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Year 14 Work Plan

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2009

PISCATAQUA REGION ESTUARIES PARTNERSHIP



Year 14 Work Plan

Prepared by:

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Table of Contents

OVERVIEW 3

SECTION 1: 2010 WORK PLAN

I. Work Plan Goals..... 5

II. Proposed Implementation Activities and Priorities
 Management Plan Implementation 6
 Monitoring Program Implementation 12
 Program Support/Administrative Activities & Initiatives..... 16

III. Program Administration 19

IV. Year 14 Budget: Funding Allocation for 2010..... 22

SECTION 2: ONGOING PROJECTS AND REPORT OF PAST YEAR’S ACTIVITIES

I. Ongoing Projects 23

II. Accomplishments and Activities Initiated to Fulfill Goals from Previous Work
 Plans 29

III. Progress in Implementing EPA’s Priority Clean Water Act Programs..... 44

IV. Travel Report 46

OVERVIEW

The Piscataqua Region Estuaries Partnership (PREP), formerly called the New Hampshire Estuaries Project, is part of the U.S. Environmental Protection Agency's (EPA's) National Estuary Program which is a joint local/state/federal program established under the Clean Water Act with the goal of protecting and enhancing nationally significant estuaries. PREP is housed at and administered through the University of New Hampshire. A 27-person Management Committee oversees the work of the program. The Management Committee has a diverse membership representing municipalities, planning commissions, state and federal natural resource management agencies, watershed groups, non-profit conservation organizations, energy producers, researchers, and fishermen.

PREP's *Comprehensive Conservation and Management Plan* (Management Plan) for New Hampshire's estuaries was completed in 2000 and updated in 2005. The Management Plan outlines key issues related to management of New Hampshire's estuaries and proposes strategies (Action Plans) to protect, enhance, and monitor the region's estuarine resources. Local stakeholders established PREP's priorities, which include water quality improvements, shellfish resource enhancements, land protection, habitat restoration, and outreach and education. Projects addressing these priorities are undertaken throughout the watershed areas for the Great Bay Estuary, Hampton-Seabrook Estuary, and the New Hampshire Atlantic coast. In addition, PREP implements a comprehensive monitoring program and collects, compiles, and analyzes data for a number of environmental indicators. PREP is updating its Management Plan in 2009, with an expected completion date for the new plan in March 2010.

From its inception in 1995 through 2007, PREP conducted its work in the New Hampshire portion of the watershed area only. In December 2007, the PREP Management Committee supported expanding PREP's focus area to the Maine portion of the Great Bay Estuary watershed. Integration of the Maine part of the watershed is occurring over a three year period (2008-2010). As of January 1, 2009, PREP assumed its new name (changing from the New Hampshire Estuaries Project to Piscataqua Region Estuaries Partnership). The new name better reflects the program's geographic focus and collaborative approach to watershed management.

Each year PREP prepares its work plan, which describes priority activities and projects to be undertaken in the next year to implement the Management Plan. The work plan also reports on the prior year's accomplishments. The PREP Management Committee reviews and approves the budget and project priorities for the work plan each year. This work plan represents the fourteenth year of PREP's activities and involvement in collaboratively protecting, enhancing, and monitoring the region's estuaries.

Section 1 of this document describes activities and priorities to be undertaken by PREP and its partners as part of the new EPA grant (National Estuary Program FFY 2009 funding), beginning on October 1, 2009. It identifies PREP's implementation and program goals; describes specific activities to be undertaken by PREP staff or partners with grant funds to implement the PREP Management Plan and Monitoring Plan;

describes PREP's administrative structure and costs; and presents the overall budget for the Year 14 grant.

Section 2 of this document is a report of PREP's ongoing projects and activities for the past year. A table of all ongoing projects supported by PREP is provided. The section describes actions and projects completed by PREP to implement goals and activities identified in work plans from the previous years (Year Twelve Work Plan: http://www.prep.unh.edu/resources/pdf/nhep_year_12-nhep-07.pdf; and Year Thirteen Work Plan: http://www.prep.unh.edu/resources/pdf/nhep_year_13-nhep-08.pdf); describes how PREP's activities helped support Clean Water Act programs; and reports on last year's travel expenses, as required by EPA.

SECTION 1: 2010 WORK PLAN

I. Work Plan Goals

The activities and projects described in the 2010 (Year 14) Work Plan are designed to accomplish the following goals:

1. Finalize the Management Plan update

In early 2010, PREP will finalize the new Management Plan for the region's estuaries and coastal watersheds. A new PREP Monitoring Plan will be developed subsequent to completion of the Management Plan. In addition, PREP will develop a new project tracking database to report on implementation of the new Management Plan.

2. Implement the PREP Management Plan and PREP Monitoring Plan

PREP will fund and manage projects and directly undertake activities to implement the Management Plan and the Monitoring Plan in 2010. Specific projects are identified in the following sections. These projects were developed under the existing Management Plan, but where possible and appropriate, the activities will be further developed or adapted to implement the new Management Plan (anticipated March 2010). Anticipated outputs and outcomes are provided for each activity.

3. Develop and implement the Strategic Communications Plan

PREP will develop a comprehensive communications strategy following the update of the Management Plan, taking into account information from its recent strategic planning sessions. The communications plan will identify actions and strategies to implement the outreach-related elements from the Management Plan. Communications activities also are intended to support general outreach objectives to increase awareness of PREP and its products and resources among target audiences, as well as increase overall awareness of important coastal issues.

II. Proposed Implementation Activities and Priorities

EPA National Estuary Program funds primarily will be used to support what have become PREP's annual "core" programs. These programs that have been developed by PREP have produced environmental results, engaged a broad base of stakeholders, and are well-aligned with priority action plans from the existing Management Plan, yet can be adapted to address priorities and actions from the new plan. Data from the monitoring projects allow PREP to develop environmental indicators and report on environmental trends and conditions of the estuaries.

Projects and activities described below will be initiated in 2010. All projects funded by the 2010/Year Fourteen grant award will be completed by December 31, 2011. For each work plan project or activity, an alphanumeric work plan code is generated for tracking in the PREP database.

Activities that will be undertaken by PREP in 2010 using other grant funds are not included below; only those that are funded by the EPA Year 14 grant or projects that provide matching funds for the grant are listed.

Projects and activities are listed in 3 sections: Management Plan Implementation, Monitoring Program Implementation, and Program Support/Administrative Activities & Initiatives.

MANAGEMENT PLAN IMPLEMENTATION

The projects and activities identified below will implement specific Action Plans from the Management Plan. Some activities will be completed by PREP staff; some by partners and/or contractors with PREP funding or other funding as noted. Unless otherwise noted, projects listed below are expected to be initiated on or around January 1, 2010 and completed by December 31, 2010. The work plan includes \$117,800 to support projects and activities identified below (this does not include PREP staff time to manage projects or implement staff-led initiatives).

10-WR-1: Stormwater Workshops

PREP funds (\$1,500) will be used to pay workshop costs in 2010 for municipal board members and town employees from PREP's focus area (52 communities) to attend the UNH Stormwater Center demonstration facility that showcases various stormwater treatment systems, including low impact development (LID) and infiltration technologies. The workshop includes the field demonstration during which the technical, operational, and maintenance aspects of systems are discussed, followed by a working lunch where performance data are presented and discussed.

Output: Attendance of 30 target individuals at workshops

Outcome: Better knowledge of LID and innovative stormwater management systems (short-term); increased use of LID/innovative systems (long-term)

Clean Water Act (CWA) Relevance: Strengthening Stormwater Phase II Program implementation

Action Plans Implemented:

Action Plan WQ-18: Support and coordinate stormwater technical workshops

10-WR-2: Support for the Piscataqua River Cooperative

PREP will continue to collaborate with the Piscataqua River Cooperative (PRC) to support its efforts to prevent, respond to, and minimize impacts from oil and hazardous waste spills. The PRC is supported through contributions from energy companies in the amount of approximately \$165,000 per year.

Output: Response training; response materials acquired

Outcome: Improved water quality and aquatic habitats as a result of fewer oil spills and/or better response to spills

Action Plan Implemented:

Action Plan WQ-12A: Acknowledge and support the oil spill prevention and response activities of the Piscataqua River Cooperative

10-WR-3: NHDES Shellfish Program Implementation

The NHDES Shellfish Program will conduct routine monitoring, shoreline surveys, classification studies, and red tide testing in 2010 in support of many action plans from the Management Plan. This will be the fourth year that the Shellfish Program has operated with state funds (roughly \$175,000 per year) secured for the program through PREP-led legislative efforts. Program costs in the amount of \$150,000 will be counted as matching funds for PREP.

Output: Water quality data, shellfish tissue data (bacteria and PSP), and completion of shoreline surveys

Outcome: Protection of human health, additional classified areas, increased shellfish harvest opportunities

CWA Relevance: Water quality monitoring

Action Plans Implemented:

- Action Plan SHL-1: Implement procedures in the National Shellfish Sanitation Program guidance to obtain certification by the FDA for a recreational and commercial shellfish program
- Action Plan SHL-4: Enhance the amount and reliability of funding for strategies and actions to maintain a comprehensive shellfish program
- Action Plan SHL-5: Collect and monitor water quality samples to identify sources and reduce or eliminate contaminants
- Action Plan SHL-6: Periodically collect and monitor shellfish tissue samples as appropriate for toxins and biotoxins

10-LU-1: NROC Support/Program Implementation

PREP staff will participate in the Natural Resources Outreach Coalition (NROC), by participating in quarterly coordination meetings, serving on teams to prepare and deliver programs to communities and facilitate follow up, helping to develop work plans, and managing grants with participating communities. PREP staff will work with the NROC team to deliver programs and assistance to one or two communities in 2010. In addition, PREP staff will coordinate with the Maine NEMO program (Nonpoint source Education for Municipal Officials) in 2010, to make sure PREP data and resources are available to support any work with Maine watershed communities.

Output: Commitment of 5% of one PREP staff member's time to the NROC program to provide direct technical assistance on environmental planning issues to communities

Outcome: Increased capacity of participating towns to protect wetlands, riparian areas, sensitive habitats, open space, and water quality; and improved regulatory and non-regulatory approaches to protecting these resources

Action Plan Implemented:

Action Plan LND-5: Support the NROC municipal decision-maker land-use planning outreach method

10-LU-2: Community Technical Assistance Program

PREP will provide \$30,000 for the Community Technical Assistance Program in 2010 (Round 5 of the program). This funding should support four or five community projects. The program provides assistance to community conservation commissions and planning boards on various regulatory and nonregulatory approaches to natural resource protection, including land conservation planning, buffer protection, and stormwater management. Communities apply to PREP for assistance with a specific eligible topic; communities are paired with "technical assistance providers"; project work plans are developed; and PREP oversees and funds the consultants' work with communities. In some cases, PREP staff provides the assistance directly to communities. Projects are expected to begin between January 1 and July 1, 2010 and conclude by June 30, 2011. All 52 watershed communities are eligible for the program in 2010.

Outputs and outcomes will be dependent on the communities' applications and projects developed in response to community requests.

CWA Relevance: Wetlands protection and/or strengthening Stormwater Phase II Program implementation

Action Plans Implemented (depending on community projects developed):

- Action Plans LND-15, LND-29, and LND-36 (land conservation planning)

- Action Plans LND-1, LND-2, LND-6E, WQ-9, & WQ-18 (stormwater management/low impact development)
 - Action Plan LND14, LND-20, & LND-25 (buffers and wetlands protections)
-

10-HP-1: Land Protection Transaction Grant Program

PREP will provide \$30,000 for continuation of the Land Protection Transaction Grant Program in 2010. This program provides funding for transaction costs associated with the permanent protection of lands with high ecological value. Transaction costs include items such as surveys, deed and title research, legal fees, and appraisals in some cases. Units of government and 501(c)3 conservation organizations are eligible for the grant funding. Grant awards are up to \$4,000 per project and an equivalent amount of matching funds is required. Maine-based watershed projects will be eligible for this program in 2010.

