the Reserve Manager noted that WNERR's most immediate facilities need was dormitory space. In order to address this need, Laudholm Trust transferred the Alheim Property<sup>22</sup> to the reserve. WNERR worked with the local community and gained support for a change in the Town of Wells' zoning ordinance to allow a dormitory to be built on the Alheim Property. The reserve subsequently developed a plan to create a 4,500 square foot, 20-bed dormitory facility. At the time of the site visit, WNERR had completed the design for the dormitory and construction was scheduled to begin in Spring 2005. Other remaining facilities needs included increasing accessibility to reserve buildings and trails for disabled visitors, building an environmental chamber in the Ecology Center for research, and upgrading the exhibits in the Visitors' Center.

NOAA applauds WNERR on completing excellent renovations and upgrades to its facilities during the review period. NOAA also encourages WNERR to continue to plan carefully as it looks toward addressing its remaining facilities needs as well as towards annual and long-term operation and maintenance.

**ACCOMPLISHMENT:** WNERR significantly renovated and upgraded its facilities.

#### **g. Program Coordination**

WNERR coordinates well among reserve programs and with external partners. Not only are the reserve's core programs well established and strong, but they regularly collaborate with and assist one another. During the site visit, the evaluation team was pleased to see key linkages among the programs that are essential to the reserve's mission of maintaining a stable environment in which to conduct research and translate it to the public. WNERR also emphasizes coordination with external partners such as MCP, other state agencies, the local community and academia.

WNERR has a particularly strong partnership with Maine Sea Grant. For example, the two programs created and filled a jointly funded research and outreach professional position to meet their mutual staffing needs. WNERR and Maine Sea Grant developed an innovative technology that identifies sources of bacterial contamination in two local watersheds where high levels of fecal coliform bacteria persistently close clam flats and pose swim-beach health risks. Another cooperative project resulted in the development of "Maine Salt Marshes: Their Functions, Values and Restoration," a publication designed for coastal decision-makers and community members. With support from WNERR, Maine Sea Grant coordinated the successful Maine Beaches Conference in both 2002 and 2003. NOAA commends WNERR for its strong commitment to coordination among its core programs and with a wide variety of external partners and encourages it to continue such efforts.

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<sup>22</sup> 37 acres with two buildings.

## 2. RESEARCH AND MONITORING PROGRAM

WNERR has an outstanding Research and Monitoring Program that studies and monitors change in Gulf of Maine estuaries, coastal habitats and adjacent coastal watersheds and produces science-based information needed to protect, sustain or restore them. In a typical year, the Research and Monitoring Program directs or assists more than 20 studies involving dozens of scientists, students and staff from the reserve, academic and research institutions, resource management agencies and environmental and conservation groups. The program supports field research along Maine's southwest coast from the Kennebec River to the Piscataqua River, including nearshore and offshore waters of the Bigelow Bight. Within this region, the program focuses efforts on coastal compartments from Kittery to Cape Elizabeth, which are characterized by numerous marsh-dominated estuaries and barrier beaches.

WNERR's Research and Monitoring Program focuses on four primary themes:

- Estuarine Water Quality
- Salt Marsh Habitats and Communities
- Distribution and Abundance of Fish, Shellfish and Birds
- Salt Marsh Degradation and Restoration

### *Estuarine Water Quality*

The Research and Monitoring Program monitors water quality continuously at several stations with automated instruments as part of the System-wide Monitoring Program (SWMP), as well as bimonthly at 15-20 stations through the Watershed Evaluation Team Volunteer Monitoring Program. Information gathered from these data: (1) has allowed the Research and Monitoring Program to identify several bacterial "hot spots;" (2) is used to identify and open areas safe for shellfishing; and (3) has revealed a link between tides and low dissolved oxygen levels. The Research and Monitoring Program's water quality work has contributed to the designation of several "Priority Watersheds" in coastal southern Maine. Additionally, the reserve's partnership with Maine Sea Grant and the University of New Hampshire has resulted in the identification of species-specific sources of bacterial contamination in the state's coastal watersheds.

### *Salt Marsh Habitats and Communities*

Factors that control the dynamics and vigor of salt marsh plant communities and marsh peat formation determine the ability of a salt marsh to persist in the face of sea level rise. Through a combination of experimental manipulations and long term monitoring, the Research and Monitoring Program is producing data to answer questions concerning the sustainability of natural and restored salt marsh habitats in the region. Studies look at nutrient-plant relations, plant community responses to physical and hydrologic disturbance, and the relative contribution of short-term natural events – such as storms – and human activities – such as dredging and tidal restriction – on patterns of sediment accretion and erosion. WNERR's marshes and beaches are among the nation's best-studied sites with regard to long-term accretion and erosion. The barrier beaches that

protect the marshes also have been studied well, especially with respect to alterations resulting from human activity and sea level rise.

#### *Habitat Value for Fish, Shellfish and Birds*

WNERR combines long-term monitoring with periodic surveys and short-term experiments to identify species and to measure trends and changes in populations of fish, crustaceans, clams and birds. The Research and Monitoring Program has more than ten years of data on upland birds, wading birds and shorebirds for assessing population status. Wading bird data are used as a gross indicator of salt marsh health. Periodic larval, juvenile and adult fish surveys have produced the best available data for fish utilization of salt marsh estuaries and coastal watersheds in the Gulf of Maine. The Research and Monitoring Program also periodically conducts surveys and field experiments to look at the survival and growth of hatchery seed, juvenile and adult softshell clams, as well as their favored habitat characteristics and predation by the invasive green crab.

#### *Salt Marsh Degradation and Restoration*

Particularly since the 1950s, salt marshes have been divided by roads, causeways, culverts and tide gates. Tidal flow in a fragmented salt marsh is severely restricted, leading to chronic habitat degradation and marked reduction in access for fish and other marine species. Since 1991, the Research and Monitoring Program has studied the impact of restrictions on salt marsh function and the response of salt marshes to tidal restoration. Recent on-site models of hydrologic and vegetation responses to salt marsh restoration alternatives have helped pave the way for the installation of Maine's first self-regulating tide gate in the Drake's Island Marsh. The program also works with marsh restoration groups throughout the Gulf of Maine to promote standardized monitoring and has accumulated data from 30 individual projects for a regional analysis of salt marsh restoration success.

NOAA commends the Research and Monitoring Program for its continuing excellence. The program is exemplary in that it: (1) conducts a wide variety of research that addresses critical local and regional management issues; (2) conducts a large quantity of high quality research; (3) attracts diverse and high caliber researchers to the reserve; and (4) works collaboratively and effectively to translate the results of its research to the public.

#### **a. System-wide Monitoring Program**

NERRS national programs and initiatives are developed in collaboration with all reserves and NOAA. One example of a system-wide effort is SWMP. The goal of SWMP is to identify and track short-term variability and long-term changes in estuarine water quality, habitat and land use in each reserve. The data gathered through SWMP provides information about how estuaries function and change over time, enabling scientists to predict how these systems will respond to anthropogenic changes.



SWMP provides critically needed, standardized information on national estuarine environmental trends while allowing the flexibility to assess coastal environmental management issues of regional or local concern. Designed to enhance the value and vision of the NERRS as a system of national reference sites, this program has three components and a phased approach to implementation. The three components are:

- (1) **Abiotic Variables:** SWMP currently measures pH, conductivity, temperature, dissolved oxygen, turbidity, water level and atmospheric conditions. In addition, the program collects monthly nutrient and chlorophyll samples and monthly diel samples at one SWMP data logger station. Each reserve uses a set of automated instruments and weather stations to collect these data for submission to the Centralized Data Management Office (CDMO).
- (2) **Biotic Variables:** As funds become available, the reserve system also will incorporate monitoring of organisms and habitats into SWMP. The first aspect likely to be incorporated will quantify vegetation (e.g., marsh vegetation, submerged aquatic vegetation) patterns and their changes over space and time. Other aspects that could be incorporated include monitoring infaunal benthic communities and plankton communities.
- (3) **Habitat Mapping and Change:** This component of SWMP will be developed to identify changes in coastal ecological conditions with the goal of tracking and evaluating changes in coastal habitats and watershed land use. The main objective of this element will be to examine the links between watershed land use activities and coastal habitat quality.

