2010

Year 15 Work Plan

PREP

PISCATAQUA REGION
Estuaries
Partnership

2010

Piscataqua Region Estuaries Partnership

Year 15 Work Plan

Piscataqua Region Estuaries PartnershiP
University of New Hampshire

May 2010

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2011 PREP WORKPLAN

Piscataqua Region Estuaries Partnership

Prepared MAY 2010

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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 first *Comprehensive Conservation and Management Plan* (Management Plan) for New Hampshire's estuaries was completed in 2000 and updated in 2005. The Management Plan outlined 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 worked extensively throughout 2009 to develop a comprehensive update of the Management Plan, which is in the final stages of completion and will be formally released in September of 2010. The new Management Plan is intended to guide the work of PREP through 2020.

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 fifteenth 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 2010 funding), beginning on October 1, 2010. 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 15 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 Thirteen Work Plan: http://www.prep.unh.edu/resources/pdf/nhep_year_13-nhep-08.pdf); and Year Fourteen Work Plan http://www.prep.unh.edu/resources/pdf/prep_year_14-prep-09.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: 2011 WORK PLAN

I. Work Plan Goals

The activities and projects described in the 2011 (Year 15) Work Plan are designed to accomplish the following goals:

1. Implement the PREP Management Plan and PREP Monitoring Plan

PREP will fund and manage projects and directly undertake activities to implement the new (2010-2020) Management Plan and the Monitoring Plan in 2011. Specific projects are identified in the following sections. Anticipated outputs and outcomes are provided for each activity.

2. Implement the Strategic Communications Plan

PREP is in the process of developing a comprehensive communications strategy following the update of the Management Plan in 2010, taking into account information from previously completed strategic planning sessions. The communications plan will identify actions and strategies to implement the outreach-related elements from the new 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.

3. Implement the PREP Monitoring Plan

The PREP Monitoring Plan is designed to track key environmental trends in the region and well as meaningful metrics that reflect progress in the implementation of Action Plans identified in the Management Plan. Given that the new Management Plan includes Action Plans not previously covered by the original, the Monitoring Plan is being updated in 2010 with additional metrics to track implementation progress. A draft of the updated Monitoring Plan is being prepared by PREP's Coastal Scientist and will be refined with input from PREP's Technical Advisory Committee during the fall of 2010. In 2011, PREP will implement the updated Monitoring Plan which will continue to track many existing metrics, as well as new ones tailored to measure outcomes related to the implementation of new Action Plans.

4. Implement Top Priority Restoration and Protection Projects

PREP's budget allocation from EPA in 2011 contains roughly $200,000 more than in 2010. PREP has been careful to utilize this additional funding to support direct implementation of the Management Plan by increasing the funding levels of PREP's Community Technical Assistance Program (CTAP) grants and Piscataqua Region Land Protection Transaction Grants. In addition, the majority of the increased

funding (roughly $150,000) has been allocated to support two top priority restoration projects (Great Bay oyster reef restoration and a culvert replacement project), and one top priority land protection project (3,250 acre Salmon Falls land conservation project).

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 have produced strategic environmental results, engaged a broad base of stakeholders, and are well-aligned with priorities and actions from the new Management Plan. Data from the monitoring projects allow PREP to develop environmental indicators and report on environmental trends and conditions of the estuaries and their upstream watersheds.

Projects and activities described below will be initiated in 2011. All projects funded by the 2011/Year Fifteen grant award will be completed by December 31, 2012. For each work plan project or activity, an alphanumeric work plan code is generated for tracking in the PREP database. For each workplan project, the relevant CCMP Action Plans that pertain to that project are identified. All Action Plans listed refer solely to the new version of the Management Plan since this is the guiding document for PREP's activities for the 2010-2020 time period. The new Management Plan completely incorporates the Maine portion of the PREP study area.

Activities that will be undertaken by PREP in 2011 using other grant funds are not included below; only those that are funded by the EPA Year 15 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 newly updated 2010-2020 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, 2011 and completed by December 31, 2011. The work plan includes $292,000 to support projects and activities identified below (this does not include PREP staff time to manage projects or implement staff-led initiatives).

NOTE: The Action Plan numbers listed correspond to the latest draft of the new Management Plan, which will undergo one more round of public comment prior to being finalized after the submission of this workplan to EPA. Therefore Action Plan numbers identified in this workplan may not correspond exactly to the final updated Management Plan for 2010-2020. If there are ultimately discrepancies between this work plan and the final version of the Management Plan, the Action Plan numbers from the Management Plan shall be considered correct.

11-WR-1: Stormwater Workshops

PREP funds ($1,000) will be used to pay workshop costs in 2011 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 20 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:

- WR-26: Support municipal implementation of Phase II stormwater requirements for MS4 communities and BMP outreach and education for municipal staff in communities that are not required to comply with Phase II regulations.
- LU-2: Employ best management practices and low impact development approaches in new, existing and re-development to minimize stormwater runoff impacts and limit changes to pre-development site hydrology.

11-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:

- WR-19: Support the oil spill preparedness and response activities of the Piscataqua River Cooperative.

11-WR-3: NHDES Shellfish Program Implementation
The NHDES Shellfish Program will conduct routine monitoring, shoreline surveys, classification studies, and red tide testing in 2011 in support of many action plans from the Management Plan. This will be the fifth 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:
- WR-2: Collect and monitor shellfish tissue samples as appropriate for toxic contaminants and biotoxins.
- WR-3: Implement National Shellfish Sanitation Program guidance to maintain a USFDA-certified shellfish program.

11-WS-1: V.I.P. Boat Tours
PREP will organize and conduct two boat tours of the Great Bay Estuary in 2011 geared for coastal watershed planning board members and conservation commissions, as well as other town board members. PREP will use $1,000 to support this activity, which is timed around National Estuaries Day. This will be the eighth 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:
- WS-3: Develop and implement outreach and education programs on natural resource planning issues to Conservation Commissions, Planning Boards, Zoning Board of Adjustments, and municipal staff.
- WS-5: Support coordinated communication to coastal watershed stakeholders about activities that implement the PREP Management Plan.

11-WS-2: PREP Municipal Newspaper
In 2011, PREP will implement a new outreach/education strategy that builds on the organization's experience in developing educational campaigns, newspapers, and brochures for individual municipalities. In an attempt to foster improved inter-municipal

planning and awareness of watershed-based solutions to the threats facing the region's estuaries, PREP will produce and distribute a biannual newsletter targeted for Conservation Commissions, Planning Boards, Zoning Boards of Adjustment, and planning staff in all fifty-two municipalities within the Piscataqua Region. The newsletter will increase awareness of the water resource interdependencies among communities and will highlight specific town planning or conservation activities that help to implement the Management Plan for the region. By promoting positive examples of community action on watershed protection, the newsletter is intended to inspire and guide action by other communities throughout the watershed. PREP will provide $1500 towards publishing of the newspaper, with an anticipated $1700 non-federal match from a sponsoring partner organization.