Output: Eight land conservation projects (estimated 400 acres of protected lands)

Outcome: Protection of wildlife habitat and water quality

Action Plans Implemented:

- Action Plan LND-15: Support land conservation efforts in shoreland areas
 - Action Plan LND-36: Encourage conservation easements
-

10-LR-1: Culvert/Watershed Assessment Project

PREP will use \$5,000 to inventory road/stream crossings in a high priority subwatershed area to identify culverts that are barriers to aquatic organisms, are geomorphically incompatible, and are top maintenance priorities. The subwatershed area will be selected by PREP based on the need for and potential management use of such data and on opportunities to collaborate with watershed partners, including agencies, communities, and watershed organizations. PREP funds will support a small field crew (likely summer interns) in 2010 and the cost of supplies needed for the project. PREP staff will oversee the interns and the project.

Output: Data on culvert location and condition; prioritized list for upgrades and maintenance

Outcome: Improved aquatic habitat and connectivity; reduced flooding

Action Plan Implemented:

Action Plan RST-4: Identify and implement habitat restoration projects in other important non-tidal habitat areas, such as uplands and freshwater wetlands

10-HR-1: Estuary Restoration Partnership

PREP staff will continue to participate in the Partnership to Restore New Hampshire's Estuaries in 2010 and assist with work plan development, project identification and planning, fund seeking, and project management.

Output: Commitment of 20% of one PREP staff member's time to provide leadership and project management capacity in support of selecting and implementing priority restoration projects identified by the Partnership

Outcome: Increased organizational capacity to implement high priority restoration projects needed to restore improved ecosystem function to the region's estuaries

Action Plans Implemented:

- Action Plan SHL-8: Develop and implement a plan for shellfish resource enhancement and habitat restoration activities to achieve a sustainable resource contributing to a healthy environment
- Action Plan RST-2: Using the Coastal Method and other techniques, identify and restore tidal wetlands for aspects other than tidal restrictions
- Action Plan RST-4: Identify and implement habitat restoration projects in other important non-tidal habitat areas, such as uplands and freshwater wetlands

10-WS-1: Local Grants Program in 2010

PREP will provide up to \$40,000 for competitively selected projects in response to a request for proposals. The Management Plan places strong emphasis on empowering community partners to implement projects to improve natural resources protection. To this end, PREP will continue its Local Grants Program through 2010. Projects will be solicited through a Request for Proposals issued by PREP in summer of 2009. Applicants' projects can address any action plan from the Management Plan. To accommodate Maine projects, project criteria will include implementation of strategies from Maine watershed protection/restoration plans with objectives consistent with those identified in the PREP Management Plan. The maximum award per project is \$8,000. PREP funds must be matched by non-federal funds.

Outputs and outcomes will depend on the projects selected through the grant program. Projects are anticipated to begin January 1, 2010 and end December 31, 2010.

Action Plan Implemented:

Action Plan EDU-3: Establish and fund a Technical Assistance Grant Program to promote and fund projects that support the PREP Management Plan

10-WS-2: 2010 Eye on Estuaries Newspaper Column

PREP, with input from the Public Outreach and Education Team, will continue to work with seacoast area newspapers to publish a monthly column titled "Eye on Our Estuaries," which highlights estuarine and other local natural resource issues. Topics relevant to Management Plan priorities will be addressed.

Output: Twelve articles, averaging 900 words addressing Management Plan priorities, reaching at least 30,000 readers

Outcome: Increased awareness of PREP, coastal watershed issues, management activities, and the regional estuarine systems

Action Plans Implemented:

- Action Plan EDU-1: Utilize the media to enhance educational efforts
 - Action Plan EDU-2: Work with the Seacoast Newspapers to establish a monthly newspaper column devoted to coastal natural resource issues
-

10-WS-3: V.I.P. Boat Tours

PREP will organize and conduct two boat tours of the Great Bay Estuary in 2010 geared for coastal watershed planning board members and conservation commissions, as well as other town board members. PREP will use \$900 to support this activity, which is timed around National Estuaries Day. This will be the seventh year that PREP has organized these well-attended events for participants. Approximately 75 people are anticipated to participate, 45 of which will be municipal planning officials. Tours include presentations from PREP staff on the State of the Estuaries Report and other PREP programs, researchers on current restoration and/or monitoring projects, and land planning professionals regarding a variety of watershed management issues. The boat tours are an opportunity to introduce community decision makers to PREP, help people connect to the area's estuarine resources, highlight information and projects of particular relevance, and encourage networking between communities. A discounted boat use fee for UNH programs provides \$500 in matching funds.

Output: Two boat tours of the Great Bay Estuary involving approximately 75 people, 45 of which are municipal planning officials

Outcome: Greater understanding of PREP programs, Management Plan, partner activities, coastal watershed management activities, and estuary ecology and management

Action Plan Implemented:

Action Plan WQ-20: Conduct an Estuarine Field Day for municipal officials

MONITORING PROGRAM IMPLEMENTATION

Monitoring projects implement PREP's Monitoring Plan, which outlines the data and analytical methods for indicators that assess environmental objectives. Monitoring activities include annual programs and special projects for which data are collected less frequently. Quality Assurance Project Plans (QAPPs) are developed as necessary for monitoring projects.

PREP's Year 14 EPA grant includes \$62,300 to implement projects that support the program's core monitoring program in 2010. The majority of PREP's contracted monitoring projects are conducted by the UNH Marine Program. In most cases, organizations receiving PREP funds to conduct monitoring activities will provide matching funds. In addition, NextEra Energy Seabrook, LLC (formerly FPL Energy Seabrook Station) conducts monitoring activities in Hampton-Seabrook Harbor that provide data used by PREP for its indicator reports and are counted as matching funds for the program.

All monitoring projects will be completed between January 1, 2010 and March 31, 2011, with the exception of GulfWatch sample analyses, which will be completed by June 30, 2011, and the impervious surface mapping project, which will be initiated October 1, 2010 and completed by June 30, 2011.

Outputs/products for all monitoring projects include data that meet data quality standards established in project QAPPs. Outcomes include establishment of updated environmental indicators that convey environmental status and trends leading to improved decision-making and/or planning. Many of the monitoring projects supported by PREP are consistent with EPA's Clean Water Act priority of improving water quality monitoring.

Details on the 2010 monitoring projects to be supported by PREP are listed below. For UNH projects, the budget amount does not include indirect costs associated with the projects. Indirect costs assessed by UNH are calculated separately and included in the "Program Administration" section.

10-MON-1: Oyster Disease Testing

PREP will use \$2,700 to pay Rutgers University for analysis of oyster disease organisms MSX and Dermo. One hundred twenty-five samples taken from five beds in the Great Bay Estuary (including the newly mapped Sturgeon Creek bed in Maine) will be analyzed. NH Fish and Game Department coordinates the collection of samples in New Hampshire and delivery of samples to the lab, and its boat and diver time are counted as in-kind matching funds for the project. PREP will work with partners to collect samples from the Maine site.

Action Plan/Work Plan Goal Implemented:

- Action Plan SHL-7: Maintain an ongoing shellfish resource assessment program (includes evaluating disease organisms)

- Work Plan Goal 2: Implement the PREP Management Plan and Monitoring Plan
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10-MON-2: GulfWatch Program – Lab Analysis for Supplemental Sites

PREP will use \$6,500 to fund contaminant analyses for eight samples of blue mussels collected from Dover Point and Hampton-Seabrook Harbor. These two PREP-supported benchmark sites supplement the yearly monitoring conducted by the Gulf of Maine Council GulfWatch Program. Analyses will be conducted by Battelle Marine Sciences Laboratory in Sequim, Washington, and Environment Canada Laboratory in Moncton, New Brunswick. PREP organizes the field sampling and sample preparation for all the New Hampshire sites that are part of the GulfWatch Program.

Action Plan/Work Plan Goal Implemented:

- Action Plan SHL-6: Collect and monitor shellfish tissue samples for toxins and biotoxins
 - Work Plan Goal 2: Implement the PREP Management Plan and Monitoring Plan
-

10-MON-3: GulfWatch Program – Lab Support

PREP will use \$800 to fund the UNH Marine Program Jackson Estuarine Lab to provide logistical support to assist PREP in coordinating the annual GulfWatch Program. Funds support use of UNH lab space, lab supplies, and staff time to store and ship samples.

Action Plan/Work Plan Goal Implemented:

- Action Plan SHL-6: Collect and monitor shellfish tissue samples for toxins and biotoxins
 - Work Plan Goal 2: Implement the PREP Management Plan and PREP Monitoring Plan and ongoing environmental assessments
-

10-MON-4: Tidal Tributary Monitoring Program

PREP will use \$6,600 (\$3,600 lab costs, \$3,000 sample collection) to fund the UNH Water Quality Analysis Lab to collect and analyze 90 water quality samples for total nitrogen, total dissolved nitrogen, total phosphorus, total suspended solids, and field parameters from the eight tributaries to the Great Bay Estuary. Samples are collected and field parameters are measured on a monthly basis 10 times over the course of the year from March to December. Field and laboratory methods for this project are specified in an approved quality assurance project plan.

Work Plan Goal Implemented: Goal 2: Implement the PREP Management Plan and Monitoring Plan

10-MON-5: Eelgrass Mapping

PREP will use \$9,600 to fund the UNH Marine Program to acquire imagery, conduct ground truthing, and perform data analysis to map eelgrass beds in Great Bay, Little

Bay, Piscataqua River, and Portsmouth Harbor. The final product will be ground-truthed eelgrass habitat maps for 2010. The methods for this project will follow a revised quality assurance project plan that is being developed in early 2009.

Work Plan Goal Implemented: Goal 2: Implement the PREP Management Plan and Monitoring Plan

10-MON-6: Datasonde Deployment and Monitoring

PREP will use \$10,200 to fund the UNH Marine Program to supplement datasonde deployment and water quality monitoring conducted through the Great Bay NERR/UNH System-wide Monitoring Program. PREP funds are used to operate and maintain datasondes to monitor water temperature, salinity, dissolved oxygen, turbidity, and pH at two locations in the Great Bay Estuary: Coastal Marine Laboratory (year round) and Salmon Falls River (summer only). These deployments complement the Great Bay NERR's deployment of datasondes in the Lamprey River, Squamscott River, Oyster River, and in the middle of Great Bay. The methods for this project will follow a revised quality assurance project plan that is being developed in 2009.

Work Plan Goal Implemented: Goal 2: Implement the PREP Management Plan and Monitoring Plan

10-MON-7: Water Quality Trend Monitoring in Tidal Waters

PREP will use \$16,900 to fund the UNH Marine Program to conduct monthly monitoring of nutrients, particulates and bacteria at tidal trend stations in the Great Bay Estuary and Hampton-Seabrook Harbor between January 1 and December 31. The nine tidal trend stations are located in Great Bay, Squamscott River, Lamprey River, Oyster River, Upper Piscataqua River, and Portsmouth Harbor. In addition, the UNH Marine Program will collect samples for bacteria analysis from Hampton-Seabrook Harbor, Little Harbor, Bellamy River, Little Bay, and the Upper Piscataqua River during the summer index period. The methods for this project will follow a revised quality assurance project plan that is being developed in 2009.

Work Plan Goal Implemented: Goal 2: Implement the PREP Management Plan and Monitoring Plan

10-MON-8: Impervious Surface Mapping

PREP will use \$9,000 to fund the UNH Complex Systems Research Center to acquire imagery for fall 2010 and process it to develop impervious surface estimates for the entire watershed area. Summary data will be presented by subwatershed and by town. Impervious surface data are now produced every five years. PREP will develop maps and other outreach products to deliver the information to towns.

Action Plan/Work Plan Goal Implemented:

- Action Plan LND-1: Prepare a report of current and future levels of imperviousness for subwatersheds
 - Work Plan Goal 2: Implement the PREP Management Plan and Monitoring Plan
-

10-MON-9: Hampton-Seabrook Harbor Soft-shell Clam Monitoring Program

NextEra Energy Seabrook Station (formerly FPL Energy Seabrook Station) conducts annual monitoring of soft-shell clams in Hampton-Seabrook Harbor, using the services of Normandeau Associates, Inc. These data are provided to PREP and used to develop a number of PREP's environmental indicators and supporting variables. The value of this data collection effort, estimated at \$69,500 in 2010, is used by PREP as matching funds.