During the review period, the Research and Monitoring Program made several improvements to SWMP at the reserve. For example, staff expanded the program to include head-of-tide and inlet loggers within the Little River Estuary. The Research and Monitoring Program upgraded its weather station and installed real-time delivery capability for SWMP data review and dissemination. Staff also added nutrient and chlorophyll *a* measurements to the program. Additionally, the Research and Monitoring Program created a darkroom and developed the capability to analyze chlorophyll data in-house with a Turner fluorometer. NOAA commends the Research and Monitoring Program for fulfilling its SWMP requirements by successfully implementing the program and submitting high quality data to the CDMO. NOAA also commends the Research and Monitoring Program for expanding and improving SWMP at the reserve during the review period.

**ACCOMPLISHMENT:** The Research and Monitoring Program expanded and improved SWMP at the reserve.

## **b. Site Profile**

NERRS implementing regulations require each reserve to develop a comprehensive site profile. The reason for developing a site profile is to enhance research efforts by generating inventory information and assimilating baseline data about a reserve's resources and habitats. A site profile is designed to: (1) compile scientific datasets relating to the reserve, (2) characterize the physical and biotic components of the environment, (3) synthesize the known ecological relationships within the reserve and its watershed, (4) trace the impact of natural and human disturbances, and (5) explore the need for future research, education and management initiatives.

In general, the completion of a site profile occurs in two stages:

- **Environmental Characterization:** This stage requires a literature search and review of all existing research and field data. The environmental characterization also involves the compilation of all information describing the geology, biology, chemistry, geomorphology and hydrology of the reserve.
- **Site Profile Development:** This stage requires a synthesis of information gathered during the environmental characterization. The resultant document will illustrate the reserve in terms of its resources, management issues, constraints and research needs.

WNERR's site profile has been under development for quite some time, and the reserve's 1999 final evaluation findings stressed the importance of completing the document. Prior to the evaluation site visit, the Research and Monitoring Program developed a strategy and timeline to complete the site profile and submitted it to NOAA. At the time of the site visit, the Research and Monitoring Program had completed the environmental characterization and was ready to begin the site profile development stage. The Research Coordinator noted that she was planning to devote approximately half her time in Fiscal Year 2005 to completing the site profile. NOAA must review and approve the site profile outline, drafts and the final document. Given that this task has been pending since WNERR's previous evaluation, the Research and Monitoring Program must complete the site profile as soon as possible, but no later than December 31, 2006.

<b>WNERR #3 – NECESSARY ACTION:</b> The Research and Monitoring Program must complete the site profile by December 31, 2006.
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## **c. Graduate Research Fellowships (GRF)**

The NERRS GRF Program supports management-related research projects that enhance scientific understanding of the reserve system, provide information needed by reserve managers and coastal decision-makers, and improve public awareness and understanding of estuarine ecosystems and management issues. GRF funds are available on a competitive basis to students enrolled in a full-time Masters or Doctoral program at accredited colleges and universities in the United States. Fellowships may be funded for

up to three years. Applicants must address one of the nationally significant research priorities established by the NERRS and conduct research in one or more reserves. Research priorities include:

- (1) The effects of nonpoint source pollution on estuarine ecosystems and the role of estuarine ecosystems in mitigating this pollution;
- (2) Evaluative criteria and/or methods for estuarine ecosystem restoration;
- (3) The importance of biodiversity and the effects of invasive species on estuarine ecosystems;
- (4) Mechanisms for sustaining resources within estuarine ecosystems; and
- (5) Socioeconomic research on estuarine ecosystems.

During the review period, the Research Coordinator advised five GRFs and sat on committees for two GRFs and seven other graduate students. NOAA commends the Research and Monitoring Program for its work with GRFs and encourages it to continue recruiting strong graduate researchers to the reserve.

#### **d. Research Projects**

The Research and Monitoring Program initiated and facilitated many research and monitoring efforts during the review period. Examples include:

##### Coastal Ecology and Habitat Value

- Developing an index of tidal wetland health in the Gulf of Maine using fish as indicators.
- Ecological processes, energy pathways and the impact of human activities on Maine marsh-estuarine secondary production: a salt-panne model.
- A comprehensive wetland program for intertidal marshes in the York River.

##### Quality of Estuarine Resources

- Managing nonpoint source inputs in priority coastal watersheds: an evaluation of shoreland land-use in the Webhannet and Ogunquit Watersheds.
- Ogunquit River Watershed survey and management plan.
- Estuarine responses to dredging: analysis of sedimentary and morphological change in a back barrier marsh to aid local management and develop a regional management tool.

##### Coastal Habitat Conservation and Restoration

- Transfer of a salt marsh restoration model to Gulf of Maine coastal managers.
- Drake's Island Marsh Community Restoration Project.
- Wheeler Marsh Restoration Project.

### **3. EDUCATION AND OUTREACH PROGRAM**

WNERR's Education and Outreach Program is designed to inform the public and local decision-makers about the significance of coastal environments and watersheds. The program uses the reserve's diverse landscape, facilities and dedicated teaching laboratory to educate thousands of visitors each year. Staff reach external audiences by making site visits and presenting information at workshops and conferences.

#### **a. K-12 Education and Professional Teacher Development**

Schools from Maine and other New England states visit WNERR during the spring and fall for field trips that support their curricula. Schools can choose from guided programs or can consult with education staff to develop a customized trip designed around the reserve's equipment and educational materials. For example, the Education and Outreach Program made available activity kits from the D.E.P.T.H.S. curriculum for teachers to use on self-guided visits. Guided programs include Exploring Estuaries, Microscopic Drifters and Water Quality Monitoring Field Studies. During the review period, the Education and Outreach Program presented Exploring Estuaries to thousands of local elementary school students.

While the Education and Outreach Program offers excellent programming at the reserve for school students, the number of students participating in such programming decreased over the review period. As in many states, Maine's schools are faced with declining funding for field trips and increasing pressure to keep students in the classroom. Additionally, some schools wish to visit with large groups of students that exceed reserve capacity. In response, the Education and Outreach Program offered several in-school programs,<sup>23</sup> worked with home-school groups and provided some funding assistance to schools with financial constraints. NOAA encourages the Education and Outreach Program to continue such efforts as practicable and to explore other potential options for reaching school students who are unable to travel to the reserve.

The Education and Outreach Program also provides educational opportunities through internships and field studies. Undergraduate and graduate students, as well as outstanding local high school students, gain field experience in marine science and environmental education at the reserve. Staff mentor many students throughout the year.

During the review period, the Education and Outreach Program expanded its camp offerings for students. Staff provide day-long exploration sessions that introduce children ages 6-9 to science and nature as well as week-long day camps that allow children ages 9-13 to advance their basic knowledge. The "Junior Researchers" day camp lets children assist with ongoing research while learning about the varied habitats of the reserve. Advanced "Junior Researchers" design their own coastal research experiments and present their findings in a public forum.

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<sup>23</sup> While WNERR offers strong in-school programs, students who are unable to travel to the reserve obviously miss the benefits of visiting the site.

The Education and Outreach Program has developed teacher training programs on topics such as water quality monitoring, estuarine ecology and habitat comparison. In partnership with other organizations, staff have offered programs such as Project Learning Tree, Project WILD, Project WET, and Healthy Water/Healthy People. The Education and Outreach Program also published a teacher resource guide, “What is Ecology: An Introduction to Ecology through Estuaries.” NOAA commends the Education and Outreach Program for providing high quality programming and materials to so many local students and teachers.

#### **b. Coastal Training and Information Program (CTIP)**

An important aspect of a reserve’s Education and Outreach Program is CTIP. The program is designed to: (1) inform coastal decision-making; (2) improve coastal stewardship at local and regional levels by increasing the application of science-based knowledge and skills by coastal decision-makers, and (3) increase dialogue and collaboration among coastal decision-makers. Planning for the program includes establishing a training advisory committee, conducting a market survey of training providers and an audience needs assessment, developing a program strategy that outlines priority coastal issues to be addressed during the next three to five years, prioritizing target audiences, and creating a marketing plan.