Output: Biannual newsletter delivered to all Conservation Commissions, Planning Boards, Zoning Boards of Adjustment, and planning staff members in the Piscataqua Region.
Outcome: Improved awareness of inter-municipal natural resource issues and solutions, and increased implementation of municipal land use planning policies that support Management Plan goals and desired environmental outcomes (specifically the Municipal Planning Targets identified in the Piscataqua Region Environmental Planning Assessment that PREP completed in 2010).

Action Plan Implemented:
- WS-3: Develop and implement outreach and education programs on natural resource planning issues to Conservation Commissions, Planning Boards, Zoning Board of Adjustments, and municipal staff.
- WS-5: Support coordinated communication to coastal watershed stakeholders about activities that implement the PREP Management Plan.

11-WS-3: Local Grants Program
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 2011. Projects will be solicited through a Request for Proposals issued by PREP in June of 2010, with applications due back to PREP by September 2010. PREP will solicit applications that directly help implement priority Action Plans identified in the new Management Plan. PREP funds must be matched by non-federal funds.

Outputs, outcomes, and Action Plans implemented will depend on the projects selected through the grant program. Projects are anticipated to begin January 1, 2011 and end by December 31, 2011.

11-LU-1: Community Technical Assistance Program

PREP will provide $50,000 for the Community Technical Assistance Program in 2011 (Round 6 of the program). This funding should support nine community projects. A minimum of $5270 is anticipated as non-federal in-kind match. The program provides assistance to community conservation commissions and planning boards on various regulatory and non-regulatory approaches to natural resource protection, including land conservation planning, buffer protection, and stormwater management. The eligible project types are aligned with the Municipal Planning Targets identified by PREP's Land Use Team and Management Committee, and listed in the Piscataqua Region Environmental Planning Assessment Tables 24 and 25 (http://www.prep.unh.edu/resources/pdf/piscataqua_region_environmental-prep-10.pdf). 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, 2011 and conclude by June 30, 2012. All 52 watershed communities are eligible for the program in 2011.

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):
- LU-1, LU-6, LU-12, LU-13, LU-14 (land conservation and stewardship)
- LU-2, LU-3, (stormwater management/low impact development)
- LU-7, LU-8, LU-10 (buffers and wetlands protections)

11-LU-2: Land Protection Transaction Grant Program
PREP will provide $50,000 for continuation of the Piscataqua Region Land Protection Transaction Grant Program in 2011. This program provides funding for transaction costs associated with the permanent protection of lands with high ecological value within the Piscataqua Region watershed. Transaction costs include items such as surveys, deed and title research, legal fees, appraisals, and stewardship costs. 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 are required.

Output: 12-13 land conservation projects (estimated 1100 acres of protected lands)
Outcome: Protection of wildlife habitat and water quality

Action Plans Implemented:
- LU-14: Support activities of land protection organizations and municipalities that result in permanent protection of priority conservation lands.
- LU-17: Support and fund acquisition and protection of important current and future water supply lands by water districts, municipalities, and land trusts.

11-LU-3: 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 2011. In addition, PREP staff will coordinate with the Maine NEMO program (Nonpoint source Education for Municipal Officials) in 2011, 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:
- WS-3: Develop and implement outreach and education programs on natural resource planning issues to Conservation Commissions, Planning Boards, Zoning Board of Adjustments, and municipal staff.

11-LU-4: New Hampshire Coastal Adaptation Workgroup
PREP is participating in the newly formed NH Coastal Adaptation Workgroup (NHCAW). Other members of the group include the Great Bay National Estuarine Research Reserve, NH Department of Environmental Services, Rockingham and Strafford regional planning commissions, the National Oceanic and Atmospheric Administration, UNH Cooperative Extension, and the municipalities of Portsmouth and Seabrook. The purpose of NHCAW is to bring together NH organizations, municipalities, and state agencies to develop and implement a coordinated strategy for better preparing coastal communities for natural hazard and climate change impacts. As an implementing partner of the NH Climate Action Plan, NHCAW plans to complete a Coastal Adaptation Plan for the State of New Hampshire. This Plan will identify research and legislative needs, and provide municipalities with a consistent science-based framework of coastal adaptation options, planning tools, and training opportunities. PREP's participation in this group is central to integrating climate change considerations into the implementation of our Management Plan.

Outputs: Commitment of 5% of one PREP staff member's time to the planning efforts of NHCAW. Updated coastal hazard maps that incorporate storm surge and sea level rise. An adaptation plan for the NH coastal region that provides a consistent science-based information base to guide state and local environmental, transportation, and hazard mitigation planning that accounts for sea level rise, increased flooding and storm surges, and other impacts of climate change on NH coastal communities.

Outcome: Improved understanding of community vulnerabilities to climate change impacts, and practical guidance and training for municipalities on developing environmentally responsible adaptation actions.

Action Plan Implemented:

- LR-12: Conduct a flooding and inundation mapping analysis based on predicted climate change impacts from increased freshwater flooding, storm surges, and sea level rise to identify vulnerable areas.
- LR-13: Identify and protect undeveloped land adjacent to Piscataqua Region estuaries through purchase, easements, or regulation to allow shoreline and marsh migration in response to sea level rise
- LU-7: Assess and implement adaptive measures to protect and retain resiliency and function of tidal and freshwater wetlands, shorelands, fluvial zones, and watershed areas given the expected impacts of climate change.

11-LR-1: Estuary Restoration Partnership

PREP staff will continue to participate in the Partnership to Restore New Hampshire's Estuaries in 2011 and assist with work plan development, project identification and planning, fund seeking, and project management.

Output: Commitment of 10% of one PREP staff member's time to coordinate with the Partnership

Outcome: Increased capacity and inter-agency collaboration on the implementation of high priority restoration projects needed to restore improved ecosystem function to the region's estuaries

Action Plans Implemented:

- LR-20: Support the Partnership to Restore New Hampshire's Estuaries coalition.
- LR-1: Develop and implement a comprehensive resource action plan for native oyster populations in the Great Bay Estuary and other suitable sites in the Piscataqua region.
- LR-3: Implement a comprehensive recovery strategy for eelgrass throughout the Great Bay Estuary.
- LR-4: Develop and implement diadromous fish restoration plans for each major tributary river in the Piscataqua Region aimed at restoring historical river distributions to the maximum extent practicable.
- LR-11: Advocate for the removal of non-essential dams on coastal streams and rivers, with a priority emphasis on dams located within the natural zone of tidal influence.
- LR-14: Identify and implement salt marsh restoration and enhancement projects.

11-LR-2: Lamprey River Oyster Restoration

In 2011, PREP will provide up to $75,000 in support of a two-acre oyster reef restoration project in Great Bay near the tidal arm of the Lamprey River. The restoration work is

being jointly led and implemented by The Nature Conservancy and the University of New Hampshire Jackson Estuarine Laboratory. PREP has an interim goal to restore 20 acres of oyster reef habitat. To date, 6.8 acres of oyster reefs have been restored. The proposed project would add two new acres of oyster reef habitat to the estuary system, which will be a significant addition and a major step forward in meeting our interim restoration goals for oyster reef habitat. Monitoring the success of the reef restoration efforts will be conducted the year following shell placement, so this project will have an end date of December 31, 2012.