Action Plan/Work Plan Goal Implemented:

- Action Plan SHL-7: Maintain an ongoing shellfish resource assessment program (includes evaluating disease organisms)
- Work Plan Goal 2: Implement the PREP Management Plan and Monitoring Plan

PROGRAM SUPPORT/ADMINISTRATIVE ACTIVITIES & INITIATIVES

The following activities will be initiated in 2010 to support the development and implementation of the updated Management Plan and to facilitate PREP communications.

10-ADM-1: Publish updated Management Plan

The effort to update the Management Plan is underway in 2009. With funds from the New Hampshire Charitable Foundation, PREP hired a team (D.B. Truslow Associates and Mettee Planning Consultants) to facilitate stakeholder meetings and draft the management plan, with PREP staff input and assistance. Over a dozen stakeholder meetings are being conducted. A final draft plan will be delivered by the consultants by the end of 2009. PREP will prepare the final plan, adding graphics, finalizing layout, etc. and conduct a final round of stakeholder/public input on the plan in early 2010. The plan will be finalized, printed, and distributed by April 2010. Funds from the Year 12 EPA grant (\$10,000) were previously budgeted to support Management Plan update activities, and a portion will be used for plan production and distribution costs in 2010. No additional funds from the Year 14 grant are needed.

Output: Copies of the Management Plan printed and distributed

Outcome: Improved and relevant Management Plan used for program and project implementation

Work Plan Goal Implemented: Goal 1: Finalize the Management Plan update

10-ADM-2: Develop Project Tracking Database

PREP will develop a new database to track implementation of the Management Plan, once the new plan is complete. The new database will replace the existing one developed in 2001, but provide the useful tracking and reporting features originally developed. The database will be complete by June 30, 2010. Funds from the Year 12 EPA grant (\$10,000) were previously budgeted to support Management Plan update activities, and a portion will be used for database development costs in 2010. No additional funds from the Year 14 grant are needed.

Output: Database

Outcome: Improved project tracking and reporting on implementation of the Management Plan

Work Plan Goal Implemented: Goal 1: Finalize the Management Plan update

10-ADM-3: Develop a new PREP Monitoring Plan

PREP will develop a new Monitoring Plan after the Management Plan is completed. The Monitoring Plan describes the methods and data for the indicators used to report on

Management Plan implementation and environmental health. The new Monitoring Plan will integrate the Maine part of the watershed and will be consistent with the goals and objectives identified in the 2010 Management Plan. The Monitoring Plan will be completed by December 31, 2010.

Output: Monitoring Plan, environmental indicators

Outcome: Environmental indicators that report on estuarine/watershed health and improved ability to report on Management Plan implementation progress

Work Plan Goal Implemented: Goal 1: Finalize the Management Plan update

10-ADM-4: PREP Annual Publication

PREP will use \$1,400 to produce a publication that highlights the program's accomplishments from 2009 and mentions upcoming activities in 2010 (similar to the 2008/2009 *Year in Review* publication produced in March 2009). The 2009/2010 publication will be completed by early February 2010.

Output: PREP annual publication

Outcome: Better recognition and awareness of PREP, its mission, and its programs

Work Plan Goal Implemented: Goal 3: Develop and implement the Strategic Communications Plan

10-ADM-5: General Outreach/Communications Activities in 2010

PREP will conduct its general outreach activities (press releases, website updates, Estuaries Update email newsletter, etc.) in 2010. In addition, PREP will continue to develop and maintain an email list of coastal decision-makers so that information can best reach this target audience. These activities implement the Strategic Communication Plan and outreach components of the Management Plan and are intended to increase awareness of PREP and its products and resources among target audiences, as well as increase overall awareness of important coastal issues.

Output: 12 press releases; 12 email newsletters; updated information on website

Outcome: Better recognition of PREP and improved awareness of its activities

Work Plan Goal Implemented: Goal 3: Develop and implement the Strategic Communications Plan

10-ADM-6: 2010 Strategic Communications Plan

PREP will develop a new communications plan to support implementation of the 2010 Management Plan, to guide PREP outreach activities and branding, and to identify new roles or areas of focus for PREP communication and outreach efforts.

Output: Plan

Outcome: Better recognition of PREP and improved awareness of its activities; more efficient and effective outreach activities

Work Plan Goal Implemented: Goal 3: Develop and implement the Strategic Communications Plan

III. Program Administration

The University of New Hampshire administers PREP, houses three of the four PREP employees, and provides office space for the program in Nesmith Hall (rooms 120 to 123, plus storage space). The 2010 Work Plan includes \$428,900 in costs for PREP administration in 2010, including staff salary, benefits, supplies, office operations, travel, and indirect costs. UNH staff, supplies, and office operations costs are programmed for the federal fiscal year 2010 (October 1, 2009 – September 30, 2010); all other costs are for calendar year 2010.

Staff Expenses in 2010

There are three PREP staff employed by UNH (PREP Director and two Project Coordinators). The PREP Coastal Scientist is employed by the NH Department of Environmental Services. Benefits for UNH staff are calculated as 43.8% of the salary costs. PREP also will hire a work study student in 2010 for ~300 hours worth of effort to assist with special projects. There are no benefits calculated for the work study position. Costs for staff are identified below:

- UNH PREP staff salary and benefits for three positions: **\$262,733**, including \$182,700 for salary and \$80,033 for fringe benefits
- PREP Coastal Scientist position at the NH Department of Environmental Services, with PREP covering approximately two-thirds of all costs associated with the position and NHDES covering about one-third of the costs. PREP funding for the Coastal Scientist position in 2010: **\$60,000**
- Intern at UNH (work study program): **\$1,000**

Specific roles of PREP staff and others in administering the program are:

PREP Director (UNH position): The Director is responsible for the overall administration of the program to carry out activities and priorities approved by the PREP Management Committee in the annual work plan; meeting federal requirements of the program, including requisite program reporting; supervising program staff and contractors to implement work plans, projects, communications activities, and technical assistance programs, including the Community Technical Assistance Program; coordinating with stakeholder and partner groups to set priorities and schedules for program implementation; developing annual work plans and budgets; securing and documenting non-federal matching funds for the program; implementing the fund development plan to secure additional financial resources; developing and presenting testimony, letters of support, and other policy positions and statements; representing PREP in local, regional, and national settings; participating in legislative study commissions, advisory groups, and fulfilling other information and data gathering requests. Major undertakings for 2010 include launching the new Management Plan and ensuring that program operations support implementation of the new plan.

PREP Project Coordinator (Outreach/Communications focus) (UNH position): The Project Coordinator implements the PREP's communication plan; oversees the annual Local Grants Program including evaluating proposals, developing scopes of work, and

managing contracts with successful applicants; manages a subset of Community Technical Assistance Program projects and implements other community outreach/assistance projects; manages meetings and input from the Public Outreach and Education Team; coordinates production of PREP publications, including the annual program report; manages the program website; develops the monthly electronic newsletter, Estuaries Update; prepares press releases; produces stories for the program's ongoing monthly newspaper article series (Eye on Our Estuaries); organizes the VIP tours of the estuary; coordinates other outreach events and communications; and performs project tracking and reporting activities. Major undertakings for 2010 involve managing the production and distribution of the final Management Plan and developing a new Strategic Communication Plan for the program.

PREP Project Coordinator (Watershed Restoration/Protection focus) (UNH position):

The Project Coordinator implements actions from the Management Plan (focusing primarily on land use, habitat protection, and habitat restoration action plans); manages the Coastal Watershed Land Protection Transaction Grant Program; manages a subset of Community Technical Assistance Program projects; participates in the Natural Resources Outreach Coalition, assisting with community presentations and managing grants for community projects; participates in the Partnership to Restore New Hampshire's Estuaries, identifying priority restoration initiatives, sharing information, and coordinating restoration efforts; develops and manages restoration projects; performs project tracking and reporting activities; and assists with outreach activities for the program. Major undertakings for 2010 include managing the field work and data synthesis for the culvert/watershed assessment project; developing work scopes and proposals for priority restoration projects; and facilitating implementation of recommendations from the Oyster River culvert assessment/climate pilot project.

PREP Coastal Scientist (NH Department of Environmental Services position, ~65% time on PREP activities): The Coastal Scientist is responsible for overseeing and implementing the PREP Monitoring Plan, including collection, analysis, and reporting of environmental indicator data, developing and managing projects related to the Monitoring Plan, and revising the plan as needed; managing the QAPP development and approval process for PREP projects; providing support to the Technical Advisory Committee; and completing other projects assigned by the PREP Director to address the program's monitoring and technical analysis needs. Major undertakings for 2010 include updating the program's Monitoring Plan for consistency with the new Management Plan and full integration of the Maine part of the watershed, further development of an initiative to conduct an ecosystem services valuation study for the region, and development of a summary of applied research needs for estuarine management. Specific work tasks for the position are developed in an annual agreement with NHDES.

Intern/Work Study Student: PREP hires students through the UNH work study program during the school year to complete work for the program on an hourly, as-needed, basis. The intern assists with administrative work (database management, compiling mailings, etc.) and will complete other short-term special projects as needed. Funding

for 2010 will support approximately 300 hours of work.

Other UNH Program Support: Additional administrative program support is provided by the UNH Office of Sponsored Research, whose staff executes and manages contract agreements for PREP, and the Business Service Center, whose staff handles financial and administrative services for PREP including purchasing, payroll, and personnel administration. Costs for services from these departments are covered, in part, by the indirect rate charged to the federal grant.

PREP Management Committee: Members of the 27-person Management Committee provide valuable in-kind support for operation of the program and implementation of the Management Plan. The Management Committee meets quarterly and periodically conducts work outside of meetings. In-kind support for 2010 is estimated at \$5,200. This estimate is conservative; it does not represent travel time or time spent on PREP activities outside of meetings, and it only represents time by about half of the committee members whose time can be counted toward the match requirement for the federal grant. NHDES/NH Coastal Program provides valuable administrative support to the PREP Management Committee by providing staff to record minutes from each meeting.

Administrative/Office Expenses for 2010

Supplies and Office Expenses (Nine months: January 1, 2010 through September 30, 2010) – This includes phone and data lines, file space/web hosting on the UNH server, postage/ mailing services, copy/print services, office supplies, meeting supplies, hardware and software for four work stations, and other miscellaneous office supplies **(\$6,000)**.

Travel – Costs for PREP staff to attend regional and national conferences in 2010 and for in-state travel to attend meetings or conduct site visits **(\$5,000)**.

Indirect (facilities and administrative costs) – The University's indirect costs (also known as facilities and administrative or F&A costs) are assessed at a rate of 20% for the PREP grant, which is below UNH's standard rate of 34.2%. The indirect cost waiver granted by UNH allows PREP to commit more funds to project implementation. Indirect costs are calculated as 20% of all direct costs, including the first \$25,000 of each subaward made by the University. The Year 14 grant includes **\$94,167** for indirect charges. The waived portion of the indirect rate is estimated at \$66,800 which is the University's contribution to matching funds for the grant.