One of the Education and Outreach Program’s goals is that people managing coastal resources along the Gulf of Maine will value those resources and understand the long-term environmental, social and economic consequences of their management decisions and actions. Staff use the CTIP as a primary means of achieving that goal. The CTIP provides municipal officials and other resource managers whose work impacts coastal environments with applicable science-based information.

During the review period, the Education and Outreach Program formed a CTIP advisory committee composed of key regional, state and nongovernmental organization partners involved in coastal management, training and outreach. Staff also began building a dynamic network of partnerships in the Gulf of Maine region to assist with coastal training workshops and conferences. The Education and Outreach Program also completed the CTIP needs assessment, market analysis and marketing plan. The CTIP Coordinator noted that the market analysis and needs analysis were beginning to inform researchers at the reserve and to frame their studies.

At the time of the evaluation site visit, the Education and Outreach Program was in the initial stages of CTIP implementation. As the CTIP Coordinator described, the reserve worked extensively with its partners, including MCP and Maine Sea Grant, to develop the CTIP into a truly facilitative effort, instead of focusing solely on information delivery. WNERR’s CTIP work has ranged from holding workshops on a particular issue for small groups of approximately 20 to collaborating on large conferences. Workshop topics are based on the needs assessment and have included open space and land protection planning, salt marsh restoration, invasive species management and Global Positioning System/GIS training. Maine Sea Grant has worked closely with the reserve

to implement several CTIP activities related to habitat restoration, including “Barriers and Bridges to Salt Marsh Restoration,” a facilitated dialogue and field session for restoration decision-makers as well as “Ribbons of Green,” a community-based forum for identifying, planning and implementing local restoration efforts. NOAA congratulates the Education and Outreach Program for its progress on CTIP and encourages it to continue such efforts.

**ACCOMPLISHMENT:** The Education and Outreach Program completed initial Coastal Training and Information Program development and began implementing the program.

### c. Community Outreach

Community outreach is an important aspect of WNERR’s programming. During the review period, the Education and Outreach Program increased community outreach through speaking engagements, slide shows, informational booths and other presentations. In collaboration with Laudholm Trust, the program produced a variety of notable publications, including:

- Annual report for Laudholm Trust and WNERR;
- Annual four-color folding poster providing a calendar of programs and events;
- Quarterly newsletter detailing current events and featuring research, education and stewardship projects;
- Four-color, easy-to-follow trail map;
- “The Sea is Rising” booklet about the effects of sea level rise on coastal resources and communities; and
- Brochures about specific topics (e.g. fish) and programs (e.g. Junior Researchers Camp).

WNERR registered the domains “wellsreserve.org” and “wellsnerr.org” and created an informative website that has become an integral part of the Education and Outreach Program’s public information offerings. The program uses online forums and e-mail announcement lists as one means of disseminating updates about education programs, docent communications and coastal training opportunities. The Education and Outreach Program also maintains an online calendar of programs and events.

Participation in public events is another important component of the Education and Outreach Program. For example, during the review period, the program organized and hosted annual events such as Winter Family Fun Day, Going Green, Earth Day Environmental Fair and National Estuaries Day. The Education and Outreach Program also collaborated with Laudholm Trust on annual events including the Bean Supper, Painterly Day and Fresh Paint Auction, Laudholm Nature Crafts Festival and Punkinfiddle. NOAA congratulates the Education and Outreach Program on excellent outreach efforts that include the use of both electronic and print media as well as significant participation in public events.

**ACCOMPLISHMENT:** During the review period, WNERR's Education and Outreach Program increased community outreach through speaking engagements, other presentations and informational booths.

#### **d. Volunteer Program**

WNERR has an outstanding Volunteer Program that greatly benefits the reserve and its programs. The reserve's volunteer force of approximately 450 local and regional residents engages in a notably wide range of activities that supports each of the reserve's core programs. Volunteers assist with administration, maintenance, research, education and stewardship activities. Volunteers participate in activities ranging from saltmarsh characterization to the United Way Day of Caring. Many volunteers also engage in fundraising and support the reserve's public events. WNERR produces a biannual volunteer newsletter and holds an annual volunteer recognition dinner.

WNERR's Docent Program thrives as a result of volunteer support. Docents are highly trained volunteer naturalists who lead interpretive walks and tours for school groups and the general public. New docents receive 25 hours of training and shadow experienced docents before working with groups individually. Education and Outreach Program staff and guest speakers provide docents with the knowledge they need to lead watershed-based environmental education programs. On Tuesdays and Thursdays, docents take groups of about ten students for extensive hands-on tours of the reserve.

WNERR's exemplary Volunteer Program was a contributing factor in President Bush's decision to visit the reserve on Earth Day 2004. While at WNERR, the President announced his Wetlands Initiative and highlighted the critical role of volunteers in conservation efforts. NOAA commends WNERR's Volunteer Program for its commitment and contributions to the reserve.

### **4. STEWARDSHIP PROGRAM**

Over the last few years, NERRS has focused on developing a stewardship component to complement its existing research and education programs. WNERR's Stewardship Program works with land trusts, conservation commissions and other coastal decision-makers to support community efforts to conserve a mosaic of natural resources throughout southern Maine. The program: (1) facilitates collaborations for regional conservation planning, (2) provides access to natural resource information, (3) offers GIS mapping services, (4) promotes training opportunities, and (5) provides outreach and communications services. NOAA applauds the Stewardship Program for its strong growth during the review period.

#### **a. Salt Marsh Habitat Restoration**

During the review period, WNERR's Stewardship Program led efforts to study, build community support, obtain funding and coordinate two restoration projects in southern Maine: (1) Wheeler Marsh in York and (2) Drake's Island Marsh in Wells. Wells NERR

and its partners are working to improve tidal flow and to control the spread of invasive species at both marshes, which suffer from subsidence and severe tidal restriction. At the Drake's Island site, plans call for the installation of a five-foot culvert and Maine's first self-regulating tidegate to replace a failing 36-inch culvert.

**b. Mt. Agamenticus to the Sea Conservation Initiative**

WNERR is among ten national, regional and local organizations and agencies working to conserve a mosaic of critical lands, waterways and working landscapes within a 48,000-acre focus area in southern York County. The focus area represents the largest expanse of contiguous coastal forest left between southern New Jersey and Acadia National Park, and it contains Maine's greatest diversity of plant and animal species. WNERR serves on the Initiative's various committees as well as the leadership team that guides the multi-year project.

**c. Training Land Conservation Organizations**

The Stewardship Program collaborates with southern Maine land trusts and conservation commissions to increase the quality and quantity of conserved lands. Staff organize and facilitate meetings, workshops and communications for approximately 25 partner organizations. For example, the Stewardship Program established and coordinated the Coastal Mosaic Project during 1998-2002. The project involved working with land trusts and conservation commissions to develop strategies to protect natural resources throughout southern Maine. The Stewardship Program coordinated meetings and workshops on land protection strategies and worked to institute a landscape-scale land protection project in York County.

The Stewardship Program also provides GIS and resource management support for partner organizations by producing and distributing maps displaying property lines, natural resources and other features needed for the development of effective interjurisdictional conservation strategies. For example, the Stewardship Program established a GIS Center as a resource for municipalities, land trusts and conservation commissions. Staff mapped all conservation lands in 21 of York County's 28 towns, creating a unique data layer that has been used extensively by state, municipal, county and nonprofit organizations. During the review period, the Stewardship Program provided mapping services for 81 projects.

**d. Conservation Planning**

The Stewardship Program engages in conservation planning for the reserve in a variety of ways. For example, staff developed an open space management plan for 90 acres of WNERR's upland fields that are valuable habitat for grassland nesting birds. The program created a new land acquisition plan for the reserve that considers the value of surrounding watersheds to the reserve's estuarine habitats. The new acquisition plan was incorporated into WNERR's draft revised management plan. Additionally, the reserve collaborated with area legislators to submit legislation that changed the location and land



acquisition boundaries of the reserve to better reflect such a watershed approach. The Maine Legislature passed the bill, and the Governor signed it in May 2003.