Output: Two acres of restored oyster reef habitat.
Outcome: Improved water quality in Great Bay via water filtration by living oysters, improved estuarine habitat for numerous species via the presence of the oyster reef, and enhanced oyster larvae population to support natural recruitment, settlement, and growth of native oysters.

Action Plans Implemented:
LR-1: Develop and implement a comprehensive resource action plan for native oyster populations in the Great Bay estuary and other suitable sites in the Piscataqua region.

11-LR-3: Fish Passage Culvert Replacement
In 2011, PREP anticipates funding up to $62,000 for the replacement of a top priority culvert that is disrupting stream habitat and fish passage. The current candidate site for this stream/fisheries habitat restoration project was identified by PREP as part of the EPA-funded Oyster River Culvert Assessment Project that was completed spring of 2010. The culvert is undersized and perched and is causing major impacts on riverine channel habitat and is obstructing upstream migration of resident and migratory fish. This culvert is also a priority restoration site for the New Hampshire Fish & Game Department, which has documented the presence of a rare local population of native Eastern brook trout within the affected stream reach.

Output: Completion of engineering designs and permits for new replacement road/stream crossing, installation of new improved road/stream crossing.
Outcome: Restoration of natural stream processes and full passage for aquatic organisms in a priority river tributary to the Great Bay estuary.

Action Plans Implemented:
LR-10: Conduct stream/road crossing inventories in all significant estuarine tributaries to identify, prioritize and correct crossings that are aquatic species passage barriers or have significant negative impacts on the physical, chemical, or biological integrity of waterways.

11-LR-4: Salmon Falls Land Protection Project
PREP intends to fund the appraisal of a 3,250 acre single owner land parcel located within a Conservation Focus Area (CFA) within the Salmon Falls/Piscataqua River

watershed. This land parcel covers approximately 50% of the South Acton Swamps CFA recently identified by the PREP-funded Land Conservation Plan for Maine's Piscataqua Region Watersheds, and contains two miles of undeveloped waterfront directly on the Salmon Falls River and Northeast Pond which forms the boundary between New Hampshire and Maine. The appraisal will allow the Three Rivers Land Trust and the Trust for Public Land to proceed with easement negotiations with the landowner. This project is an extraordinary permanent land conservation opportunity within a top priority habitat area identified by PREP and its partners.

Output: Completed conservation easement appraisal on a 3,250 acre land parcel.
Outcome: The intention of PREP's investment is to advance the prospects of securing permanent conservation status on this property for the long-term protection of the wildlife habitat and water quality preservation value of the parcel.

Action Plans Implemented:

- LU-8: Identify and protect highest value wetlands within Piscataqua Region watersheds through land conservation or by enhancing municipally based assessments, zoning and regulation.
- LU-12: Assist watershed communities in adopting local land conservation plans and natural resource inventories that incorporate priorities and data from the Land Conservation Plan for NH's Coastal Watersheds, the Land Conservation Plan for Maine's Piscataqua Region Watersheds, NH Wildlife Action Plan, and Maine Beginning with Habitat Program.
- LU-14: Support activities of land protection organizations and municipalities that result in permanent protection of priority conservation lands.

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 15 grant includes $60,000 to implement projects that support the program's core monitoring program in 2011. 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 Station, LLC 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, 2011 and March 31, 2012, with the exception of GulfWatch sample analyses, which will be completed by June 30, 2012 and the impervious surface mapping project, which will be completed by September 30, 2011.

Outputs/products for the 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 2011 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.

11-M-1: Oyster Disease Testing

PREP will use $2,700 to pay Rutgers University for analysis of oyster disease organisms MSX and Dermo. At least one hundred samples taken from five beds in the Great Bay Estuary 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 Maine waters.

Action Plan Implemented:

- LR-1: Develop and implement a comprehensive resource action plan for native oyster populations in Great Bay and other suitable sites in the Piscataqua Region.

11-M-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 the Piscataqua Region estuaries. PREP-supported benchmark sites supplement the yearly monitoring conducted by the Gulf of Maine Council GulfWatch Program. Laboratory 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 Piscataqua Region sites that are part of the GulfWatch Program.

Action Plan Implemented:
- WR-2: Collect and monitor shellfish tissue samples as appropriate for toxic contaminants and biotoxins.

11-M-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 Implemented:
- WR-2: Collect and monitor shellfish tissue samples as appropriate for toxic contaminants and biotoxins.

11-M-4: Tidal Tributary Monitoring Program
PREP will use $8,050 ($4,890 lab costs, $3,160 personnel) 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, nitrate+nitrate, ammonia, 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.

Action Plan Implemented:
- WR-12: Provide data and information to improve nutrient removal technology at municipal wastewater treatment facilities in the Piscataqua Region watersheds and support system upgrades and expansions.

11-M-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 2011. The methods for this project are specified in an approved quality assurance project plan.

Action Plan Implemented:

- LR-3: Implement a comprehensive recovery strategy for eelgrass throughout the Great Bay Estuary.

11-M-6: Datasonde Deployment and Monitoring

PREP will use $10,020 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 the middle of Great Bay. The methods for this project will follow a quality assurance project plan.

Action Plan Implemented:

- WR-12: Provide data and information to improve nutrient removal technology at municipal wastewater treatment facilities in the Piscataqua Region watersheds and support system upgrades and expansions.

11-M-7: Water Quality Trend Monitoring in Tidal Waters

PREP will use $16,600 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, Little Bay, and the Bellamy River during the summer index period. The method for this project will follow a quality assurance project plan.

Action Plan Implemented:

- WR-12: Provide data and information to improve nutrient removal technology at municipal wastewater treatment facilities in the Piscataqua Region watersheds and support system upgrades and expansions.

11-M-8: Impervious Surface Mapping

PREP will use $5,000 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. In the Year 14 workplan, $9,000 was allocated to this project. The two overlapping grants bring the total allocation

for this project to $14,000. The total cost of this project is $20,280 (direct costs only). Therefore, $6,280 will need to be reprogrammed from liquidated funds at the end of 2010 to complete the funding for this project.

Action Plan Implemented:

- LU-4: Establish a focused program to maintain effective impervious cover below five percent in small and less developed watersheds.

11-M-9: Hampton-Seabrook Harbor Soft-shell Clam Monitoring Program

NextEra Energy Seabrook Station conducts annual monitoring of soft-shell clams in Hampton-Seabrook Harbor, using the services of Normandeau Associations, 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 $70,500 in 2011, is used by PREP as matching funds.

Action Plan Implemented:

- LR-2: Assess and improve soft-shell clam populations in Piscataqua Region estuaries.

PROGRAM SUPPORT/ADMINISTRATIVE ACTIVITIES & INITIATIVES

The following activities will be initiated in 2011 to implement strategic PREP communications activities.