IV. Year 14 Budget: NEP Funding Allocation for 2010

Work Plan ID	Project/Activity	NEP Funding	Matching Funding	Total Funding
10-WR-1	Stormwater Center Tours for Municipalities	\$1,500	\$0	\$1,500
10-WR-2	Support for Piscataqua River Cooperative	\$0	\$165,000	\$165,000
10-WR-3	NHDES Shellfish Program Implementation	\$0	\$150,000	\$150,000
10-LU-1	NROC Program Implementation*	\$0	\$0	\$0
10-LU-2	Community Technical Assistance Program	\$30,000	\$10,000	\$40,000
10-HP-1	Land Protection Transaction Grant Program	\$30,000	\$45,000	\$75,000
10-LR-1	Culvert/Watershed Assessment Project*	\$5,000	\$0	\$5,000
10-HR-1	Restoration Partnership*	\$0	\$0	\$0
10-WS-1	Local Grants Program	\$40,000	\$40,000	\$80,000
10-WS-2	Eye on Estuaries Newspaper Column*	\$0	\$0	\$0
10-WS-3	VIP Boat Tours*	\$900	\$500	\$1,400
10-MON-1	Oyster Disease Testing	\$2,700	\$5,500	\$8,200
10-MON-2	GulfWatch Program – Lab Analysis	\$6,500	\$0	\$6,500
10-MON-3	GulfWatch Program – Lab Support	\$800	\$800	\$1,600
10-MON-4	Tributary Monitoring Program	\$6,600	\$0	\$6,600
10-MON-5	Eelgrass Mapping	\$9,600	\$9,600	\$19,200
10-MON-6	Datasonde Deployment and Monitoring	\$10,200	\$10,200	\$20,400
10-MON-7	Water Quality Trend Monitoring	\$16,900	\$16,900	\$33,800
10-MON-8	Impervious Surface Mapping	\$9,000	\$5,000	\$14,000
10-MON-9	Hampton-Seabrook Harbor Clam Monitoring	\$0	\$69,500	\$69,500
10-ADM-1	Management Plan Update*, **	\$0	\$0	\$0
10-ADM-2	Project Tracking Database*, **	\$0	\$0	\$0
10-ADM-3	Monitoring Plan Update*	\$0	\$0	\$0
10-ADM-4	PREP Annual Report*	\$1,400	\$0	\$1,400
10-ADM-5	General Outreach/Communications Activities*	\$0	\$0	\$0
10-ADM-6	Strategic Communication Plan*	\$0	\$0	\$0
Mgmt/Admin	PREP Management Committee	\$0	\$5,200	\$5,200
Mgmt/Admin	PREP/UNH Staff (3 staff & work study student)	\$263,733	\$0	\$263,733
Mgmt/Admin	PREP/NHDES Staff (Coastal Scientist)	\$60,000	\$0	\$60,000
Mgmt/Admin	Office Supplies/Materials	\$6,000	\$0	\$6,000
Mgmt/Admin	Travel	\$5,000	\$0	\$5,000
Mgmt/Admin	Indirect	\$94,167	\$66,800	\$160,967
TOTAL		\$600,000	\$600,000	\$1,200,000

(*) No funding or low funding level is indicated; however implementation of these activities requires significant PREP Staff time and those costs are captured in Staff lines.

(**) Implementation funds for these activities were budgeted as part of a previous grant award.

SECTION 2: ONGOING PROJECTS AND REPORT OF PAST YEAR'S ACTIVITIES

I. Ongoing Projects

Information on ongoing implementation projects is included in the following table. Implementation projects are funded by the currently open EPA grants, which include the Year 11, Year 12, and Year 13 grants. The following table presents information for all ongoing projects (open as of 4/01/2009) and includes:

Work plan identification number

Project title/activity

Contractor/organization

Relevant CCMP Action Plan(s) and/or Work Plan goals

Project start and end dates

PREP funds committed to the project

Matching funds committed to the project

Anticipated outputs and outcomes

Specific information on the status of each project is provided to EPA quarterly, via transmission of PREP's project tracking database to EPA.

Ongoing Projects, as of 4/01/09

Work Plan ID	Project Title/Activity	Contractor/Organization	CCMP Actions	Start	End	PREP Funds	Match	Anticipated Outputs/Products	Anticipated Outcomes
07-A-1	Erosion and Sediment Control Study	TBD	WQ-09 WQ-10 Maine	3/1/09	6/30/10	\$40,000	\$0	Summary report characterizing extent of permitted construction activities, permit compliance and enforcement actions, and recommendations for program improvements	Changes in E&S control regulations, implementation, and enforcement; Improved water quality
07-C-11	Hampton CTAP Project: Conservation Land Inventory and Stewardship Plan	Kane & Ingraham	LND-29 LND-36	4/15/08	4/30/09	\$8,495	\$0	GIS database and inventory of all town-owned conservation lands; Stewardship plan to guide long-term easement monitoring and evaluation; Recommendations for future land protection strategies	Improved stewardship and enforcement of town-held conservation lands/easements; long-term protection of additional conservation lands as part of coordinated Open Space Plan
07-C-13	Hampton NROC Project	Town of Hampton	LND-05	6/1/08	5/31/09	\$3,500	\$3,500	Updated subdivision and site plan regulations with respect to improving stormwater Best Management Practices (BMP) design and maintenance requirements, and encouraging the use of Low Impact Development techniques.	Reductions in non-point source pollution from newly developed or re-developed areas within the town of Hampton. Enhanced on-site infiltration and groundwater recharge of stormwater.
07-D-1	Oyster Restoration Project	UNH (Ray Grizzle)	RST-01	1/1/07	6/30/09	\$58,096	\$50,991	Construct 12 small oyster reefs in Great Bay	Increase oyster reef habitat in Great Bay by 1.75 acres
08-Adm-1	Piscataqua Region Environmental Planning Assessment	Regional Planning Commissions	ADMIN	1/1/08	6/30/09	\$10,000	\$19,620	Information on regulations in 52 towns; final report	Better regional planning; improved ordinances
08-Adm-4	Climate Ready Estuaries Oyster River Pilot Project	Syntectic International	ADMIN	6/1/08	7/31/09	\$45,000	\$12,750	Maps, databases, and lists of culverts identified to fail during storm events under various development and climate change scenarios. Updated action items to the PREP Management Plan	Improved long range planning to strategically improve the capacity, fish passage attributes, and geomorphic compatibility of road/stream culverts within the Oyster River watershed; reductions in storm damage to stream habitat and roads
08-C-5	Milton CTAP/NROC Project: Buffer Ordinance Project	Mettee Planning Consultants	LND-14 LND-15	10/1/08	12/31/09	\$12,000	\$3,500	Wetland and riparian buffer protection ordinance ready for adoption by Town of Milton	Improved regulatory protection and stewardship for natural wetland and riparian buffers
08-C-6	Shoreland and Riparian Buffer Regulations for the Town of Raymond	Southern New Hampshire Planning Commission	LND-14 LND-16	1/1/08	12/31/09	\$5,000	\$5,000	2 community workshops, map of all remaining natural buffers on 1st, 2nd, 3rd order streams, riparian buffer ordinance, press release, interim and final report	Improved awareness among town decision-makers and citizens about the importance of protecting natural stream buffers; improved regulatory protection of riparian buffers

Work Plan ID	Project Title/Activity	Contractor/ Organization	CCMP Actions	Start	End	PREP Funds	Match	Anticipated Outputs/Products	Anticipated Outcomes
08-C-13	New Durham CTAP Project: Stormwater Regulations	Appledore Engineering	EDU-03 LND-02 WQ-09	2/1/09	12/31/09	\$8,460	\$0	three working meetings, two public hearings, and delivery of final regulations	Improved understanding of stormwater management and LID techniques; New regulations to protect water resources
08-C-14	Newington CTAP Project: Stormwater Regulations	UNH Stormwater Center	EDU-03 LND-02 WQ-09	1/1/09	7/31/09	\$8,465	\$0	three meetings, two public hearings, delivery of final regulations	Improved understanding of stormwater management and LID techniques; New site plan development regulations for new development and re-development sites.
08-C-15	Brentwood CTAP Project: Stormwater Regulations	TBD	WQ-09	4/1/09	12/31/09	\$8,500	\$0	Updated town ordinances and site plan and subdivision regulations that mandate state-of-the-art stormwater management controls on new development and re-development sites.	Reductions in non-point source pollution from newly developed or re-developed areas within the town of Brentwood. Enhanced on-site infiltration and groundwater recharge of stormwater.
08-C-16	Seabrook CTAP Project: Conservation Planning and Mapping	Rockingham Planning Commission & Southeast Land Trust of NH	EDU-03 LND-29	4/1/09	6/30/10	\$8,500	\$0	Map of priority land protection projects within the shoreland buffer region of the Hampton-Seabrook estuary. Implementation of conservation easements on several of the top priority land parcels.	Increased acreage of permanently protected conservation land immediately adjacent to the Hampton-Seabrook estuary. Protection of intact forest shoreland buffers and future salt marsh migration areas to adapt to sea level rise.
08-E-8	Sandown CTAP Project: Buffer Newsletter	PREP	LND-20	11/1/08	4/15/09	\$3,000	\$0	Newsletter produced and distributed to all residents	Increased awareness of town buffer regulations and functions and values, in particular related to public interest and property values; Increased protection of wetland buffers
08-E-9	Production of 2009 State of the River Newsletter	Exeter River Local Advisory Committee	LND-14 LND-15 LND-16 LND-37	1/1/09	12/31/09	\$1,805	\$1,268	1,000 copies of a "State of the River" report	Improved stewardship of the Exeter River Watershed
08-E-10	Hampton Falls CTAP Project: Buffer Outreach	PREP	LND-20	1/1/09	6/30/09	\$3,000	\$0	Newspaper sent to every household	Increased awareness of BMPs that protect wetland buffers
08-E-11	Fremont CTAP Project: Buffer Outreach	PREP	LND-20	4/1/09	10/1/09	\$3,000	\$0	Newspaper sent to every household	Increased awareness of BMPs that protect wetland buffers
08-M-3	2008 Gulf Watch Program	Batelle & Env. Canada Labs	Monitoring SHL-06	7/1/08	6/30/09	\$7,000	\$0	Data	Improved decision-making and/or improved planning

Work Plan ID	Project Title/Activity	Contractor/ Organization	CCMP Actions	Start	End	PREP Funds	Match	Anticipated Outputs/Products	Anticipated Outcomes
09-A-1	Stormwater Center Workshops in 2009	UNH Stormwater Center	WQ-05 WQ-18	1/1/09	12/31/09	\$1,500	\$0	Attendance of 20 target individuals at workshops	Better knowledge of LID and innovative stormwater management systems; Increased use of LID/innovative systems
09-A-2	PRC Support in 2009	Piscataqua River Cooperative	WQ-12A	1/1/09	12/31/09	\$0	\$160,000	Response training; response materials acquired	Improved water quality and aquatic habitats as a result of fewer oil spills and/or better response to spills
09-A-3	Optical Brighteners Study	Town of Kittery/Spruce Creek Association	Maine WQ-6	1/1/09	12/31/09	\$7,975	\$8,400	List of suspected illicit discharges and sources of fecal contamination to the Spruce Creek estuary	Remediation of pollution sources; Improved water quality in the Spruce Creek watershed
09-Adm-1	Management Plan Update activities in 2009	PREP	ADMIN	1/1/09	12/31/09	\$0	\$30,000	Identification of management priorities and objectives; participation by coastal watershed stakeholders in planning process	Updated Management Plan (2010)
09-Adm-2	2009 PREP Outreach/Branding Initiatives	PREP	EDU-01 ADMIN	1/1/09	12/31/09	\$2,500	\$0	Communication Materials	Increased awareness of PREP and the Management Plan
09-Adm-3	General Outreach Activities	PREP	EDU-01 ADMIN	1/1/09	12/31/09	\$0	\$0	Outreach materials, media stories, monthly email newsletters	Increased awareness of PREP and the Management Plan
09-Adm-4	Coordination and integration with Maine partners	PREP	ADMIN Maine	1/1/09	12/31/09	\$0	\$0	Meetings, proposals developed, Maine stakeholder participation in PREP initiatives	Watershed approach implemented for management of the Great Bay Estuary
09-Adm-5	State of the Estuaries Report	PREP & JB Designs	ADMIN	1/1/09	10/16/09	\$6,500	\$6,000	32-page full color report that describes the status of key environmental indicators or estuarine health; 2,000 copies produced	Improved awareness and stewardship of natural resources in PREP focus area
09-Adm-6	State of the Estuaries Conference	PREP & Great Bay Gallery	ADMIN	1/1/09	11/30/09	\$6,000	\$6,000	Conference updating 200 people on latest trends in environmental health of the PREP focus area	Improved awareness and stewardship of natural resources in PREP focus area
09-B-1	State Shellfish Program	NHDES	SHL-01 SHL-04 SHL-05 SHL-06	1/1/09	12/31/09	\$0	\$150,000	Water quality data, shellfish tissue data (bacteria and PSP), and completion of shoreline surveys	Protection of human health, additional classified areas, increased shellfish harvest opportunities
09-B-2	Hampton-Seabrook Harbor Clam Monitoring Program	NextEra Energy Seabrook Station	Monitoring SHL-07	1/1/09	12/31/09	\$0	\$65,000	Data	Updated environmental indicators that convey environmental status and trends leading to improved decision-making and/or improved planning