At both the state and local level, WNERR's Stewardship Program actively participates in developing plans to protect coastal lands. Staff have contributed to the formulation of a site conservation plan for the Mount Agamenticus region, a watershed management plan for the York River and conservation strategies for seven coastal watersheds in southern Maine. The Stewardship Program is participating in the development of a Coastal and Estuarine Land Conservation Program Plan for Maine in an effort to build capacity for local land conservation organizations. Staff also are collaborating with partners to develop guidelines for the disbursement of Landowner Incentive Program funds in Maine.

#### **e. On-site Resource Management**

The Stewardship Program manages and protects wildlife habitat and provides the public with opportunities for both recreation and education. Staff work with partners to: (1) protect threatened and endangered plants and animals, (2) manage open spaces for grassland nesting birds, (3) control the spread of invasive upland plant species and the overpopulation of deer, and (4) maintain and enhance the reserve's network of trails.

For example, the Stewardship Program investigated the effects of non-native species, such as Japanese barberry, on the reserve's upland fields and forests. Staff conducted a series of experiments over a three-year period to determine the best methods to control the Japanese barberry. The Stewardship Program also completed an innovative pilot project with *Tom's of Maine* to remove Japanese barberry from the reserve and to explore the potential for its derivatives to be used in personal health care products. Additionally, the Stewardship Program addresses resource management beyond WNERR's borders. For example, the program partnered with AmeriCorps through the Maine Conservation Corps to work on environmental and natural resource management projects in southern Maine communities. The Stewardship Program, in cooperation with partners, also planned and implemented a deer hunt to begin controlling the deer population, which was having a negative effect on wildlife habitats and public health.

## V. THE MAINE COASTAL PROGRAM AND THE WELLS NATIONAL ESTUARINE RESEARCH RESERVE

### A. OVERVIEW

The Coastal Zone Management Act requires the National Oceanic and Atmospheric Administration (NOAA) to conduct periodic evaluations of all federally approved coastal management programs (CMP) and National Estuarine Research Reserves (NERR). Historically, NOAA has conducted evaluations of individual programs. In states with both a CMP and a NERR, evaluations have given some consideration to the programs' interaction with one another, but it has not been an area of particular emphasis.

During the last two years, NOAA has moved toward conducting joint evaluations of CMPs and NERRs where appropriate and feasible. The purpose of a joint evaluation is to gain a more integrated assessment of a state's coastal management efforts, recognizing that sound coastal management depends upon the successful implementation of both programs. Accordingly, a joint evaluation document contains not only individual program findings, but also accomplishments and recommendations that apply to both the CMP and the NERR.

### B. REVIEW FINDINGS, ACCOMPLISHMENTS AND RECOMMENDATIONS

#### 1. Staff

Maine Coastal Program (MCP) and Wells National Estuarine Research Reserve (WNERR) staff must be recognized for their tireless work, responsiveness, perseverance, creativity and dedication to coastal management. The staff's commitment to and enthusiasm for their work have gained respect for MCP and WNERR among their many partners. A clear understanding of current threats to the state's coastal resources as well as a strong focus on priority coastal issues is evident in MCP's and WNERR's results-oriented approach to coastal management.

**ACCOMPLISHMENT:** MCP and WNERR have outstanding, dedicated staff that are critical to both programs' success.

#### 2. Grants Management

During the review period, NOAA awarded grants to both MCP and WNERR for operations, construction and other activities. Program staff must be commended on thorough grant tracking and monitoring. In general, the programs have achieved the desired results from the funded tasks and have built upon established projects.

Semi-annual performance reports are required for each financial assistance award. During the evaluation period, performance reports were submitted on schedule and provided necessary information. Performance reports are useful both to NOAA and to

the programs because they provide a consolidated source of information on accomplishments related to financial assistance awards.

### **3. Partnerships**

The evaluation team was impressed with MCP's and WNERR's successful coordination with federal, state, local, academic and private agencies and organizations. During the site visit, the evaluation team often heard from interview subjects about both programs' strong coordination with them and with other groups. Through partnerships with other agencies and organizations, MCP and WNERR strengthen their own programs by pooling the resources and expertise of many different groups. The programs' proactive approach to coordination by involving partners early in processes and projects improves efficiency and allows problems to be addressed before they escalate. NOAA commends MCP and WNERR for their strong coordination with their partners and encourages maintenance of these efforts. For example, MCP and WNERR might consider holding occasional meetings with coastal partners like Maine Sea Grant, the National Estuary Program and the Coastal Services Center. Such meetings would provide a forum for key players in the coastal management community to update each other on major initiatives and discuss opportunities for further collaboration.

**ACCOMPLISHMENT:** MCP and WNERR regularly engage in many diverse partnerships. The programs successfully coordinate with federal, state, local, academic and private agencies and organizations.

**VI. CONCLUSION**

Based upon the recent evaluation of the Maine Coastal Program and the Wells National Estuarine Research Reserve, I find that Maine is adhering: (1) to its approved coastal management program and is making satisfactory progress implementing the program's provisions; and (2) to the programmatic requirements of the National Estuarine Research Reserve System in its operation of its approved National Estuarine Research Reserve.

These evaluation findings contain seven recommendations. The recommendations are in the form of one Necessary Action and six Program Suggestions. The state must address the Necessary Action by the date indicated. 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 the Executive Summary.

This is a programmatic evaluation of the Maine Coastal Program and the Wells National Estuarine Research Reserve that may have implications regarding the state's financial assistance awards. However, it does not make any judgment about or replace any financial audits.

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Eldon Hout  
Director

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Date

## **VII. APPENDICES**

Appendix A. Program Responses to Previous Evaluation Findings

1. MCP Response to 2001 Findings
2. WNERR Response to 1999 Findings

Appendix B. Persons and Institutions Contacted

Appendix C. Persons Attending Public Meetings

Appendix D. NOAA's Response to Written Comments

## **APPENDIX A. PROGRAM RESPONSES TO PREVIOUS EVALUATION FINDINGS**

### **1. Maine Coastal Program (MCP) Response to 2001 Evaluation Findings**

**#1. PROGRAM SUGGESTION:** The MCP should undertake periodic reviews of core MCP laws and regulations in order to evaluate the effectiveness of these laws, detect and remedy inconsistencies, and better integrate the laws on a more systematic basis. As part of a review:

(A) The Department of Environmental Protection (DEP) is encouraged to complete the independent study of the effectiveness of the Mandatory Shoreland Zoning Program (note: if state funds are unavailable for an independent study of the Mandatory Shoreland Zoning Program, the MCP should consider using coastal zone management funds for this evaluation).

(B) MCP should consider incorporating some environmental and other outcome indicators into its State of the Coast report to provide information regarding how the core programs are achieving stated objectives, and potential information for decision-makers to set priorities and make necessary program changes.

(C) The State Planning Office (SPO) is encouraged to assist the Subdivision Law Task Force in completing the study of the Maine Subdivision Law and implement appropriate recommendations to remedy any problems identified in the report.

*Response to Part A:* The suggestion regarding study of the state's Shoreland Zoning Act (SZA) stemmed from discussions with DEP. Subsequent discussions with potential stakeholders and internal DEP discussions resulted in the determination that the recommended review of the SZA was a lower priority than originally anticipated. As a result of more pressing issues facing DEP's small shoreland zoning staff, the study was not undertaken. Consultation within DEP regarding the potential need for and aims of a review was beneficial and generated increased awareness of and appreciation for the role of the SZA program and its relationship to other DEP efforts. DEP concluded that an assessment at that time would not be beneficial to the program and instead focused its attention on increased assistance to communities.

*Response to Part B:* See response to Program Suggestion #6.

*Response to Part C:* During the legislative sessions from 2000 through 2002, SPO worked to make appropriate recommendations both on behalf of the Governor and through a Joint Legislative Growth Management Task Force for changes to the subdivision law to make it more easily understood and more effective. Informed in part by these efforts, the Maine Legislature made the following pertinent changes to the subdivision law:

- As of January 1, 2006, the only definition of subdivision that will exist in the state will be the definition in statute, eliminating the authority of municipal governments to adopt their own local definitions;
- The definition of a subdivision was modified significantly to limit an exemption that allowed landowners to circumvent the intent of the law by gifting as many lots as they wanted to relatives, holding them for five years, then selling them, completely avoiding any subdivision review on divisions that sometimes included 50 or more new lots;
- The definition of a subdivision was also modified to limit an exemption for portions of lots sold to neighbors, a provision that had also been used to circumvent the intent of the law; and
- The subdivision review criteria were modified to include a requirement that municipalities examine traffic impacts resulting from a subdivision.