11-ADMIN-1: General Outreach/Communications Activities in 2011
PREP will conduct its general outreach activities (press releases, website updates, Estuaries Update email newsletter, etc.) in 2011. 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 2: Implement the Strategic Communications Plan

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11-ADMIN-2: PREP Annual Report
PREP will use $1,500 to produce a publication that highlights the program's accomplishments from 2010 and describes upcoming activities in 2011 (similar to the 2009/2010 *Year in Review* publication produced in February 2010). The 2010/2011 publication will be completed by early February 2011.

Output: PREP annual publication.
Outcome: Better recognition and awareness of PREP, its mission, and its programs.

Work Plan Goal Implemented: Goal 2: Implement the Strategic Communications Plan

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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 2011 Work Plan includes $448,000 in costs for PREP administration - 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 2011 (October 1, 2010 – September 30, 2011); all other costs are for calendar year 2011.

Staff Expenses in 2011

There are three PREP staff employed by UNH (PREP Director and two Project Managers). The PREP Coastal Scientist is employed by the NH Department of Environmental Services. Benefits for UNH staff are calculated as 44.4% 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: **$258,000** including $178,670 for salary and $79,330 for fringe benefits
- PREP Coastal Scientist position at the NH Department of Environmental Services, with PREP covering approximately half of all costs associated with the position and NHDES covering about half of the costs. PREP funding for the Coastal Scientist position in 2011: **$60,000**
- Intern at UNH (work study program): **$2,000**

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 2011 include launching the new Management Plan and ensuring that program operations support implementation of the new plan.

PREP Communications Manager (UNH position): The PREP Communications Manager writes and implements the PREP's Strategic 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 PREP report; manages the program website; develops the monthly electronic newsletter, Estuaries Update; prepares press releases; organizes the VIP tours of the estuary; coordinates other outreach events and communications as needed; and performs project tracking and reporting activities. A major undertaking for 2011 will be the development and distribution of the biannual PREP Municipal Newspaper.

PREP Conservation Program Manager (UNH position): The Conservation Program Manager implements actions from the Management Plan that focus primarily on land use, habitat protection, living resources, 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 technical assistance on 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; represents PREP as one of EPA's Climate Ready Estuaries partners and part of the NH Coastal Adaptation Workgroup by ensuring integration of climate change considerations into Management Plan implementation; and assists with outreach activities for the program. Major undertakings for 2011 include working with municipalities on implementing the Municipal Planning Targets from the Piscataqua Region Environmental Planning Assessment, assisting with the development/implementation of a coastal climate adaptation plan for NH; and developing work scopes and proposals for priority restoration projects.

PREP Coastal Scientist (NH Department of Environmental Services position, ~50% 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 2011 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 integrating databases and monitoring programs. 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. For 2011

PREP has budgeted $2,000 towards internship hours, which are matched by UNH work-study funding support.

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 2011 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 2011

Supplies and Office Expenses (twelve months: October 1, 2010 – September 30, 2011) 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 (**$9,000**).

Travel – Costs for PREP staff to attend regional and national conferences in 2011 and for in-state travel to attend meetings or conduct site visits (**$6,000**).

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 38.2%. 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 15 grant includes **$113,000** for indirect charges. The waived portion of the indirect rate is estimated at $102,830 which is the University's contribution to matching funds for the grant.

IV. Year 15 Budget: NEP Funding Allocation for 2011

Workplan ID	Project/Activity	NEP Funding	Matching Funding	Total Funding
11-WR-1	Stormwater Center Tours for Municipalities	$1,000	$0	$1,000
11-WR-2	Support for Piscataqua River Cooperative	$0	$165,000	$165,000
11-WR-3	NHDES Shellfish Program Implementation	$0	$150,000	$150,000
11-WS-1	VIP Boat Tours*	$1,000	$500	$1,500
11-WS-2	PREP Municipal Newspaper*	$1,500	$1,700	$3,200
11-WS-3	Local Grants Program	$40,000	$40,000	$80,000
11-LU-1	Community Technical Assistance Program	$50,000	$5,270	$55,270
11-LU-2	Land Protection Transaction Grant Program	$50,000	$65,000	$115,000
11-LU-3	NROC Program Implementation*	$0	$0	$0
11-LU-4	NH Coastal Adaptation Workgroup*	$0	$0	$0
11-LR-1	Restoration Partnership*	$0	$0	$0
11-LR-2	Lamprey River Oyster Restoration	$75,000	$75,000	$150,000
11-LR-3	Fish Passage Culvert Replacement	$62,000	$62,000	$124,000
11-LR-4	Salmon Falls Land Protection Project	$10,000	$10,000	$20,000
11-M-1	Oyster Disease Testing	$2,700	$4,500	$7,200
11-M-2	GulfWatch Program – Lab Analysis	$6,750	$0	$6,750
11-M-3	GulfWatch Program – Lab Support	$800	$800	$1,600
11-M-4	Tributary Monitoring Program	$8,050	$0	$8,050
11-M-5	Eelgrass Mapping	$9,600	$9,600	$19,200
11-M-6	Datasonde Deployment and Monitoring	$10,200	$10,200	$20,400
11-M-7	WQ Trend Monitoring	$16,900	$16,900	$33,800
11-M-8	Impervious Surface Mapping	$5,000	$5,000	$10,000
11-M-9	Hampton-Seabrook Harbor Clam Monitoring	$0	$70,500	$70,500
11-ADMIN-1	Outreach/Communications Activities*	$0	$0	$0
11-ADMIN-2	PREP Annual Report*	$1,500	$0	$1,500
Mgmt/Admin	PREP/UNH Staff (3 staff & 1 Work Study)	$260,000	$0	$260,000
Mgmt/Admin	Coastal Scientist	$60,000	$0	$60,000
Mgmt/Admin	Office Supplies/Materials	$9,000	$0	$9,000
Mgmt/Admin	Travel	$6,000	$0	$6,000
Mgmt/Admin	PREP Management Committee	$0	$5,200	$5,200
SUBTOTAL	**TOTAL DIRECT**	**$687,000**		
Mgmt/Admin	Indirect (20% on EPA direct costs)	$113,000		$113,000
Mgmt/Admin	Waived Indirect (18.2% match from UNH)		$102,830	$102,830
	TOTALS	**$800,000**	**$800,000**	**$1,600,000**

(*****) implementation of these activities requires significant PREP Staff time and those costs are captured in Staff lines.