Work Plan ID	Project Title/Activity	Contractor/ Organization	CCMP Actions	Start	End	PREP Funds	Match	Anticipated Outputs/Products	Anticipated Outcomes
09-C-1	NROC Program Implementation	PREP	LND-05	1/1/09	12/31/09	\$0	\$0	Participation in quarterly coordination meetings, ad-hoc committees, teams to prepare and deliver programs to communities; managing grants with participating communities	Increase voluntary and regulatory protection of natural resources in participating communities
09-C-2	2009 Community Technical Assistance Program	Various TBD	Various Maine	1/1/09	12/31/10	\$48,000	\$25,000	TBD: dependent on the communities' applications and projects	TBD: dependent on the communities' applications and projects
09-C-3	Land Protection Transaction Grant Program in 2009	PREP	LND-15 LND-36	1/1/09	12/31/09	\$41,000	\$41,000	10 completed land protection projects	Permanent protection of roughly 900 acres of high quality habitat; improved water quality
09-C-4	Implementation of the Bear Paw Conservation Plan	Bear-Paw Regional Greenways	LND-14 LND-15 LND-26 LND-34	1/1/09	12/31/09	\$5,184	\$3,445	Implementation of the Bear-Paw Regional Greenways Strategic Conservation Plan	Improved ecological connectivity
09-C-5	Conserving the Pawtuckaway River and Kennard Hill Focus Areas	Southeast Land Trust of New Hampshire	LND-15 LND-16	1/1/09	12/31/09	\$8,000	\$13,820	Acquisition of 319 acres of land within the Pawtuckaway River Focus Area	Improved ecological connectivity; improved wildlife habitat; improved water quality
09-C-6	Shoreland Protection in Maine Communities of the Piscataqua River Estuary	Southern Maine Regional Planning Commission	Maine LND-15 LND-16	1/1/09	12/31/09	\$8,000	\$4,000	Identification of threatened shoreland areas in the Maine	Protection of shoreland areas; improved water quality in the Piscataqua River watershed
09-C-7	Stonehouse Pond Conservation Project	Trust for Public Land	LND-15 LND-36	1/1/09	12/31/09	\$8,000	\$42,000	250 acres conserved surrounding Stonehouse Pond in Barrington, NH	Protection of water quality in Stonehouse Pond
09-C-8	Implementation of the Great Works River Nonpoint Source Pollution Watershed Management Plan	Wells National Estuarine Research Reserve	LND-14 LND-37 RST-7 Maine	1/1/09	12/31/09	\$8,000	\$6,000	Workshop materials, script, evaluation summary, updated Great Works Plan, report of recommended actions on at least 10 identified sites, and updated SWIM website	Reduce nonpoint pollution in the Great Works River watershed
09-D-1	Estuary Restoration Partnership	PREP	RST-03 RST-04 RST-06	1/1/09	12/31/09	\$0	\$0	Commitment of PREP staff time to provide leadership and project management capacity in support of selecting and implementing priority restoration projects identified by the Partnership	Improved capacity to implement high priority restoration projects needed to restore improved ecosystem function to NH's estuaries
09-D-2	Habitat Restoration Project	TBD	RST-06	1/1/09	12/31/09	\$30,000	\$0	TBD: based on project developed	TBD: based on project developed
09-E-1	Local Grants Program 2009	PREP	EDU-5	1/1/09	12/31/09	\$0	\$0	Projects that implement PREP Management Plan	implement PREP Management Plan Improved water quality in PREP focus area.

Work Plan ID	Project Title/Activity	Contractor/ Organization	CCMP Actions	Start	End	PREP Funds	Match	Anticipated Outputs/Products	Anticipated Outcomes
09-E-2	Eye on Estuaries Newspaper Column	PREP	EDU-1 EDU-2	1/1/09	12/31/09	\$0	\$0	12 columns in local media	Increased awareness of estuarine issues related to PREP Management Plan
09-E-3	VIP Boat Tours	PREP & UNH Gulf Challenger	WQ-20	6/1/09	9/30/09	\$1,000	\$500	2 tours of about 75 people on Great Bay with presenters	Increased involvement of municipal planning officials in PREP Management Plan implementation
09-M-1	Oyster Disease Monitoring Program	Rutgers and NHF&G	Monitoring SHL-07	7/1/09	3/31/10	\$2,200	\$3,000	Data	Improved decision-making and/or improved planning
09-M-2	Gulf Watch Program - Lab Analysis	Batelle & Env Canada & DES	Monitoring SHL-06	7/1/09	6/30/10	\$6,600	\$0	Data	Improved decision-making and/or improved planning
09-M-3	Gulf Watch Program - Lab Support	UNH (Steve Jones)	Monitoring SHL-06	1/1/09	3/31/10	\$996	\$996	Data	Improved decision-making and/or improved planning
09-M-4	PREP Tidal Tributary Monitoring Program	UNH (Bill McDowell)	Monitoring	1/1/09	3/31/10	\$7,171	\$0	Data	Improved decision-making and/or improved planning
09-M-5	Eelgrass Mapping Program	UNH (Fred Short)	Monitoring	1/1/09	3/31/10	\$11,520	\$11,520	Data	Improved decision-making and/or improved planning
09-M-6	Datasonde Monitoring Program	UNH (Jon Pennock)	Monitoring	1/1/09	3/31/10	\$12,024	\$12,024	Data	Improved decision-making and/or improved planning
09-M-7	Tidal Water Quality Monitoring Program	UNH (Jon Pennock)	Monitoring	1/1/09	3/31/10	\$19,920	\$19,920	Data	Improved decision-making and/or improved planning
09-M-8	NH Probability Based Monitoring Program	UNH (Steve Jones)	Monitoring	4/1/09	3/31/10	\$10,100	\$10,100	Data	Improved decision-making and/or improved planning

II. Accomplishments and Activities Initiated to Fulfill Goals from Previous Work Plans

This section describes activities and accomplishments of PREP for the previous year, from May 2008 through April 2009.

A summary of “success stories” from 2008 is available in PREP’s newly produced report: *A Year in Review and a View of the Future*, available at http://www.prep.unh.edu/resources/pdf/prep_a_year_in-prep-09.pdf.

PREP’s monthly e-newsletter, Estuaries Update, highlighted program activities and accomplishments and provided descriptions of and links to PREP publications and project reports as they were completed. Past newsletters are archived on the PREP website and can be viewed at <http://www.prep.unh.edu/get-involved/estuaries-update.htm>.

PREP set the following implementation goals for 2008 and 2009 in the Year 12 and Year 13 Work Plans:

- **Continue implementation of the PREP Management Plan**
- **Continue implementation of the PREP Monitoring Plan and ongoing environmental assessments**
- **Implement the Fund Development Plan to secure additional funding to implement Management Plan priorities**
- **Conduct a strategic planning process to guide future activities**
- **Develop a new Communication Plan for PREP in 2008**
- **Develop Environmental Indicator Reports and the 2009 State of the Estuaries Report and Convene a State of the Estuaries Conference**
- **Continue to integrate the Maine part of the watershed into PREP’s initiatives and planning processes**
- **Prepare for Management Plan update**

Progress toward each of these goals over the course of the year (May 2008-April 2009) is reported below.

>> GOAL: Continue implementation of the PREP Management Plan (Year 12 & Year 13 Work Plan Goal)

PREP successfully met this goal over the course of the year. In eight years of Management Plan implementation, PREP has initiated activities for all of its 45 highest priority action plans that are part of the Management Plan. Of these, 22 (~50 percent) have been completed or fully implemented, in the case of ongoing action plans, and 37 show greater than 50 percent completion. Of all the 98 action plans contained in the Management Plan, 35 percent are considered fully implemented.

Specific implementation activities and projects that were completed or initiated over the course of the year to meet the Management Plan implementation goal are listed below.

Activities listed were conducted by PREP or by project partners with PREP funding or input. Further details of all ongoing projects (as of April 1, 2009) are included in the table at the beginning of this section.

Project descriptions below include deliverables and outcomes where appropriate, grant award amounts for subawards, and information on how funds were reprogrammed to other projects, if the final amount was under budget.

The following project activities conducted or supported by PREP were completed:

2007 & 2008 Local Grants Program: A number of projects funded by the Local Grants Program in previous years were completed between May 2008 and April 2009.

- Town of Brentwood, Prime Wetlands Evaluation. The Brentwood Conservation Commission hired West Environmental, Inc. (WEI) of Lee, New Hampshire to evaluate seventeen of the largest wetland systems in town (from a total of 60 wetlands identified with aerial photography). Evaluations included wetland plant community descriptions, verifications of NRCS poorly and very poorly drained soil mapping, information on field observation of wetland hydrology and wildlife habitat observations. WEI then assessed each wetland system for the presence of one or more wetland functions. Fourteen of the seventeen were ultimately selected for designation as Prime Wetlands. The fourteen candidates comprise 696 acres, representing over 22 percent of the town's wetlands. A Prime Wetland Zoning Amendment was drafted and in March 2008 was approved through a town meeting vote. The Designation Report was submitted to NHDES for approval. Outputs of the project were a wetlands evaluation, Prime Wetlands Designation report, draft zoning amendment, a press release, and a successful town vote that approved zoning amendment. [\$8,920 of the \$10,000 budgeted was utilized; the balance has not yet been reprogrammed]
http://www.prep.unh.edu/resources/pdf/town_of_brentwood-we-08.pdf
- Southeast Land Trust of New Hampshire (SELTNH), Increasing Capacity to Implement Community Land Conservation Efforts in the Coastal Watershed. SELTNH hired a Community Land Protection Specialist to expand capacity to implement and complete conservation efforts within the Lamprey River and Exeter River corridors. From January 2007 through June 2008, the Specialist completed six land conservation transactions totaling 236 acres (1,200 feet of frontage on the Lamprey River and more than 800 feet of frontage on the Exeter River) and assisted with the completion of six other land conservation transactions totaling 213 acres (8,000 feet of frontage on the Lamprey River, 300 feet on the Taylor River, and a significant salt marsh in Rye). Outputs included outreach programs, completion of land protection projects, and management of conservation acquisition activities. [\$10,000 budget fully utilized]
http://www.prep.unh.edu/resources/pdf/community_land_conservation-senhl-08.pdf

- Moose Mountains Regional Greenways (MMRG), Outreach and Education for Community Leaders and Landowners. MMGR performed a variety outreach activities to help implement the Land Conservation Plan for NH's Coastal Watersheds. Outputs for this project include 32 meetings with conservation commissions, three regional workshops, three sets of maps, three field events, three presentations at lake association meetings, six display booths and 12 press releases. [\$8,520 budget fully utilized]
http://www.prep.unh.edu/resources/pdf/thanks_for_the-mmrg-08.pdf
- Town of Nottingham, Volunteer Water Quality Monitoring of the Lamprey River Watershed. The Nottingham Conservation Commission (NCC) purchased water testing equipment for monitoring the North and Little Rivers as part of the New Hampshire Volunteer River Assessment Program. The equipment enabled NCC and Lamprey River Watershed Association volunteer water samplers to efficiently monitor water quality on the two rivers twice a month from May 2007 to June 2008. Outputs for this project include water quality equipment for volunteer monitors and water quality data. [\$1,250 budget fully utilized]
http://www.prep.unh.edu/resources/pdf/water_quality%20monitoring-ton-08.pdf
- City of Rochester, Natural Resources Inventory and Natural Resources Chapter of the City Master Plan. The Rochester Planning Department spearheaded the development of a natural resources inventory and subsequent natural resources chapter of the city's Master Plan. Working with the Strafford Regional Planning Commission, a comprehensive collection of natural resources data was compiled and used to create an inventory that includes surface water systems, wetlands, soils, forests, aquifers, and a variety of habitat types. The resulting Master Plan chapter contains detailed information about each resource, including the benefits, current uses, and potential threats. Recommendations for policy and regulatory changes were provided. Outputs for this project include a natural resources inventory and Master Plan chapter for City of Rochester. [\$5,000 budget fully utilized] http://www.prep.unh.edu/resources/pdf/master_plan_natural-cor-08.pdf
- Bear Paw Regional Greenways (BPRG), Isinglass River Conservation Corridor Project. BPRG completed the Isinglass River Conservation Corridor Project that protected high-value conservation land along the Isinglass River and in other areas of the watershed in Strafford, New Hampshire. The \$2.9 million project was a collaboration of BPRG, the Trust for Public Land (TLP), and the Town of Strafford that protected five properties and 868 acres of forest, over one mile of road frontage, more than three miles of frontage on streams and rivers (including more than 1½ miles on the Isinglass River), several ponds, and two historic mill sites. All of these properties are in conservation focus areas identified in the Land Conservation Plan for New Hampshire's Coastal Watersheds. The project was primarily funded by a \$1.3 million federal Coastal and Estuarine Land Conservation Program grant that TPL secured for the purchase of a 286-acre property on the Isinglass River. Output of the project was protection of 868 acres of high conservation-value forestland in Strafford. [\$9,075 budget fully utilized]

http://www.prep.unh.edu/resources/pdf/isinglass_river_conservation-bprgw-08.pdf

- Town of Northwood, Stormwater Treatment Technologies and Shoreland Buffer Ordinance Development. The Northwood Planning Board and the Water Resources Subcommittee created a development ordinance to protect riparian and shoreland areas adjacent to streams, rivers, lakes and ponds in the town. If implemented by the town, the proposed shoreland protection ordinance would protect two public drinking water supplies and the headwater areas of five regional watersheds, two of which are designated rivers under the NH Rivers Management and Protection Program (Isinglass and Lamprey Rivers) and one is federally designated Wild and Scenic River (Lamprey River). Outputs for this project were a buffer ordinance for the Town of Northwood and a report recommending stormwater treatment technologies. [\$10,000 budget fully utilized] http://www.prep.unh.edu/resources/pdf/northwood_stormwater_technologies-TTG-08a.pdf