**#2. PROGRAM SUGGESTION:** The Office of Ocean and Coastal Resource Management (OCRM) suggests that DEP proceed cautiously with listing of communities with deemed capacity. The DEP should continue and increase technical assistance to municipalities in the form of technical bulletins and workshops for municipalities with deemed capacity in advance of the 2003 deadline. Based on concerns about existing capacity, DEP is encouraged to carefully review the administrative, monitoring and enforcement capabilities of the municipalities and provide additional resources where necessary.

Following the National Oceanic and Atmospheric Administration's (NOAA) §312 review in 2000, DEP realized that within the timeframe then anticipated, it was not realistic to expect municipalities to provide the environmental review capacity necessary for assumption of site law authority and that few, if any, municipalities would be in a position to assume this authority. Subsequently, in 2002, the legislature amended the Site Law to remove the requirement. In accordance with current law, DEP and SPO will continue to provide technical assistance to municipalities to address major development proposals. DEP may, at a municipality's voluntary request, deem the municipality to have the requisite capacity and authorize its assumption of site law authority.

**#3. PROGRAM SUGGESTION:** In order to assist municipalities in implementing portions of the MCP, the State of Maine should strongly consider developing a strategic plan for using Geographic Information System (GIS) as a tool to accomplish this. This assessment could include: (1) identifying the priority needs of municipalities; (2) developing an inventory of existing data layers at state and regional levels that could be made available to municipal officials; (3) improving access to centralized state and regional data sets and GIS layers by local officials and general public use of the internet; (4) improving the distribution of and training for existing analytical applications for use by municipalities for planning and zoning, permitting, and public education and outreach; (5) providing requisite training for GIS use by municipalities for priority needs (i.e., use of Internet mapping, etc.) and (6) investigating potential funding sources (state general funds, grants, etc.) to accomplish these tasks – coastal zone management funding might be used as seed money in some cases but should not be the primary source of funding.

The State of Maine and MCP have made significant progress in the use and distribution of GIS during the review period. Results include a more robust statewide GIS system and increased levels of GIS use within specific MCP projects. The following bullets describe the work supported through the MCP:

#### GIS Infrastructure

- The statewide hydrography layer is being updated to national hydrography data standards. This will improve the accuracy of the data and will yield a layer that will support hydrologic modeling. This work is ongoing and is scheduled to be completed in late 2005.
- A statewide GIS user needs analysis was completed as part of the process to build a Maine GeoLibrary. The analysis included focus groups and individual surveys of a broad range of groups and individuals. The analysis was crucial to the Maine Legislature's passage of Resolve 23 and bond monies for GIS growth.
- Resolve 23 directed the formation of a GeoLibrary Board with a focus on municipal GIS development and support. Outcomes of the bond, which funded the GeoLibrary established by the Governor in 2002, include:
  - Updated orthophotos for the state;
  - Municipal grants for parcel digitization;
  - A development tracking committee; and
  - Data necessary for a comprehensive planning process is compiled for towns and delivered both digitally and in hard copy.

#### Project Work

- During the review period, MCP supported the development and implementation of "Beginning with Habitat." This project compiles habitat and natural resource data in a consistent manner for towns, watershed groups, land trusts and other regional groups. The data includes important habitats, rare plant and animal data, riparian and water resources, large unfragmented blocks as well as wetlands characterization. A series of maps is produced using GIS and is supplied in both hard copy and digital formats. At the time of the site visit, Beginning with Habitat information had been provided to 105 towns and 34 other organizations. Coastal zone management funds were used to train regional commissions in the use of the data and all of the data layers were given to each regional organization.
- The Department of Marine Resources (DMR) developed an IMS on significant subtidal habitats that includes information on temperature, salinity, bottom type, hydrography and actual trawl data.
- The Maine Geological Survey (MGS) produced erosion hazard maps. These maps use historically calculated shoreline change to project future shoreline positions. Draft maps have been completed for several sandy beach systems along the coast.
- MGS developed a Shoreline Scoring System that utilizes different physical characteristics of the shoreline and ranks it in terms of the need for beach



management. The system also provides recommendations as to whether beach nourishment or dune restoration is applicable. Scoring was completed in Saco Bay and is available in ArcView GIS.

- During the review period, MGS continued to map shoreline features, including the 1991 storm washover line, dune scarps, and other important features using a combination of aerial photography and LIDAR flight data.
- MGS regularly uses LIDAR data in order to analyze beach topography along the Maine shoreline.
- DMR updated GIS maps of eelgrass beds along the Maine coast with a focus on Penobscot Bay.
- DMR carried out an intensive study of resources in a coastal embayment. Part of that work involved the application of GIS to translate data collected with an acoustic mapping system for use in GIS-based mapping.
- MCP purchased high resolution orthorectified digital photography for a portion of the coast between New Hampshire and the Sheepscot River. The photography is available to state agencies through the Maine GIS data catalog. The imagery is used by DEP for resource assessment.
- During the review period, MCP supported the acquisition of new land cover data for the entire state including impervious coverage for coastal watersheds.

#### GIS Training

- In 2004, “Migrating to Arc 8” and “Coastal GIS Applications” training sessions were held and attended by 26 participants representing all sectors of government and nonprofit organizations.
- In 2004, MCP provided a small grant to the Island Institute to partially support GIS training workshops for midcoast and island code enforcement officers and town officials.

#### **#4. PROGRAM SUGGESTION:** With regard to monitoring and enforcement:

The MCP should continue to provide basic training and technical assistance for new Code Enforcement Officers (CEO).

The MCP should investigate new mechanisms to improve efficiencies in monitoring and enforcement. For example, a mechanism to facilitate quick communication among CEOs such as:

- A list of all CEOs with their phone numbers
- An on-line bulletin board, newsletter, or internet web
- An e-mail list for CEOs to post questions to all other CEOs for a response

Between September 2000 and May 2004, SPO’s Code Enforcement Officer Training and Certification Program conducted the following training courses.

Shoreland Zoning:

- Hazard Trees in the Shoreland Zone (2001) – 121 participants
- Shoreland Zoning (2002) – 202 participants
- Shoreland Zoning (2003) – 149 participants

Land Use:

- Multi-issue Forum: Fences, Signs, Subdivisions, etc. (2001) – 157 participants
- Floodplain Management/Coastal Construction (2001) – 42 participants
- Basic Floodplain Management (2001, 2002) – 169 participants
- Site Plan Review (2001, 2002) – 168 participants
- Environmental Issues (2002) – 113 participants
- Wetland Identification and Delineation (2002) – 102 participants
- Land Use Institute (2003) – 135 participants
- Best Management Practices (2003) – 139 participants
- Forestry 101 (2003, 2004) – 91 participants
- Land Use (2004) – 164 participants

Building Standards:

- Access Standards Field Day (2000) – 130 participants
- Building Standards (2000) – 96 participants
- Multi-issue Forum (2001) – 60 participants
- Building Standards Institute (2002) – 136 participants
- Electrical Inspection (2004) – 226 participants

Legal Issues:

- Legal Issues and Enforcement Techniques (2001, 2003) – 571 participants
- Court Rule (2002, 2004) – 341 participants

Subsurface Wastewater Disposal:

- Identification of Improperly Installed Septic Systems Field Training (2000, 2001, 2002, 2003) – 502 participants

Internal Plumbing:

- Internal Plumbing (2001, 2002, 2003) – 594 participants

Miscellaneous:

- Dealing with Difficult People (2001) – 143 participants
- Women in Codes (2001) – 25 participants

CEO Program staff handle approximately 500 technical assistance calls per quarter. Staff also receive numerous e-mail requests that are not tracked.