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 12, Year 13, and Year 14 grants. The following table presents information for all ongoing projects (open as of 4/01/2010) 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 4/01/2010

Work Plan ID	Project Title/Activity	Contractor/Lead	CCMP Actions	Start	End	PREP Funds	Match	Outputs	Outcomes
07-C-14	Eliot CTAP Open Space/Conservation Plan Development	Southern Maine Regional Planning Commission	LND-29,LND-33	7/15/09	6/30/10	$1,088	$0	open space plan	Improved management of land resources to protect water quality
08-Admin-1.5	2010 CCMP production: Design and Printing	PREP	ADMIN,	1/1/10	9/1/10	$10,000	$0	Printed copies of 2010 CCMP	Implementation of CCMP by PREP staff and partners
08-C-16	Seabrook CTAP 2009	Southeast Land Trust	EDU-03,LND-29,	4/1/09	6/30/10	$8,500	$0	Landowner workshop, land conservation brochure, land parcel map	Identification of permanent land conservation projects around Hampton-Seabrook estuary
08-E-14	Newfields Outreach on Nutrients 2010	PREP Newfields	ADMIN,	2/1/10	6/30/10	$313	$0	Printed copies of outreach materials	Increased knowledge of citizens about nutrient management
09-D-3	Oyster River Oyster Restoration 2009	Ray Grizzle	RST-01,	3/1/10	12/31/10	$23,600	$14,300	underwater survey, 1 acre of restored oyster reef, monitoring data, final report.	1 acre restored oyster reef
09-D-2	Stuart Farm & River Road Restoration Projects	Rockingham County Conservation District	RST-03,	11/1/09	10/1/10	$9,500	$5,740	Restoration project alternatives analysis, permits, and final design	13 acres of enhanced salt marsh habitat
09-c-5	Conserving the Pawtuckaway River and Kennard Hill Focus Areas	Southeast Land Trust	LND-15,LND-16,	1/1/09	8/31/10	$8,000	$13,820	Acquisition of 319 acres of land within the Pawtuckaway River Focus Area	Acquisition of 319 acres of land within the Pawtuckaway River Focus Area
09-M-9	Marine Invasives Rapid Assessment Survey	Northeast Aquatic Nuisance Species Panel	NA	6/1/10	12/31/10	$5000	$0	Rapid Assessment Survey for aquatic nuisance species in several representative sampling sites from NH's estuaries.	Increased understanding of the number and taxonomy of estuarine nuisance species present in NH.

09-M-10	Shellfish Bioextraction Study	Ray Grizzle (UNH)	NA	4/1/2010	12/31/10	$16,680	$3,475	Completion of pilot study examining the nitrogen removal potential of oyster aquaculture in Great Bay.	Improved scientific understanding of how much nitrogen removal via shellfish (bioextraction) is possible in the Great Bay estuary.
10-WR-1	Stormwater Center tours in 2010	UNH Stormwater Center	WQ-05 WQ-18	1/1/10	12/31/10	$1,500	$0	Attendance of 30 target individuals at workshops	Better knowledge of LID and innovative stormwater management systems (short-term); increased use of LID/innovative systems (long-term)
10-WR-2	Support for Piscataqua River Cooperative	Piscataqua River Cooperative	WQ-12A	1/1/10	12/31/10	$0	$165,000	Response training; response materials acquired	Improved water quality and aquatic habitats as a result of fewer oil spills and/or better response to spills
10-WR-3 & Coastal Sci.	Coastal Scientist & DES Shellfish Program in 2010	NHDES	SHL-01 SHL-04 SHL-05 SHL-06	1/1/10	12/31/10	$60,000	$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
10-LU-1	NROC Program Implementation*****	PREP	LND-05	1/1/10	12/31/10	$0	$0	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	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
10-LU-2	Community Technical Assistance Program	PREP/TBD	various	6/1/10	12/31/10	$30,000	$10,000	project specific	project specfic
10-HP-1	Transaction Grants 2010	PREP	LND-15	3/1/10	12/31/10	$30,000	$45,000	Eight land conservation projects (estimated 400 acres of protected lands)	Protection of wildlife habitat and water quality
10-LR-1	Culvert/Watershed Assessment Project*	PREP	RST-04	8/1/10	12/31/10	$5,000	$0	Data on culvert location and condition; prioritized list for upgrades and maintenance	Improved aquatic habitat and connectivity; reduced flooding

10-HR-1	Restoration Partnership*****	PREP	RST-03 RST-04 RST-06	1/1/10	12/31/10	$0	$0	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	increased organizational capacity to implement high priority restoration projects needed to restore improved ecosystem function to the region's estuaries
10-WS-1	Local Grants Program	Various	EDU-3	1/1/10	12/31/10	$40,000	$40,000	project specific	project specific
10-WS-3	VIP Boat Tours*	PREP	EDU-05 WQ-20	6/1/10	9/30/10	$900	$500	Two boat tours of the Great Bay Estuary involving approximately 75 people, 45 of which are municipal planning officials	Greater understanding of PREP programs, Management Plan, partner activities, coastal watershed management activities, and estuary ecology and management
10-MON-1	Oyster Disease Testing	NHFG	SHL-07	7/1/10	3/31/11	$2,700	$5,500	data	Improved decision-making and/or improved planning
10-MON-2	GulfWatch Program – Lab Analysis	Batelle & Env Canada & DES	SHL-06	7/1/10	6/30/11	$6,500	$0	data	Improved decision-making and/or improved planning
10-MON-3	GulfWatch Program – Lab Support	UNH (Jones)	SHL-06	1/1/10	3/31/11	$800	$800	data	Improved decision-making and/or improved planning
10-MON-4	Tributary Monitoring Program	UNH (McDowell)	Monitoring	1/1/10	3/31/11	$6,600	$0	data	Improved decision-making and/or improved planning
10-MON-5	Eelgrass Mapping	UNH (Short)	Monitoring	1/1/10	3/31/11	$9,600	$9,600	data	Improved decision-making and/or improved planning
10-MON-6	Datasonde Deployment and Monitoring	UNH (Pennock)	Monitoring	1/1/10	3/31/11	$10,200	$10,200	data	Improved decision-making and/or improved planning
10-MON-7	Water Quality Trend Monitoring	UNH (Pennock)	Monitoring	1/1/10	3/31/11	$16,900	$16,900	data	Improved decision-making and/or improved planning
10-MON-8	Impervious Surface Mapping	UNH (Rubin)	Monitoring	9/1/10	6/30/11	$9,000	$5,000	data	Improved decision-making and/or improved planning

10-MON-9	Hampton-Seabrook Harbor Clam Monitoring	NextEra Energy Seabrook Station	Monitoring	1/1/10	12/31/10	$0	$69,500	data	Improved decision-making and/or improved planning
10-ADM-1	Management Plan Update	PREP	ADMIN,	1/1/09	9/30/10	$0	$0	2010 CCMP	Protection restoration of estuarine resources
10-ADM-2	Project Tracking Database	PREP/UNH	ADMIN,	1/1/10	12/31/10	$0	$0	Updated 2010 Project Tracking Database	Improved CCMP implementation
10-ADM-3	Monitoring Plan Update	PREP	Monitoring	1/1/10	12/31/10	$0	$0	2010 Monitoring Plan	Improved understanding of status and trends of indicators of CCMP implementation and estuarine health.
10-ADM-4	PREP Annual Report*	PREP	EDU-01	1/1/10	12/31/10	$1,400	$0	A report of PREP activities in 2010	Improved understanding of PREP activities by stakeholders
10-ADM-5	General Outreach/Communications Activities*	PREP	EDU-01	1/1/10	12/31/10	$0	$0	outreach items	Improved understanding of PREP activities by stakeholders
10-ADM-6	Strategic Communication Plan*	PREP	EDU-01	1/1/10	12/31/10	$0	$0	communications plan	Improved efficiency when implementing CCMP outreach activities
10-WS-4	Lamprey Watershed - Education/Outreach	Lamprey River Watershed Association	LND-25C, LND-26	1/1/10	12/31/10	$8,000	$9,000	Survey, Survey Results, Presentation, Letters, Warrant Articles, Brochures, and Press Release	Improved public and government support for designated more miles of the Lamprey River into the state River Management and Protection Program
10-WS-5	Fertilizer and Stormwater Outreach in New Castle	NH Coast	LND-16,EDU-5	1/1/10	12/31/10	$8,000	$14,144	Outreach materials, list of CSPA-acceptable fertilizers, and a web page showing the percentage of New Castle land (acreage) that is part of the program, raingarden, interpretive signs and press release	Reduced non-point source nitrogen loading from residential areas in New Castle