Local Grants Program for 2009: This was the first year that Maine communities in the PREP Focus Area were eligible for funding. An RFP was issued on June 5, 2008 and fifteen proposals were received by October 1, 2008. A review team of four Management Committee members and PREP staff met on October 14 and ranked the proposals received. The top seven ranked proposals were recommended for full funding. The approved projects were funded at a total cost of \$46,964. Projects pledged nearly \$79,000 in matching funds. The Local Grants Program relates to Action Plan EDU-03, which funds activities that support Management Plan implementation.

Grants were awarded to the support the following projects in 2009 (PREP award/pledged match):

- Town of Kittery/Spruce Creek Association for an optical brightener study of Spruce Creek to identify bacteria (\$7,975/\$8,400)
- Southern Maine Regional Planning Commission for a shoreland mapping project in Maine (\$8,000/\$4,000)
- Wells National Estuarine Research Reserve to implement a variety of activities designed to reduce pollution in the Great Works River (\$8,000/\$6,000)
- Exeter River Local Advisory Committee for the creation of a State of the River newsletter (\$1,805/\$1,268.24)
- Trust for Public Land for land protection around Stonehouse Pond in Barrington (\$8,000/\$42,000)
- Bear-Paw Regional Greenways for conservation outreach activities (\$5,184/\$3,445)
- Southeast Land Trust of New Hampshire for conservation of land in Pawtuckaway River and Kennard Hill Focus Areas (\$8,000/\$13,820)

PREP Community Technical Assistance Program: The Community Technical Assistance Program continued in 2008 and 2009. Four projects were completed through Round 2 of the program and twelve projects were initiated through Round 3 of

the program in 2008 (seven of which are completed and five are still ongoing). Projects for Round 2 of the program used \$24,080 in PREP funds. The balance of funding from Round 2 was programmed to projects in Round 3. Projects for Round 3 of the program are using \$74,750 in PREP funds from EPA and the New Hampshire Charitable Foundation, which was the fully budgeted amount.

The four projects completed in 2008 from Round 2 of the program included:

- Chester: development of revised stormwater regulations, http://www.prep.unh.edu/resources/pdf/town_of_chester-toc-08.pdf
- Exeter: development and implementation of a wellhead protection program, http://www.prep.unh.edu/resources/pdf/wellhead_protection_program-exr-08.pdf
- Hampton Falls: prime wetlands designation outreach, http://www.prep.unh.edu/resources/pdf/hampton_falls_prime-nhep-08.pdf
- Sandown: wetlands inventory and evaluation, http://www.prep.unh.edu/resources/pdf/town_of_sandown-wei-08.pdf

In January 2008, PREP released the community application for Round 3 of the program. Applications were accepted through mid-November 2008. The 12 community projects initiated through CTAP in 2008 include:

- Barrington: natural resources inventory, http://www.prep.unh.edu/resources/pdf/natural_resources_inventory-tob-09.pdf
- Brentwood: outreach on land use and water resource regulations, <http://www.prep.unh.edu/resources/pdf/a-citizens-guide-tob-08.pdf>
- Danville: development of town forest stewardship plan, http://www.prep.unh.edu/resources/pdf/danville_town_forest-tod-08.pdf
- Hampton: conservation lands inventory (still underway)
- Hampton Falls: water resources outreach (still underway)
- Milton: water resources protection plan and buffer ordinance (still underway)
- New Durham: stormwater regulations (still underway)
- Newfields: baseline documentation, easement monitoring, and conservation lands inventory, http://www.prep.unh.edu/resources/pdf/conservation_easement_stewardship-wc-09.pdf
- Newington: stormwater regulations for commercial zone (still underway)
- North Hampton: wetlands protection report and outreach on water resources, http://www.prep.unh.edu/resources/pdf/wetland_buffer_characterization-tonh-08.pdf and http://www.prep.unh.edu/resources/pdf/a_citizens_guide-tonh-08.pdf
- Portsmouth: vernal pool inventory, protection plan, and revisions to wetlands ordinance, http://www.prep.unh.edu/resources/pdf/portsmouth_vernal_pool-cop-08.pdf
- Sandown: outreach on water resources and buffers, http://www.prep.unh.edu/resources/pdf/a_citizens_guide-tos-09.pdf

PREP released its Round 4 CTAP request for community applications in late January 2009 and began accepting applications in early March. In 2009 Maine communities in the watershed are eligible for the program. As of April 30, 2009, seven applications had

been received by PREP. For 2009, the New Hampshire Charitable Foundation-Piscataqua Region is supporting the program with \$25,000 to supplement PREP's EPA funding for the program.

Land Protection Transaction Grant Program: In 2008, PREP administered this grant program that reimbursed New Hampshire municipalities and conservation organizations for 50 percent (up to \$3,000) of the transaction costs associated with land protection projects in the coastal watershed. In 2008, the program supported 14 projects totaling 984 acres in nine different communities within the coastal watershed [PREP funds in the amount of \$40,880 were utilized in 2008]

http://www.prep.unh.edu/resources/pdf/prep_coastal_watershed-prep-09.pdf

In 2009, the Transaction Grant Fund was continued by PREP. Information was distributed to land trusts, municipalities, and other conservation organizations in the coastal watershed. [Ongoing project; \$41,000 PREP funds budgeted for 2009]

Natural Resources Outreach Coalition: Support for the Natural Resources Outreach Coalition (NROC) continued in 2008 and early 2009. PREP staff participated in NROC planning meetings and assisted with community outreach and project facilitation. PREP staff is working directly with Raymond, Milton, Hampton, and Brentwood through the NROC program.

Stormwater Workshops: PREP supported municipal officials' attendance at five of the workshops hosted by the UNH Stormwater Center in 2008. [\$650 in PREP funds for workshop costs]

Oyster Restoration Project: PREP funded the University of New Hampshire (Ray Grizzle) for a two year oyster restoration project in Great Bay. Between July 1, 2007, and April 30, 2009, UNH successfully created twelve "mini-reefs" with remotely set oyster spat. These mini-reefs added 1.75 acres of viable oyster reef to the Great Bay Estuary. Oyster populations and beneficial use by other species are currently being monitored at the constructed reefs, with the project due to be completed in the summer of 2009. [Ongoing project; \$58,096 PREP funds budgeted, with additional funds in the amount of \$33,906 from NH Coastal Program]

Fish Ladder Repairs: The NH Fish and Game Department (NHFGD) completed repairs on tidal dam fishways on the Lamprey, Cocheco, Oyster, and Exeter rivers in support of its anadromous fish management program. In addition accumulated sediment at the top of the fish ladder in the Cocheco was dredged to ensure fish passage efficiency. [\$23,719 of the \$25,000 budgeted was used for the project. The balance was used for the 2008 Land Transaction Grant Program]

http://www.prep.unh.edu/resources/pdf/nhfg_fish_passage-nhfg-08.pdf

Hampton-Seabrook Estuary Restoration Compendium: PREP supported the UNH Marine Program to develop a restoration compendium for the Hampton-Seabrook Estuary (HSE). The HSE plays a vital role in the life history of many marine and coastal resources. Habitats and species selected as restoration targets in the first phase of this

project will include salt marshes, diadromous fishes, and sand dunes. Using the site selection model developed in the Great Bay Estuarine Restoration Compendium, the project will gather available data to identify multi-habitat restoration opportunities in the HSE. A draft final report was completed in late 2008, which consisted of a summary report, a series of maps and a database of all data and associated metadata to provide detailed information to help guide future restoration projects in the HSE. Additional data are being added to the analysis in 2009 with funds from the New Hampshire Coastal Program (NHCP). The project will conclude mid-2009. [\$1,906 PREP funds fully utilized, with additional funds in the amount of \$26,094 budgeted from NHCP]

Partnership to Restore New Hampshire's Estuaries: PREP was part of a core group that initiated the Partnership in 2007. The Partnership consists of nine organizations with an interest in coastal habitat restoration in New Hampshire. PREP continued participation in the Partnership in 2008 to better coordinate restoration projects and develop priorities for project implementation.

Oyster River Watershed Analysis Project: Through a Climate Ready Estuaries Program grant, PREP is undertaking a culvert inventory and modeling project to identify culverts that have a high risk of failure and/or pose barriers for fish migration and natural river processes. The project accounts for increased runoff associated with climate change and future development in the watershed. [Ongoing project; \$45,000 budgeted]

State Shellfish Program: The NHDES Shellfish Program implemented its program consistent with NSSP guidelines in 2008 and 2009. Some of the funds used to administer the program are used as matching funds by PREP. The program benefited from the PREP-led efforts to secure non-federal funding (\$175,000 of state general funds per year) beginning in state fiscal year 2007.

Shellfish Spotlight: PREP produced 3,000 copies of a brochure that included a summary of New Hampshire clam and oyster populations, as well as articles on oyster reef restoration, invasive Chinese mitten crab, clam neoplasia, and ride tide. The large format, tri-fold brochure was mailed in December 2008 to all shellfish license holders who allowed additional mailings to be sent to their homes (1,388 addresses), and was provided to all coastal license vendors, PREP team members, and key distribution areas such as Seacoast Science Center and NH Fish and Game office. The Coastal Conservation Association distributed 50 copies at Kayak Day in Durham, NH, in March 2009. This publication addresses eight Action Plans from the PREP Management Plan. http://www.prep.unh.edu/resources/pdf/shellfish_spotlight-nhep-08.pdf

VIP Boat Tours in 2008: This was the fifth consecutive year that PREP conducted the "V.I.P. Great Bay Estuary Tours for Municipal Land Use Officials" on board the UNH Gulf Challenger. Two tours (Wednesday, August 20 and Saturday, September 13) involved 34 municipal land use officials (e.g., planning board members, conservation commissioners) and their guests from 17 communities in the coastal watershed. The August 20 tour featured presentations by Phil Trowbridge on PREP's Monitoring Program, Kevin Lucey on NH Coastal Program invasive species control projects, and

Dr. Dave Burdick on UNH estuarine research. The September 13 tour featured presentations by Chris Feurt on Wells National Estuarine Research Reserve's programs, Jamie Houle on the UNH Stormwater Center, and Derek Sowers on PREP programs and activities.

Wetland Buffer Protection Outreach: PREP created, produced (with contracted printer), and delivered (via UNH Mailing Services using saturation mailing through US Postal Service) wetland buffer protection outreach materials through the PREP Community Technical Assistance Program (CTAP). PREP staff worked with conservation commissions to develop content that achieved the goals of the CTAP and the community. Towns that submitted approved CTAP applications and completed wetland buffer protection outreach projects include Brentwood (large tri-fold format; 2,000 copies produced and 1,415 mailed to every household on 10/15/2008), North Hampton (8-page tabloid newspaper format; 3,000 copies produced and 1,925 mailed to every household on 10/30/2008), and Sandown (8-page tabloid newspaper format; 3,000 copies produced and 2,267 mailed to every household on 3/28/2009).