During the review period, the CEO Program took a number of steps related to improvement of monitoring and enforcement efficiencies. Staff systematically collected e-mail addresses of CEOs in the state and provided the list to several organizations in order to disseminate information. At the time of the site visit, a local CEO had recently used the email list of mid-coast enforcement officers to solicit information concerning setbacks and the definition of road frontage. He received more than ten responses. Such peer-to-peer networking directly enhances enforcement capabilities.

The CEO Program's website contains active links to DEP, the Division of Health Engineering, the Department of Transportation, the Department of Professional and Financial Regulation and Code Enforcement Officer Associations statewide. These links allow CEOs to directly communicate with various departments and organizations around the state. The CEO Program maintains the following five online training manuals: (1) Legal Issues, (2) Shoreland Zoning, (3) Land Use, (4) Subsurface Wastewater Disposal, and (5) Information Guide. This online resource provides CEOs and others easy access to training information. The CEO Program also posts on its website a newsletter that it publishes biannually or more often if warranted, as well as answers to frequently asked questions concerning local code enforcement and other related programs.

Over a series of five meetings during the second half of 2003, CEO Program staff consulted with DEP on identifying effective ways for the DEP to provide technical assistance and to disseminate information to municipalities and code enforcement officers. Discussion focused in part on identifying the CEOs statutory role as it pertains to the DEP's mission.

**#5. NECESSARY ACTION:** The State of Maine must identify a 306(d)(14) process that provides for public notice and an opportunity to comment on the federal agency determination by MCP. Within six months of the receipt of final findings, the state must inform OCRM of its response to comments on how it will address the public notice requirements of the Coastal Zone Management Act (CZMA), consistent with NOAA's guidance.

The following outlines pertinent public notice practices, which were previously discussed with OCRM and which address OCRM's recommendation.

The state's federal consistency review process is based on and reflects the following long-standing policy as well as the CZMA and NOAA's above-noted regulations:

“[T]he review for consistency shall be performed by the governmental organizations responsible for administering the respective core laws. These agencies will make consistency findings using the same procedures and standards as they use to evaluate permit and license applications or management programs under the core laws and

accompanying regulation.” Final Environmental Impact Statement, Maine Coastal Program (August 1978), p. 295.

By adopting this basic approach, the state endeavors to make efficient as well as effective use of its federal consistency authority while avoiding creation of a separate, duplicative, and potentially confusing administrative process.

*Public Notice Process: Federal Agency Activities*

15 C.F.R. §930.42 requires the state to ensure public notice of federal agency activities (formerly called “direct federal actions”) subject to consistency review. The state ensures notice is provided as follows. On receipt of complete information supporting the federal agency’s consistency determination, DEP publishes a suitable notice in a newspaper of general circulation that serves the project area. (Alternatively, if the federal agency agrees to do so, the federal agency will publish a suitable notice.) In either event, the notice will describe the federal proposal and consistency determination, list an appropriate state agency person (typically the DEP project manager heading the environmental review) as the contact for comments, and provide a two week period for submission of comments. In the case of federal activities that do not trigger an enforceable policy of the state’s coastal program (i.e., do not trigger one or more of the licensing and permitting standards that serve as the state’s enforceable policies), and negative determinations, the state does not conduct a federal consistency review and thus publishes no notice.

*Public Notice Process: Federal License or Permit Activities*

MCP, as approved by NOAA in 1978, states the following: “The consideration of core law permits will constitute the state’s consistency review. Approval of all core law permits with attached conditions shall constitute the state’s consistency concurrence.” Consistent with prior NOAA guidance, NOAA’s recently revised rules acknowledge that issuance of all pertinent state permits may constitute the state’s concurrence (5 C.F.R. §930.6(c)). 15 C.F.R. §930.42 requires the state to ensure public notice of “federally licensed or permitted activities” subject to consistency review. This provision allows the state to require the applicant to provide the public notice. The state ensures adequate public notice is provided as follows. DEP provides to private applicants for publication in a newspaper of general circulation in the project area a copy of the public notice template that includes appropriate language regarding consistency review. DEP’s administrative rules require license or permit applicants to publish notice.

*Land Use Regulation Commission (LURC) Process in Maine’s Unorganized Area*

Maine’s LURC is the land use management and regulation agency responsible for Maine’s unorganized areas. Several unorganized townships (i.e., areas without a municipal government) are located in Maine’s designated coastal zone and federal actions subject to federal consistency in these areas are few. LURC has indicated that in the case of federal agency activities, it will publish the requisite notice and in the case of federal license or permit activities, it will ensure that the applicant publishes the requisite notice.

**#6. PROGRAM SUGGESTION:** Priority and staff time should be allocated for working with OCRM to develop the State of the Coast Report as a measure of program priorities and effectiveness.

MCP hosted an OCRM staff person during the summer of 2003. As one aspect of her work, she assisted MCP staff in planning for use of an indicator system to track performance on program goals and objectives. As a follow up to this work, MCP agreed to participate in NOAA's pilot coastal performance indicators project (March 2004 through December 2004). MCP chose to work on coastal access, coastal water quality and coastal hazards indicators for the pilot project. The program's role in the pilot project was to assist NOAA in further developing the national system of coastal zone management indicators by providing feedback, metrics for selected indicators and comments on capacity needed to implement an indicators system. While fulfilling these obligations, MCP also worked on the design of an indicators system for Maine.

**#7. PROGRAM SUGGESTION:** MCP should continue to assist MGS in distribution of the bluff erosion and landslide hazard risk maps and information to decision-makers and the general public. Hazards information compiled to date by MGS should be assembled in a handbook for landowners. MCP should consider the drafting of appropriate legislation to fully incorporate bluff erosion and landslide risk information into appropriate coastal decision-making authority, and/or require disclosure at the time of real estate transfer should be considered.

MGS has concentrated on bluff and landslide hazard outreach via publications and the Internet. The MGS web site provides free information about bluffs, and the MGS Publications Catalog lists maps that can be purchased for \$5.00 by the public and consultants.

During the review period, MGS focused primarily on map legends (rather than a handbook) that were different on the bluffs map and the landslide hazard map. Each legend is extensive and has sources of more information and contacts for interested people. Using MCP funds, MGS distributed complimentary copies of maps to all local officials with a cover letter offering more support if needed. Municipal officials who received complimentary maps are always welcome to contact MGS for further information or assistance at any time. Text on the maps encourages homeowners with concerns to have a consultant conduct a site-specific investigation. MGS does not infringe on the consulting geologist market, although MGS does provide assistance to municipalities as well as state and federal agencies. The maps (particularly the landslide hazard map) describe to the homeowner how to seek professional advice and what topics a site-specific study should consider.

In 2003, MGS scheduled training for DEP's Land Bureau staff, including those in several regional offices. Unfortunately, due to a DEP budget constraint, the event was cancelled and was not been rescheduled during the review period. All DEP offices have copies of the relevant bluffs and landslide hazard maps for areas within their geographic jurisdiction. In its permit review comments, MGS cites bluffs and landslide hazard maps

as appropriate and encourages DEP staff to use the guidance on the maps in the permit process.

MGS consulted with the Maine Emergency Management Agency (MEMA) in March 2004, and at the time of the site visit, MEMA was considering including a presentation by MGS in a multi-topic workshop for county emergency managers.

In 2002, MGS conducted a survey of municipalities that indicated approximately 24 municipal officials were interested in attending a short presentation on bluff and landslide hazards, but they were not willing to travel far beyond their region.

MGS provided the Shoreland Zoning Office at DEP with samples of bluff and landslide hazard maps and had a preliminary discussion about how setbacks might be incorporated into the state's model ordinance. The next step in policy development is with DEP.

During the review period, MGS geologists published several peer-reviewed articles on hazards related issues.

**#8. PROGRAM SUGGESTION:** After completing the needs survey, the MCP, DMR and the Maine Department of Transportation should consider promoting a second Small Harbor Improvement Program (SHIP) transportation bond issue to address high priority public access needs identified in the assessment.

In 2002, Maine voters authorized a second SHIP bond issue of approximately \$1.2 million. The Maine Department of Transportation, in coordination with SPO and other state agencies, has since allocated the available funds to support 24 projects for the maintenance or improvement of public, recreational and commercial fishing access facilities.