10-LR-2	Conservation Lands Audit & On-line Inventory for Dover, NH	City of Dover	LND-29, LND-36	1/1/10	12/31/10	$8,000	$5,000	Database comprised of Dover protected lands GIS data and associated metadata, On-line portal to database, data submitted to GRANIT, and press release	Improved stewardship of permanent conservation lands in Dover.
10-WS-6	Buffer Brochure/ Wetland District Zoning Ordinance	Sandown	LND-14 LND-15	1/1/10	3/31/10	$2,008	$1,000	Outreach brochures on prposed wetland and surface waters conservation district	Improved protection of wetland and surface waters from development impacts.
10-WS-7	Promoting Land Conservation in the Coastal Watershed through Local Faces and Special Places	SELTNH	LND-15, LND-26, LND-36	1/1/10	12/1/10	$5,000	$5,534	Video testimonials, table-top display conservation easement brochure, conservation easement workshop, invitations to workshop, and press release	Increase in the amount of land protected through conservation easements
10-WS-8	Watershed Survey and LCC Pilot Project	TPPA	WQ-5 and LND-23	1/1/10	12/1/10	$8,000	$23,262	Final Report of Survey Results, LID Stormwater Treatment Project Plan, Stormwater Treatment Devices and Interpretive Signs Installed at the Milton Town Beach., and press release	Improved water quality in Depot Pond

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 2009 through April 2010.

A summary of "success stories" from 2009 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_year_in_review-prep-10.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 2009 and 2010 in the Year 13 and Year 14 Work Plans:

1. **Continue implementation of the PREP Management Plan (YR13 & YR14).**
2. **Continue implementation of the PREP Monitoring Plan and ongoing environmental assessments (YR13 & YR14).**
3. **Develop Environmental Indicator Reports and the 2009 State of the Estuaries Report and Convene a State of the Estuaries Conference (YR13).**
4. **Continue to integrate the Maine part of the watershed into the PREP's initiatives and planning processes (YR13).**
5. **Prepare for, and finalize, Management Plan update (YR13 & YR14).**
6. **Develop a comprehensive communications strategy following the update of the Management Plan (YR14).**

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

GOAL 1: Continue implementation of the PREP Management Plan (Year 13 & Year 14 Work Plan Goal)

PREP successfully met this goal over the course of the year. In nine 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. Unfinished work from the initial NHEP Management Plan has been incorporated into the new 2010 PREP Management Plan.

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, 2010) 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:

2009 Local Grants Program: A number of projects funded by the 2009 Local Grants Program were completed between May 2009 and April 2010. Projects summaries contain the grantee name, name of the project, PREP/Match funding, and link to report or deliverable if applicable.

- Exeter River Local Advisory Committee, Production of 2009 State of the River Newsletter ($1,805/$1,268) http://www.exeterriver.org/ERLAC_StateofRiver2009.pdf
- Spruce Creek Association, Optical Brighteners Study ($7,975/$8,400) http://www.prep.unh.edu/resources/pdf/optical_brightner_study-fbea-10.pdf
- Bear Paw Regional Greenways, Bear Paw Conservation Plan ($5,184/$3,445) http://www.prep.unh.edu/resources/pdf/strategic_conservation_plan-bprg-09.pdf
- Southern Maine Regional Planning Commission, Shoreland Protection in Maine Communities of the Piscataqua River Estuary ($8,000/$4,000)
- Wells National Estuarine Research Reserve, Implementation of the Great Works River Nonpoint Source Pollution Watershed Management Plan ($8,000/$6,000) http://www.prep.unh.edu/resources/pdf/implementation_of_the-wnerr-10.pdf

2010 Local Grants Program:: This was the second year that Maine communities in the PREP Focus Area were eligible for funding. An RFP was issued in June 2009 and all proposals were received by October 2009. A review team of four Management Committee members and PREP staff met and ranked the proposals received. The top six ranked proposals were recommended for funding. The approved projects were funded at a total cost of $39,008. Projects pledged nearly $57,940 in matching funds. The Local Grants Program relates to Action Plan EDU-03 from the original Management Plan, which funds activities that support Management Plan implementation. These projects are ongoing through 2010.

Grants were awarded to support the following projects in 2010 (PREP award/ pledged match):

- City of Dover, Conservation Lands Audit & on-line Inventory for Dover, NH ($8,000.00/$5,000). Complete an updated, City-wide functional inventory of all protected lands in the City of Dover and provide this information on-line via a portal on the City of Dover's website and through New Hampshire's Statewide Geographic Information Systems (GIS) Clearinghouse (GRANIT).

- NH Coastal Protection Partnership, Fertilizer and Storm water Runoff Outreach Program (New Castle Pilot Project) ($8,000/$14,144). Develop a public outreach model that will motivate land owners to reduce the amount of nitrogen and other stormwater pollutants entering surface waters.

- Town of Sandown, Buffer Brochure Follow Up and New Wetland District Zoning Ordinance ($2,008.00/1,000). Develop an education brochure about a proposed wetlands district zoning ordinance and mail a copy to each household in Sandown, NH.

- Southeast Land Trust of New Hampshire, Promoting Land Conservation in the Coastal Watershed through Local Faces and Special Places ($5,000.00/$5534). Promote conservation easements within the coastal watershed of Rockingham County, New Hampshire using an outreach campaign.

- Lamprey River Watershed Alliance, Lamprey Watershed - Education/Outreach ($8,000.00/$9,000). Build public endorsement for the designation of 35 miles of the Lamprey and 52 miles of major tributaries into the NHDES Rivers Management and Protection Program (RMPP).

- Three Ponds Protective Association Watershed Survey and LCC Pilot Project ($8,000/$23,262). Complete a watershed survey of Depot Pond and adjacent Salmon Falls River that documents soil erosion sites and install a rain garden, filtration steps, and/or a vegetated buffer at the Milton Town Beach to treat stormwater runoff.

PREP Community Technical Assistance Program (CTAP): The Community Technical Assistance Program continued in 2009 and 2010.