PREP Transition Report: PREP produced "A Year in Review and a View of the Future." This report includes summaries of 2008 and 2009 projects, such as the Community Technical Assistance Program, the Local Grants Program, and the Land Transaction Grant Program. It also describes the PREP work to set numeric limits for nutrients entering Great Bay. Research summaries of oyster reef mapping in Maine, the Climate Ready Estuaries culvert study, and the development of impervious surface estimates for southern York County are featured, among other projects. RAM Printing produced 350 copies of this 16-page booklet that were sent in March 2009 to all state and federal legislators representing the PREP focus area and to everyone in Maine on the PREP mailing list. http://www.prep.unh.edu/resources/pdf/prep_a_year_in-prep-09.pdf

PREP Survey of Planning Boards and Conservation Commissions: A survey conducted by the University of New Hampshire Survey Center of planning board and conservation commissions in the 42 coastal watershed communities of New Hampshire was conducted from November 2007 to February 2008. The survey suggested that the goals for objectives 2 and 3 of the 2004 PREP Strategic Communication Plan were not met. Despite relatively intense outreach activities targeted to the planning board and conservation commissions during the time between the first baseline survey and the second evaluative survey, only 56 percent of the target audience report some level of familiarity with the PREP. This falls short of the 75 percent goal put forth in the 2004 Strategic Communication Plan. Similarly, 68 percent of the target audience reported confidence in the credibility of the PREP regarding estuarine issues, falling short of the 75 percent goal. It is important to note that 26 percent of the respondents did not know or did not have an opinion regarding credibility. The most encouraging finding from the evaluative survey was the increased exposure to the PREP flagship publication, the State of the Estuaries Report. Knowledge of this publication increased from 43 percent to 59 percent, with an impressive 72 percent of the conservation commission respondents reported being exposed to the 2006 State of the Estuaries Report.

Eye on Estuaries: For this monthly article series, five articles on estuarine issues related to PREP Management Plan implementation were submitted from May 2008 to April 2009 to Fosters Daily Democrat or the Seacoast Media Group (SMG), which produces the Portsmouth Herald. One was published in Foster's Daily Democrat, two were published in the Portsmouth Herald and two were submitted to SMG that were not published. Topics included wastewater treatment plant effluent testing (May 08-published), red tide (July 08-published), invasive plants (August 08-published), climate change culvert study (Sept 08-not published), and river herring (April 09-not yet published). Articles were discontinued by the both papers due to changes in newspaper operations; however, a meeting with the SMG editor in early 2009 resulted in a renewed pledge to publish the articles online and in the run of the paper when space allowed.

Estuaries Update: Each month over the course of the year PREP sent an electronic newsletter highlighting recent activities, new publications, and upcoming events to an average of 800 email addresses.

Be Part of the Solution (BPOTS) Materials: On March 19, 2009 the following materials were distributed by the Coastal Conservation Association at a Kayak Day in Durham, NH: BPOTS Water Quality Posters (50), 2006 State of the Estuaries Reports (25), BPOTS brochures (100) and U.S. EPA Habitat and Restoration Books (20). The Exeter River Local Advisory Committee distributed 20 BPOTS water pollution booklets at a public event in Exeter. At a New Hampshire teacher training day at UNH in March 2009, approximately 175 BPOTS posters were distributed.

Press Releases: For the year PREP produced seven press releases and required grantees to create and send at least one press release that highlighted their PREP-funded project activities. From May 2008 to April 2009, nine stories ran in the SMG newspapers and seven ran in the Foster's Daily Democrat that referenced the NHEP and/or PREP (source SMG and Google News archives). Other publications that covered PREP stories included Pumper Magazine and Carriage Towne News.

Website: Regular website updates were made by PREP staff, and the site continues to be a significant clearinghouse for PREP program information and final project reports.

Monitoring Program Implementation in 2008:

- Oyster Disease Testing: Rutgers University completed testing of 100 oysters from 5 beds for the diseases MSX and Dermo in 2008. Samples were collected by the NH Fish and Game Department (NHFGD). NHFGD analyzed the data and produced a summary report. [\$2,100 for lab costs]
http://www.prep.unh.edu/resources/pdf/testing_of_great-nhf&q-09.pdf
- Gulfwatch Program: The NH Department of Environmental Services (NHDES) prepared a final report for the 2008 Gulfwatch Program. The report summarized the concentrations of toxic contaminants in the tissue of blue mussels from various locations in the estuary. Mussel samples were collected from five stations in October 2008. PREP staff organized and participated in the field collection and

laboratory preparation of samples and PREP provided funding for lab analysis of samples. [\$6,234 for lab costs]

http://www.prep.unh.edu/resources/pdf/shellfish_tissue_monitoring-nhdes-08.pdf

- Tidal Tributary Monitoring: In 2008, the sampling was performed by the UNH Water Quality Analysis Laboratory. Samples were collected from ten river stations monthly from March 1 to December 31. [\$6,590 PREP funds]
http://www.prep.unh.edu/resources/pdf/nitrogen_phosphorus_and-prep-09.pdf
- Eelgrass Mapping: In the past year, UNH produced maps and cover estimates of eelgrass habitat for 2006, 2007, and 2008. UNH also produced maps and cover estimates from 1981 imagery for historic distribution information. [\$32,200 PREP funds]
http://www.prep.unh.edu/resources/pdf/eelgras_distribution_in-unh-08.pdf
http://www.prep.unh.edu/resources/pdf/eelgras_distribution_in-unh-08b.pdf
http://www.prep.unh.edu/resources/pdf/eelgrass_distribution_in-unh-09.pdf
http://www.prep.unh.edu/resources/pdf/eelgrass_mapping_in-unh-09.pdf
- Datasonde Program: PREP provided funding to the UNH Marine Program to maintain and operate a network of datasondes in the Great Bay Estuary to monitor water quality. The datasonde program is primarily supported through the Great Bay NERR System-wide Monitoring Program. PREP's funding support allows for additional deployments in the Salmon Falls River and at the Coastal Marine Lab. In 2008, datasondes were installed in Great Bay, Squamscott River, Lamprey River, Oyster River, Portsmouth Harbor, and the Salmon Falls River. [\$12,024 PREP funds]
- Water Quality Monitoring: PREP funded the UNH Marine Program to collect water quality data on nutrients, particulates, bacteria, and water clarity at trend stations in the Great Bay Estuary in 2008. Monthly data were collected at nine trend stations. Summer bacteria samples were collected at another five stations. [\$19,920 PREP funds]
- Wastewater Treatment Facility Sampling: PREP staff collected monthly samples from February 2008 through December 2008 from ten coastal wastewater treatment facilities for total nitrogen analysis. [\$900 in lab costs]
http://www.prep.unh.edu/resources/pdf/total_nitrogen_concentrations-nhep-08.pdf
- Oyster Bed Mapping: PREP funded UNH to map oyster beds in the Maine part of the estuary. A major bed (15+ acres) was mapped at the mouth of Sturgeon Creek. [\$8,000 PREP funds] http://www.prep.unh.edu/resources/pdf/video-based_mapping-unh-09.pdf
- Conservation Lands Inventory: PREP funded Wells National Estuarine Research Reserve to identify conservation lands in the Maine part of the watershed. The

Reserve expanded its normal area of focus to include the entire watershed area.
[\$3,915 PREP funds]

http://www.prep.unh.edu/resources/pdf/conservation_lands_database-wnerr-08.pdf

>> GOAL: Continue implementation of the Monitoring Plan and ongoing environmental assessments (Year 12 & Year 13 Work Plan Goal)

PREP achieved this goal by implementing its monitoring programs, completing assessments of estuarine condition, and participating in regional monitoring efforts **(specific monitoring projects and initiatives are listed in the previous section)**.

PREP continued to implement core monitoring programs for water quality in tributaries, eelgrass habitat, water quality in the estuary, oyster diseases, and toxic contaminants in shellfish tissue. PREP also initiated a new monitoring project for 2008 that included monthly sampling of effluent from all of the major wastewater treatment facilities in the region. All of these programs were successfully completed in 2008 and contracts were set up to continue these programs in 2009. Data quality for these projects is assured through a set of quality assurance project plans and an annual quality assurance audit by the PREP Coastal Scientist. Valid water quality monitoring results are imported to the NHDES Environmental Measurement Database (EMD). The EMD is the central repository for water quality data used in the State of the Estuaries Report and the Section 305(B) Surface Water Quality Reports. The EMD is accessible by the public through the internet. Data from the EMD is uploaded to EPA's national water quality data repository, WQX. Geographic data for eelgrass habitat are tagged with FGDC metadata and uploaded to the state GIS repository, NH GRANIT.

PREP completed an assessment of economic indicators for the region's estuaries and presented those indicators to the PREP Management Committee in 2008. PREP staff and the committee supported the concept of developing a more complete ecosystem valuation study to more fully assess the values of services provided by a healthy estuarine system and watershed.

The PREP Technical Advisory Committee (TAC) continued to play an integral role in the development and implementation of the Monitoring Plan. The TAC assists with analyzing and interpreting monitoring data, formulating recommendations for management strategies, evaluating and revising the Monitoring Plan and goals, and identifying data gaps and research needs. In 2008 the TAC approved changes to the program environmental indicators. The changes were intended to somewhat streamline the indicator development process and included deleting several that were not useful or used in management decisions and modifying methodology for several to reflect new information and data. In 2008 the TAC continued to focus on development of nutrient criteria for the Great Bay estuary. The TAC met in June 2008 and November 2008 to discuss numeric nutrient criteria for the estuaries and review specific proposals related to the development of the nutrient criteria. The PREP Coastal Scientist spent substantial time acquiring and analyzing data to develop recommendations for numeric nutrient criteria for New Hampshire's estuaries. Materials on this subject are available at:

>> GOAL: Implement the Fund Development Plan to secure additional funding to implement Management Plan priorities (Year 12 Work Plan Goal)

PREP made progress on this goal in 2008 and early 2009. The Fund Development Plan, completed in May 2007, outlines a series of actions to be undertaken to diversify and grow the funding available to implement the PREP Management Plan. PREP completed the following actions to meet the objectives of the Fund Development Plan:

- Continued discussions with New Hampshire Charitable Foundation (NHCF) staff to review PREP programs and cooperative funding opportunities. Funding support from NHCF to date includes:
 - \$25,000 NHCF gift award to the PREP in September 2007 to support the 2008 Community Technical Assistance Program
 - \$25,000 NHCF gift award to PREP in February 2008 to support initial efforts to integrate the Maine part of the Great Bay Estuary; two projects are being supported with these funds
 - \$30,000 NHCF gift award to PREP in August 2008 to support the Management Plan update; PREP hired a consultant to facilitate the development of the plan
 - \$25,000 NHCF gift award to PREP planned for second quarter 2009 to support the 2009 Community Technical Assistance Program
- PREP sought and was awarded funding for supplemental project proposals over the last year including:
 - Proposal to the New Hampshire Charitable Foundation for \$20,000 to conduct a review and inventory of town-by-town natural resource protection measures (regulatory and non-regulatory)
 - Proposal to EPA Region 1 Water Quality Program for \$15,000 to map eelgrass and macroalgae in the Great Bay Estuary using the hyperspectral imagery collected in fall 2007
 - Proposal to EPA Headquarters for \$50,000 plus technical assistance through its Climate Ready Estuaries Program to conduct an assessment of climate change impacts in the freshwater portion of the Oyster River watershed relative to increased storm events and flood conditions
- PREP requested and received funding in the amount of \$6,000 from Public Service New Hampshire for its 2009 State of the Estuaries Report (PSNH provided \$4,000 for the 2006 report).
- PREP received a donation from NextEra Energy Seabrook Station (formerly Florida Power and Light) in the amount of \$12,000 to support program activities. NextEra has provided an annual donation to the program for eight years.

>> GOAL: Conduct a strategic planning process to guide future activities (Year 12

Work Plan Goal)

PREP held two sessions with a subcommittee of the Management Committee to identify strengths and opportunities for PREP and to review the role of the Management Committee. Notes are available from the sessions and will be summarized into an action document later this year. The group did not identify any major shifts for the program. Feedback from the group supported continuation of many of PREP's existing programs and management approaches with additional emphasis on providing objective scientific information to support sound decision-making.