In 2003, Maine voters authorized a third SHIP bond issue of approximately \$650,000. SPO was instrumental in supporting bond requests and participating in project selection.

**#9. PROGRAM SUGGESTION:** The MCP is encouraged to continue discussions with OCRM on the incorporation of the Growth Management Act into the CZMA.

The State's Growth Management Act (GMA) promotes municipal planning and land use policies that in many ways bolster the policies that underlie the MCP. At the time of the evaluation site visit in 2000, a requirement in the GMA that a municipality submit its land use ordinance implementing a comprehensive plan consistent with the GMA's goals for SPO's review created a nexus between the GMA and the state's coastal zone management program. A subsequent change in the GMA removed this nexus and with it the impetus for formal incorporation of the GMA into MCP.

As amended, GMA does not require submission of ordinances implementing local comprehensive plans for review by SPO. A municipality may, but is not required to, submit its ordinance for review by SPO. Based on its experience in administering the

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GMA, SPO proposed these changes in the law. Having issued more than 200 grants for preparation of local ordinances pursuant to the GMA, SPO received approximately 40 requests for review and found that it lacked the staff and financial resources to pursue enforcement of this requirement effectively. Under the circumstances, which included mounting demands on its land use staff, focus on more pressing issues involving state implementation of smart growth and related policies, and tightening budget constraints, SPO suggested removal of this submission and review requirement. In light of this decoupling of the salient link between GMA and MCP, SPO has not pursued incorporation of the GMA into the MCP.

## 2. Wells National Estuarine Research Reserve (WNERR) Response to 1999 Evaluation Findings

**#1. NECESSARY ACTION:** The Reserve Management Authority (RMA) and WNERR must complete the action planning process that has been underway for over three years.

WNERR completed a Strategic Plan in 2000 for the years 2000 through 2005. Many of the action items in the plan have been accomplished. Some broad goals expressed in the plan will be relevant beyond 2005; these will be incorporated into a strategic plan for 2006-2010.

**#2. PROGRAM SUGGESTION:** The Laudholm Trust should re-examine their resolution to appoint a Trustee to the RMA; if they believe that the President is the appropriate person to represent the Trust, they should repeal the resolution. If they believe that a Trustee should be the representative, they should implement the standing resolution.

The Laudholm Trust Board of Trustees passed a policy in autumn 1998 stating that the organization's paid chief executive (the President) serves as its representative on the RMA, and that he/she should serve as the RMA Chair. The RMA is in agreement with this policy.

**#3. NECESSARY ACTION:** The RMA and WNERR must develop a plan to recruit and hire an Education Coordinator. In addition, they must document the status of the recruitment and hiring of the Education Coordinator in all performance reports. They are encouraged also to include a plan to hire the research program associate on a full-time basis.

WNERR hired an Education Coordinator in spring 2001. In the Research Department, WNERR now has two Research Associates and a Stewardship Coordinator.

**#4. PROGRAM SUGGESTION:** The RMA and WNERR are encouraged to develop a revised management plan that reflects the changes that the reserve's action plan and the national program have directed.

WNERR completed a draft management plan in May 2004 and submitted it to NOAA just prior to the evaluation site visit.

**#5. PROGRAM SUGGESTION:** The RMA and WNERR should work with the U.S. Fish and Wildlife Service (FWS) to develop a five-year permit for routine research and monitoring activities that take place on FWS property.

The Rachel Carson National Wildlife Refuge prefers to renew permits for activities on the refuge annually. However, at the time of the site visit, WNERR and the refuge were



in the process of developing a new Memorandum of Understanding for the revised management plan, which will address research activities.

**#6. NECESSARY ACTION:** The RMA and WNERR must develop a strategy and a timeline for completion of the site profile, in coordination with the Office of Ocean and Coastal Resource Management.

This action was not accomplished in the time period noted in the 1999 evaluation findings. However, in advance of the June 2004 evaluation site visit, WNERR developed a strategy and timeline to complete the site profile and submitted it to NOAA.

**#7. NECESSARY ACTION:** The RMA and WNERR must make every effort to complete the new laboratory facility in a timely manner. The RMA and the WNERR must develop a facility needs plan that includes developing a solution to the lack of adequate dormitory space for researchers.

WNERR completed the 6,000 square foot Maine Coastal Ecology Center in June 2001. In September 2002, WNERR began planning for a dormitory facility. It hired an architect in March 2003 and completed the design phase. Along with Laudholm Trust, WNERR raised the necessary match for a NOAA construction grant. At the time of the site visit, WNERR planned to begin construction on the 20-bed dormitory in June 2005, with completion in June 2006.

**#8. NECESSARY ACTION:** The RMA and WNERR must prepare updated boundary maps and narrative description, including longitudes and latitudes, for the reserve.

Updated and detailed reserve boundary maps were completed in 2002.

**#9. NECESSARY ACTION:** The RMA must pursue dedicated state funds for WNERR to provide for long-term support for reserve operations, including minimum staffing requirements, so that staff are not totally dependent on fund-raising from the Laudholm Trust to supplement federal funding. A proposal to the state legislature is the first step in beginning to address this need.

Two separate bills (LD 171 in 1999 and LD 433 in 2001) were submitted to the Maine Legislature by York County legislators to provide state funds for the WNERR. While there was strong support for LD 433, state budget shortfalls were cited as the reason the bill did not pass in the legislature.

**#10. NECESSARY ACTION:** The RMA and WNERR must prepare and submit future annual reports and work plans to NOAA, as specified in the standard operating procedures (SOP). They are encouraged to work with the Laudholm Trust to develop an expanded annual report to satisfy the joint requirements of both the Trust and the standard SOPs.

WNERR and Laudholm Trust produce and distribute a joint annual report that highlights the accomplishments and activities of WNERR. WNERR submits to NOAA detailed and comprehensive semi-annual progress reports.

**#11. PROGRAM SUGGESTION:** The RMA and WNERR are encouraged to continue developing cooperative relationships with other agencies or groups to better accomplish their goals and to assist others in their coastal decision-making activities.

WNERR has many partnerships and collaborative relationships with a wide range of national, state and local government and nonprofit organizations and agencies.

**APPENDIX B. PEOPLE AND INSTITUTIONS CONTACTED**

**Maine Coastal Program Representatives**

<b>Name</b>	<b>Title</b>	<b>Affiliation</b>
Todd Burrowes	Policy Development Specialist	MCP
Jim Connors	Senior Planner	MCP
Liz Hertz	Senior Planner	MCP
Todd Janeski	Senior Planner	MCP
Jon Kachmar	Senior Planner	MCP
Dick Kelly	Planner	MCP
Lorraine Lessard	Secretary	MCP
Cathy Levesque	Accountant	MCP
Vanessa Levesque	NOAA Coastal Management Fellow	MCP
Kathleen Leyden	Director	MCP
Theresa Torrent-Ellis	Senior Planner	MCP

**Wells National Estuarine Research Reserve Representatives**

<b>Name</b>	<b>Title</b>	<b>Affiliation</b>
Paul Dest	Manager	WNERR
Michelle Dionne	Research Director	WNERR
Chris Feurt	Coastal Training and Information Program Coordinator	WNERR
Laura Lubelczyk	Education Director	WNERR
Sue Pike	Education Associate	WNERR
Tin Smith	Stewardship Coordinator	WNERR
Susan Smith	GIS Specialist	WNERR

**Laudholm Trust Representatives**

<b>Name</b>	<b>Title</b>	<b>Affiliation</b>
Elaine Carlson	Chair of the Board	Laudholm Trust
Cynthia Daley	Honorary Trustee	Laudholm Trust
Scott Richardson	Communications Director	Laudholm Trust
Susan Rouillard	President	Laudholm Trust
Nancy Viehmann	Director of Volunteer Programs	Laudholm Trust

**State of Maine Representatives**

<b>Name</b>	<b>Title</b>	<b>Affiliation</b>
Stacy Benjamin	Senior Planner	SPO
Lana Clough	Code Enforcement Officer Program Manager	SPO
John Del Vecchio	Legislative Liaison	SPO
Martha Freeman	Director	SPO
David Keeley		SPO
Fred Landa	Senior Planner	SPO
Matt Nazar	Senior Planner	SPO