CTAP 2007/2008 Projects - The following 2007/2008 projects were completed during the past year:

- Hampton: conservation lands inventory ($8,495) (http://www.prep.unh.edu/resources/pdf/conservation_and_public-toh-09.pdf)
- Hampton Falls: water resources outreach ($2,100) (http://www.prep.unh.edu/resources/pdf/a_citizens_guide-tohf-09.pdf)
- Milton: water resources protection plan and buffer ordinance ($8,500) (http://www.prep.unh.edu/resources/pdf/changes_sought_in-tom-09.pdf) (http://www.prep.unh.edu/resources/pdf/town_of_mitlton-mpc-10.pdf)
- New Durham: stormwater regulations ($8,460) (http://www.prep.unh.edu/resources/pdf/town_of_new-ae-10.pdf)
- Newington: stormwater regulations for commercial zone ($8,490) (http://www.prep.unh.edu/resources/pdf/town_of_newington-unhsc-10.pdf)
- Sandown: outreach on water resources and buffers ($7,040/$19,610) http://www.prep.unh.edu/resources/pdf/a_citizens_guide-tos-09.pdf

- Raymond: Shoreland Buffer Regulations ($5,000/$5,000)

CTAP 2009 Projects - The following 2009 projects were completed during the past year:

- Fremont: Water Resource Outreach ($3,000) (http://www.prep.unh.edu/resources/pdf/a_citizens_guide-tof-09.pdf)
- Seabrook: Conservation planning (ongoing project, $8,500)
- Brentwood: Stormwater Ordinance ($8,378) (http://www.prep.unh.edu/resources/pdf/town_of_brentwood-vhb-10.pdf)
- Durham: Stewardship plans ($8,500) http://www.prep.unh.edu/resources/pdf/wagon_hill_farm-tod-09.pdf
- Strafford: Stewardship plans ($8,500)
- Greenland: Water Resource Outreach ($3,000) (http://www.prep.unh.edu/resources/pdf/a_citizens_guide-tog-09.pdf)
- Epping: Baseline Documentation and GIS-based Mapping for Epping's Conservation Easements and Open Space Areas ($8,500/$519) (http://www.prep.unh.edu/resources/pdf/baseline_documentation_and-toe-09.pdf)
- Kittery: Water Resource Outreach
- Dover: Stormwater Management Database ($8,438) (http://www.prep.unh.edu/resources/pdf/stormwater_management_database-tod-09.pdf)
- Eliot: Eliot Open Space/Conservation Plan Development ($4,850)
- Lee: Stewardship plans ($7,310) http://www.prep.unh.edu/resources/pdf/stewardship_plan_for_lee_5corners-iwc-10.pdf http://www.prep.unh.edu/resources/pdf/stewardship_plan_for_lee_garity-iwc-10.pdf
- East Kingston: Wetlands outreach ($8,000) (http://www.prep.unh.edu/resources/pdf/a_citizens_guide-toek-10.pdf)

Land Protection Transaction Grant Program: In 2009, PREP administered this grant program that reimbursed New Hampshire municipalities and conservation organizations for up to $4,000 of the transaction costs associated with land protection projects in the coastal watershed. In 2009, the program supported 9 projects totaling 1,420 acres of permanent land protection in nine different communities within the coastal watershed. (PREP funds in the amount of $35,000 were utilized in 2009, with $125,479 in match)

Climate Ready Estuaries Pilot Project (*Oyster River Culvert Analysis Project)* Through a Climate Ready Estuaries Program grant, PREP completed 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. ($45,000 EPA CRE grant) http://www.prep.unh.edu/resources/pdf/oyster_river_culvert-prep-10.pdf

Natural Resources Outreach Coalition: Support for the Natural Resources Outreach Coalition (NROC) continued in 2009 and early 2010. PREP staff participated in NROC

planning meetings and assisted with community outreach and project facilitation. In 2009, PREP staff worked directly with Newmarket, Barrington, and Brentwood through the NROC program. PREP also provided completed an NROC project funded by EPA YR11 ($3,500/$6,124) to update stormwater regulations for the town of Hampton.

Stormwater Workshops: PREP supported municipal officials' attendance at the workshops hosted by the UNH Stormwater Center in 2009. ($1,275 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 were monitored at the constructed reefs. ($58,096 YR11 PREP funds budgeted, with additional funds in the amount of $33,906 from NH Coastal Program)
http://www.prep.unh.edu/resources/pdf/restoration_of_oyster-unh-09.pdf

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 2009 to better coordinate restoration projects and develop priorities for project implementation.

State Shellfish Program: The NHDES Shellfish Program implemented its program consistent with NSSP guidelines in 2009 and 2010. 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.

Erosion & Sediment Control Study ($42,170 YR11 funds)
The primary goal of this project was to make recommendations to improve stormwater management during construction in the Piscataqua region watershed to protect surface waters from sedimentation and associated contaminants. A comprehensive review and assessment of existing erosion and sedimentation control (E&SC) programs was conducted. The project had three primary components: (1) State and Federal program assessment; (2) Municipal program assessment; and (3) Construction contractor and site inspector surveys. The methods for the assessments included a quantitative summary of ES&C permits from federal, state, and municipal governments, interviews with key staff, and a survey of contractors and site inspectors.
http://www.prep.unh.edu/resources/pdf/review_of_erosion-fbea-10.pdf

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GOAL 2: Continue implementation of the Monitoring Plan and ongoing environmental assessments (Year 13 & Year 14 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. All of these programs were successfully completed in 2009 and contracts were set up to continue these programs in 2010. 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.

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. The TAC also played a key role assisting PREP's Coastal Scientist with finalizing the numeric nutrient criteria for the estuaries. The PREP Coastal Scientist spent substantial time finalizing the numeric nutrient criteria for New Hampshire's estuaries, which was completed in June 2009. This work has been essential in recognizing the nutrient impairment issue for Great Bay, and galvanizing political and regulatory action on addressing this impairment. The final report for this effort can be viewed at:
www.prep.unh.edu/resources/nutrient/20090601_nutrient_criteria.pdf

Monitoring Program Implementation in 2009:

- Oyster Disease Testing*:* Rutgers University completed testing of 100 oysters from 5 beds for the diseases MSX and Dermo in 2009. Samples were collected by the NH Fish and Game Department (NHFGD). NHFGD analyzed the data and produced a summary report. [$2,200 for lab costs]
  http://www.prep.unh.edu/resources/pdf/testing_of_great-nhfgd-10.pdf

- Gulfwatch Program*:* The NH Department of Environmental Services (NHDES) prepared a final report for the 2009 Gulfwatch Program. The report summarized the concentrations of toxic contaminants in the tissue of approximately 800 blue mussels from various locations in the estuary. Mussel samples were collected from five stations in October 2009. PREP staff organized and participated in the field collection and laboratory preparation of samples and PREP provided funding for lab analysis of samples. [$5,138 for lab costs]

- Tidal Tributary Monitoring: In 2009, 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 [$7,220 PREP funds]. PREP also paid an additional tributary sampling at a cost of $1,984 and $1,440 for additional analysis of nitrogen from the archived samples (YR13 re-programmed funds).