>> GOAL: Develop a new Communication Plan for PREP in 2008 (Year 12 Work Plan Goal)

Some progress on this goal was previously made (survey of planning board and conservation commission members); however plans to complete a Strategic Communication Plan were delayed until the new Management Plan is complete. Development of a Strategic Communication Plan is identified as a project activity in the Year 14 work plan for 2010.

>> GOAL: Develop Environmental Indicator Reports and the 2009 State of the Estuaries Report and Convene a State of the Estuaries Conference (Year 13 Goal)

Work on this goal is underway. For the conference, a date was set, venue selected, and a draft agenda created. Speakers will be confirmed over the next several months, the conference will be further promoted, and registration will be initiated. For the reports, a single environmental indicators report is being developed that will include information on all the primary indicators and supporting indicators that will be used in the State of the Estuaries Report. The Environmental Indicators Report includes all the data sources, analytical methods, and data quality objectives. The report will be reviewed by the PREP Technical Advisory Committee and Management Committee in May and June 2009. PREP will develop its third State of the Estuaries Report mid-summer, in time for release at the October 16, 2009 conference. The 2009 State of the Estuaries Report will include nearly 30 indicators in total (12 primary indicators and over a dozen supporting indicators), interpretation of the data and its relevance to watershed management, and information on related projects and programs.

>> GOAL: Continue to integrate the Maine part of the watershed into PREP's initiatives and planning processes (Year 13 Goal)

This goal was met through many PREP actions and initiatives in 2008, including:

- A brochure and letter of introduction was sent to representatives of Maine organizations, communities, and agencies (see http://www.prep.unh.edu/resources/pdf/the_new_hampshire_maine-brochure-NHEP-08.pdf)
- The PREP Management Committee was expanded to include Maine

representatives from the Spruce Creek Association, Maine Department of Environmental Protection, Southern Maine Regional Planning Commission, and Wells National Estuarine Research Reserve

- PREP expanded several of its monitoring programs to Maine in 2008: conservation lands inventory and oyster bed mapping. The oyster bed mapping identified a significant bed (15.6 acres) at the mouth of Sturgeon Creek in Eliot, Maine.
- PREP received a \$25,000 gift award from New Hampshire Charitable Foundation (NHCF) to initiate project work in Maine. With this funding, PREP hired UNH Complex Systems Research Center to develop impervious surface estimates for the Maine portion of the watershed, using the same methodology and time series previously used for the New Hampshire coastal watershed area. In addition, NHCF funds are supporting the development of a regional land conservation plan for the Maine watershed, modeled after the PREP-supported Land Conservation Plan for NH's Coastal Watersheds. PREP is facilitating the development of this plan in coordination with many Maine-based conservation and planning organizations.
- PREP's 2008 Local Grants Program was open to Maine organizations. Three of the seven projects selected through a competitive application process are Maine-based projects. These projects are underway in 2009.
- Beginning in 2008, Maine community representatives were invited to participate in PREP's VIP tours of the Great Bay Estuary and were eligible for PREP's sponsorship of fees associated with the UNH Stormwater Center workshops.
- In 2009, PREP's Community Technical Assistance Program was expanded to include the 10 Maine communities in the watershed.
- Representatives of Maine organizations, communities and agencies are participating in the Management Plan update stakeholder meetings, providing valuable input in developing the new plan.
- PREP staff attended a number of meetings and workshops organized by Maine groups in 2008 and early 2009 to meet Maine organizations working in Southern Maine, learn about Maine resource protection programs, and find opportunities for future collaboration.

>> GOAL: Prepare for Management Plan update (Year 13 Goal)

In late 2008, PREP initiated its process to update its Management Plan. Staff reviewed and proposed revised goals and objectives for the plan in four theme areas: Water Resources, Land Use and Habitat Protection, Living Resources and Habitat Restoration, and Watershed Stewardship. The process involves a series of stakeholder meetings and agency meetings in 2009 to identify and prioritize actions to meet management goals and objectives. With funding from the New Hampshire Charitable Foundation, PREP was able to hire consultants to facilitate the development of the revised plan. The consultants are managing the process of compiling stakeholder input and developing a draft of the plan.

Other reports will provide key information for the Management Plan update:

- Piscataqua Region Environmental Planning Assessment: a comprehensive review of the 52 communities' regulations and programs to protect natural resources, conducted by PREP with funding from the New Hampshire Charitable Foundation and in coordination with the regional planning commissions (due to be complete by July 2009)
- PREP's Environmental Indicators Report and 2009 State of the Estuaries Report that provide information on status and trends of key environmental indicators (due to be complete mid-summer 2009)

Factors affecting accomplishment of previous year's goals

The past year included a number of ambitious projects and undertakings for the program. With a small staff (~3.5 full-time staff), there is not much capacity to take on additional project work; however PREP has always been flexible in its approach, where possible, to best capitalize on opportunities and priorities.

The nutrient criteria development process took longer and required more PREP staff (PREP Coastal Scientist) effort than originally planned when this process was first initiated in 2005. However the time spent on this task was well worth the outcome of near final numeric nutrient criteria that have been well-vetted through an iterative process that included review and input from many technical experts. As a result of the additional time required of the Coastal Scientist to develop the nutrient criteria, PREP paid staff from the UNH Water Resources Lab to conduct monthly sampling in 2008 that originally was to be completed by the PREP Coastal Scientist. In addition, PREP had to streamline the process to develop its Environmental Indicators Report. Previously, environmental indicators were developed and presented in a series of three related reports; now PREP is developing only one report that includes only those indicators likely to be used in the State of the Estuaries Report.

PREP took advantage of a funding opportunity to pursue a Climate Ready Estuaries Program grant and manage a culvert inventory/watershed analysis project for the Oyster River. Management of this project required significant PREP staff involvement, particularly on the front end of the project in summer and fall 2008. As a result, staff had less time than originally planned to undertake restoration project development in 2008. This will remain a priority for 2009.

The Management Plan update process began in late 2008 with PREP scoping out the process and plan to complete the updated plan by early 2010. The process involves a series of stakeholder meetings, compilation of extensive information, and drafting of new action plans. Extensive PREP staff time is required. With funding from the New Hampshire Charitable Foundation, PREP was able to hire a consultant for approximately 400 hours of assistance, freeing up time for staff to conduct other project development and management activities. Having the consultant in place was particularly helpful at the beginning of the process (November 2008 to February 2009) when the PREP director was out of the office on extended leave.

III. Progress in Implementing EPA's Priority Clean Water Act Programs

PREP played a key role in implementing several of EPA's Clean Water Act programs including stormwater, wetlands protection, water quality monitoring, and water quality standards over the last year. Projects listed in the previous section directly supported CWA program priorities (primarily stormwater, wetlands, and water quality monitoring). Additional information is provided below on how PREP's activities supported the areas of water quality monitoring and water quality standards.

CWA Priority Program: Stormwater (see project descriptions in Section 2.II.)

- UNH stormwater center workshop
- Community Technical Assistance Program projects
- Natural Resources Outreach Coalition community projects

CWA Priority Program: Wetlands Protection (see project descriptions in Section 2.II.)

- Wetlands inventories and evaluations, prime wetlands designation projects
- Portsmouth vernal pool inventory and protection ordinance
- Community Technical Assistance Program projects (buffer ordinance development and outreach publications on wetlands)

CWA Priority Program: Monitoring

Each year, PREP funds a variety of monitoring programs. The programs provide information on water quality, shellfish resources, aquatic habitat, and land use in the coastal watershed. PREP monitoring programs were developed to complement existing monitoring programs of other agencies and fill critical data gaps. The major monitoring programs that were supported this past year by PREP are:

- Tributary monitoring – monthly monitoring of water quality at the seven major tributaries to Great Bay (conducted by UNH)
- Eelgrass mapping – annual aerial surveys and mapping of the eelgrass distribution in the Great Bay estuary (conducted by UNH)
- Gulfwatch – annual monitoring of toxic contaminants in shellfish tissue (conducted by NHDES and UNH)
- Datasonde program – support for the maintenance and deployment of datasondes with in-situ dissolved oxygen probes to monitor daily trends in dissolved oxygen at key locations in the estuary (conducted by UNH)
- Oyster disease monitoring – annual monitoring of the prevalence of oyster diseases at the major oyster beds (conducted by NH Fish and Game and Rutgers University)
- Nutrient monitoring – testing for particulate nitrogen and phosphorus species to complement the dissolved nitrogen and phosphorus monitoring conducted by other programs (conducted by UNH)
- Probability-based monitoring – testing for water quality in the region's estuaries using the National Coastal Assessment protocols
- Unique for 2008, PREP collected and analyzed effluent from the region's wastewater treatment facilities to develop a better estimate of nitrogen load

from these facilities to the Great Bay Estuary.

In addition to data collection, the PREP Monitoring Program contains a rigorous data analysis component. Data from the PREP programs and data from other agencies are combined to calculate a suite of environmental indicators. The indicators are used to inform the PREP Management Committee of the status and trends of environmental conditions in the estuary. The indicators are also used in the triennial State of the Estuaries Report, which is PREP's main outreach piece on environmental progress.

The PREP Monitoring Program supports Clean Water Act core programs in many ways. The water quality data are imported to the NHDES Environmental Monitoring Database and used in Section 305(b)/303(d) assessments. The 305(b)/303(d) assessment process is the heart of the Clean Water Act. In addition, PREP monitoring data have been used in two Total Maximum Daily Loads (TMDLs): Hampton Harbor TMDL and Little Harbor TMDL. Most recently, PREP data were used by environmental advocacy organizations, and ultimately by NHDES, to develop narrative standards and numeric standards for nutrients for the Great Bay Estuary (additional information below).

CWA Priority Program: Water Quality Standards/Numeric Nutrient Criteria Development

Starting in 2005, PREP assumed the lead role for establishing nutrient criteria for New Hampshire's estuaries to assist the NH Department of Environmental Services, which is ultimately responsible for developing and adopting nutrient criteria for New Hampshire's estuaries. An expanded PREP Technical Advisory Committee served as the forum for stakeholder discussions and feedback on proposals developed by PREP. The PREP workgroup adopted eelgrass survival as the water quality target for nutrient criteria development. Eelgrass survival is largely dependent on light availability.

The PREP Coastal Scientist undertook a comprehensive review of the water clarity data, eelgrass survival, and other state's approaches for developing criteria. PREP applied for and received funds from EPA to conduct additional research to support nutrient criteria development. With grant funding, light sensors were installed on an instrument buoy in the middle of Great Bay, hyper-spectral imagery was obtained for the estuary, additional sampling conducted to coincide with the hyper-spectral imagery, and the imagery was processed and used to analyze water quality, eelgrass, and macroalgae. The PREP Coastal Scientist incorporated these data and other water quality data and developed a methodology for establishing numeric nutrient criteria. The methodology was presented to the TAC, Management Committee, and other stakeholders for review and comment. A final draft of the methodology was completed by the PREP Coastal Scientist at the end of 2008, with NHDES and the NH Water Quality Standards Advisory Board responsible for adoption and implementation of the final methodology and criteria. Information from the workgroup meetings and nutrient criteria development process undertaken by PREP is available at www.prep.unh.edu/programs/nutrient.htm.

IV. Travel Report

Out-of-state travel costs supported by PREP's National Estuary Program funds over the last year are included in the following table.

Event	Location	Date	Traveler(s)	Cost
ICLEI Climate Change Workshop	Boston, MA	May 2008	Derek Sowers	\$140
National Estuary Program Strategic Planning Meeting	Boulder, CO	July 2008	Jennifer Hunter	\$1,360
Restore America's Estuaries Conference	Providence, RI	Oct. 2008	Derek Sowers	\$1,470
National Estuary Program Fall Meeting	New York City, NY	Nov. 2008	Dave Kellam Derek Sowers	\$1,350
National Estuary Program Annual Meeting	Washington, DC	Feb. 2009	Dave Kellam	\$1,530
Total Cost				\$5,850

Travel costs anticipated for the remainder of 2009 include funding for PREP staff to attend the:

- o Coastal Zone '09 conference in Boston, MA (July)
- o Coastal and Estuarine Research Federation conference in Portland, OR (November)
- o NEP/Association of National Estuary Programs meeting Portland, OR (November)