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Rich Baker		DEP
Doug Burdick	Environmental Specialist	DEP
Andy Fisk		DEP
Judy Gates	Environmental Specialist	DEP
Matt Hight		DEP
Don Kale	Environmental Specialist	DEP
Sarah Kasack	Intern	DEP
Linda Kokemuller	Environmental Specialist	DEP
Jeff Madore	Division of Land Resource Regulation Director	DEP
Mike Morse	Environmental Specialist	DEP
Mike Mullen	Environmental Specialist	DEP
Pam Parker		DEP
Don Witherill		DEP
Seth Barker	GIS Manager	DMR
David Etnier	Deputy Commissioner	DMR
Deirdre Gilbert	Special Assistant to the Commissioner	DMR
John Sowles	Ecology Unit Director	DMR
Brian Swan	Planning and Research Associate	DMR
Christine Olsen		MDOT
Dan Walters		Office of GIS
Peggy McCloskey		Office of the Attorney General
Andrew Tolman		HHS
Pete Slovinsky	Senior Geologist	MGS

**Federal Agency Representatives**

<b>Name</b>	<b>Title</b>	<b>Affiliation</b>
Ward Feurt	Manager	Rachel Carson NWR
Karen Young	Director	Casco Bay Estuary Project

**Local Government Representatives**

<b>Name</b>	<b>Title</b>	<b>Affiliation</b>
Jon Carter	Town Manager	Town of Wells
Richard Clark	Selectman	Town of Wells
Jeff Nims	Code Enforcement Officer	Town of Camden

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	Planner	
Dave Schmanska	Harbor Master	Town of St. George
Dan Jellis	Town Engineer	Town of Yarmouth
Paul Schumacher	Director	Southern Maine Regional Planning Commission
Eric Galant	Director	Midcoast Regional Planning Commission

**Academic Representatives**

<b>Name</b>	<b>Title</b>	<b>Affiliation</b>
Paul Anderson	Director	Maine Sea Grant
Jim McClure	Assistant Director for Research	Maine Sea Grant
Susan White		Maine Sea Grant
Kristin Whiting-Grant	Extension Agent	Maine Sea Grant
Dan Belknap	Professor of Geological Sciences	University of Maine
Jeannie Megerin	Teacher	

**Nongovernmental Organization Representatives**

<b>Name</b>	<b>Title</b>	<b>Affiliation</b>
Erno Bonebakker		Restore Maine's Coast
Roger Cole		MtA2C Coalition
Carol Donnelly		York Rivers Association
Joe Payne	Baykeeper	Friends of Casco Bay
LaMarr Cannon	Maine NEMO Coordinator	Partnership for Environmental Technology Education
Kirk Laflin	Director	Partnership for Environmental Technology Education
Elizabeth Sheehan		Coastal Enterprises, Inc.
Yvette Alexander		Maine Fishermen's Wives Association
Keith Fletcher		The Nature Conservancy

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Susan Faraday		The Ocean Conservancy
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**Industry Representatives**

<b>Name</b>	<b>Title</b>	<b>Affiliation</b>
Susan Swanton	Director	Maine Marine Trades Association
Steve Bunnell		Bunnell Marine Consulting
Sandy McGaw		Wayfarer Marine

**Other Individuals**

<b>Name</b>	<b>Title</b>	<b>Affiliation</b>
Charles Lubelczyk		Maine Medical Center

**APPENDIX C. PEOPLE ATTENDING PUBLIC MEETINGS**

**June 8, 2004  
WNERR Mather Auditorium  
Wells, Maine**

<b>Name</b>	<b>Affiliation</b>
Erno Bonebakker	Restore Maine's Coast
Carol Donnelly	York Rivers Association
Joey Donnelly	Working Waterfront Coalition York Harbor Board
Ward Feurt	Rachel Carson National Wildlife Refuge
Paul Schumacher	Southern Maine Regional Planning Commission
Wolf Tone	Trust for Public Land

**June 10, 2004  
Camden Public Library  
Camden, Maine**

<b>Name</b>	<b>Affiliation</b>
Rob Bauer	Blue Hill Comprehensive Planning Committee
Chris Fichtel	Maine Coast Heritage Trust
Roger Fleming	Conservation Law Foundation
Vivian Newman	Sierra Club
Brian Swan	Maine Department of Marine Resources

## **APPENDIX D. NOAA'S RESPONSE TO WRITTEN COMMENTS**

NOAA received three sets of written comments regarding the Maine Coastal Program (MCP). NOAA received one set of comments regarding both MCP and the Wells National Estuarine Research Reserve (WNERR). The comments are summarized below and followed by NOAA's response.

**Robert Bauer**  
**Blue Hill Comprehensive Planning Committee**  
**Blue Hill, Maine**

**Comment:** Mr. Bauer writes that there has been no contact between MCP and local planners, selectmen, harbor masters and other town officials in Blue Hill, Maine. Mr. Bauer expresses concern that the lack of consistent shoreline zoning standards coupled with a lack of direction for coastal towns will result in excessive development along Maine's coast. He notes that working waterfronts are diminishing throughout Maine. Mr. Bauer also writes that MCP, when addressing waterfront issues, does not include stakeholders through the use of a coastal zone management council.

**NOAA's Response:** As described in this document, NOAA has found that MCP provides strong support to municipalities and promotes stakeholder involvement in resolving difficult coastal issues. Examples of MCP's efforts related to land use planning, training, public access and working waterfronts are described in §III-C-2. NOAA encourages MCP to continue to expand its outreach to municipalities as practicable.

**Jennifer Burns**  
**Staff Attorney and Advocate**  
**Maine Audubon**  
**Falmouth, Maine**

**Comment:** Ms. Burns writes on behalf of Maine Audubon and urges NOAA to closely examine the issue of Maine's sand dune rules. She states that the rules have been significantly weakened, and that Maine Audubon is particularly concerned about the provision allowing reconstruction on frontal dunes. Ms. Burns concludes that NOAA should insist that the state strengthen the recently weakened standards and look for other opportunities to protect and enhance Maine's sand dune rules.

**Response:** As described in this document, NOAA recognizes that the revision of Maine's coastal sand dune rules was contentious and that a variety of stakeholders continue to have concerns about the revised rules. As described in MCP Program Suggestion #1, NOAA encourages MCP to continue to address concerns regarding the revised sand dune rules through the comprehensive stakeholder process and the framework agreement on sand dunes and coastal management in Maine. MCP is also urged to continue to keep NOAA apprised of progress in this area.



**Bob Hamblen**  
**Chief of Planning and Environmental Regulation**  
**City of Saco Planning Department**  
**Saco, Maine**

**Comment:** Mr. Hamblen writes on behalf of the City of Saco to provide comments regarding the valuable role served by MCP in the stewardship of Maine's coastal resources. He provides several examples of how MCP has aided the City of Saco. Mr. Hamblen concludes that the City of Saco recognizes MCP as an active, valued partner in the effort to monitor and control coastal impacts in Maine.

**NOAA's Response:** As described in this document, NOAA has found that MCP provides strong support to municipalities. NOAA encourages MCP and the City of Saco to continue working together to address challenging coastal issues.

**Amy Holland**  
**Public Policy Coordinator**  
**Maine Coast Heritage Trust**  
**Topsham, Maine**

**Comment:** Ms. Holland writes on behalf of Maine Coastal Heritage Trust to express support for MCP and WNERR. She provides several examples of how her organization and the two programs have worked together. Ms. Holland underscores the importance of involving communities and stakeholders in a proactive and thorough way as MCP advances its program goals and develops policy related to coastal issues.

**NOAA's Response:** As described in this document, NOAA has found that MCP and WNERR have strong partnerships with a wide variety of other agencies and organizations. Additionally, the programs' proactive approach to coordination by involving partners early in processes and projects improves efficiency and allows problems to be addressed before they escalate. NOAA encourages MCP, WNERR and the Maine Coast Heritage Trust to continue to work together on projects that advance their goals.