- Eelgrass Mapping: In 2008, 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. PREP contracted with UNH to update eelgrass distribution maps for 2009 [$9,104 PREP funds]. The 2009 report will be completed by summer 2010.
  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 2009, datasondes were maintained in Great Bay, Squamscott River, Lamprey River, Oyster River, Portsmouth Harbor, and the Salmon Falls River. [$10,020 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 2009. Monthly data were collected a nine trend stations. Summer bacteria samples were collected at another five stations. [$16,600 PREP funds]

- National Coastal Assessment 2009: The purpose of this project was for the University of New Hampshire (UNH) to implement estuarine monitoring activities that support the National Coastal Assessment. The National Coastal Assessment is an Environmental Protection Agency (EPA) program to monitor the health of the nation's estuaries using nationally standardized methods and a probabilistic sampling design. The Department of Environmental Services (DES) and UNH participated in the National Coastal Assessment during the original 7-year effort (2000-2006). Dedicated EPA funding for the National Coastal Assessment ceased after 2006. The program produced valuable data to determine the quality of all of New Hampshire's estuarine waters and to provide data for regional and national assessments. Therefore, DES and PREP contributed funds to continue a portion of the National Coastal Assessment in 2009. PREP contributed $10,110 for the project. DES provided $15,000 through grant funding to the State from the Environmental Protection Agency and the National Oceanic and Atmospheric Administration.

GOAL 3: Develop Environmental Indicator Reports and the 2009 State of the Estuaries Report and Convene a State of the Estuaries Conference (YR13).

Work on this goal was completed in 2009.

The Environmental Indicators Report includes all the data sources, analytical methods, and data quality objectives for each of PREP's environmental indicators. The report was reviewed by the PREP Technical Advisory Committee and Management Committee in May and June 2009. (www.prep.unh.edu/resources/.../environmental_indicators_report-prep-09.pdf)

PREP developed its third State of the Estuaries Report in time for release at the October 16, 2009 conference. The 2009 State of the Estuaries Report included 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. PREP invested $6,500 in the report, which was matched with $6,000 on non-federal funding support. (http://www.prep.unh.edu/resources/soe_report.htm)

The 2009 State of the Estuaries Conference was held in Somersworth, NH on October 16, 2009. PREP invested $6,000 to host the conference, which was matched by $6,000 of sponsor donations. At this conference, 207 attendees saw presentations on the newly-released 2009 State of the Estuaries Report and a variety of topics related to estuary management. During lunch, NHDES Commissioner Tom Burack and PREP Director Jennifer Hunter signed a Partnership Agreement to better coordinate activities of both organizations. See Conference Proceedings.

GOAL 4: Continue to integrate the Maine part of the watershed into the PREP's initiatives and planning processes (YR13).

This goal was met through many PREP actions and initiatives in 2009, including:

- Utilizing New Hampshire Charitable Foundation Funds secured by PREP in 2008, PREP helped to facilitate the development the Land Conservation Plan for Maine's Piscataqua Region Watersheds, which is 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. The plan is currently in final production.
- PREP's 2009 Local Grants Program was open to Maine organizations. Three of the seven projects selected through a competitive application process were Maine-based projects.
- 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 participated 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 2009 to meet Maine organizations working in Southern Maine, learn about Maine resource protection programs, and find opportunities for future collaboration.
- PREP is helping to lead the Salmon Falls Watershed Collaborative project, which is an effort to work across the NH/ME state line and across municipal jurisdictions on improved watershed management with an emphasis on drinking water protection strategies.

GOAL 5: Prepare for, and finalize, Management Plan update (YR13 & YR14).

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 managed the process of compiling stakeholder input and developing a draft of the plan. PREP staff is revising the proposed draft final Management Plan, which will be released for one more round of public comment in June, 2010 prior to being finalized and published by September 2010.

As part of the work for preparing an updated Management Plan, PREP led the completion of the Piscataqua Region Environmental Planning Assessment. This assessment was 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 ($19,620) and in coordination with the regional planning commissions. Results of this report were used by PREP staff, PREP Land Use Team, and the PREP Management Committee to develop Municipal Planning Targets that have been incorporated into the new Management Plan as new implementation metrics for tracking municipal progress on environmental protection standards. The metrics will be tracked as part of PREP's updated database to be completed in 2010. PREP promoted the results of this assessment by mailing it to all Conservation Commissions, Planning Boards, Planners, and Town Administrators in the Piscataqua Region. PREP presented the results at the Lamprey River Watershed Conference and the State of the Estuaries Conference, both in 2009. PREP continues to share the results with individual towns that request a presentation, and is utilizing the Natural Resources Outreach Coalition (NROC) group to assist towns that wish to act on the

recommendations for their town contained in the report.
(http://www.prep.unh.edu/resources/pdf/piscataqua_region_environmental-prep-10.pdf)

GOAL 6: Develop a comprehensive communications strategy following the update of the Management Plan (YR14).

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, and will be completed by December 31, 2010. The following communication projects were completed in 2009:

VIP Boat Tours in 2009: VIP Boat Tours in 2009: This was the sixth 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 involved 26 municipal land use officials (e.g., planning board members, conservation commissioners) and their guests from 15 communities in the coastal watershed. The August 26 tour featured presentations Phil Trowbridge on PREP Monitoring Program, Derek Sowers on PREP Land Transaction Grant Program, Dan Kern on Bear-Paw Regional Greenways activities, and Amanda Stone on NROC and the new PREP Piscataqua Region Environmental Planning Assessment. The September 12 tour featured presentations by Jennifer Hunter on PREP activities, Molly Bolster on Gundalow Company activities, Jamie Houle on UNH Stormwater Center resources, and Jon Felch on current eelgrass research at UNH.

State of the Estuaries Report and Conference:
The 2009 State of the Estuaries report was completed in September 2009 and 2,000 copies were printed and distributed on October 16, 2009 at the 2009 State of the Estuaries Conference (250), mailed to every planning board, conservation commission and planning departments in the Region (728), distributed through partner requests and PREP staff distribution at meetings (589) and mailed to all state legislators in Maine and New Hampshire(161). At State of the Estuaries conference, 207 attendees saw presentations on the newly-released 2009 State of the Estuaries Report and a variety of topics related to estuary management. During lunch, NHDES Commissioner Tom Burack and PREP Director Jennifer Hunter signed a Partnership Agreement to better coordinate activities of both organizations.

PREP Annual Report: PREP produced *A Year in Review* report *that* included summaries of 2009 and 2010 projects, such as the Community Technical Assistance Program, the Local Grants Program, and the Land Transaction Grant Program. PREP produced 350 copies of this 16-page booklet and 161 were sent in March 2010 to all state and federal legislators representing the PREP focus area.
(http://www.prep.unh.edu/resources/pdf/prep_year_in_review-prep-10.pdf)

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.

Oyster Restoration Story on WMUR

PREP Public Outreach and Education Team recommended that PREP staff contact the producer of NH Chronicle and work to get a segment created about an estuary issue. PREP staff worked extensively with WMUR staff and partners to create a piece on oyster restoration, including interviews and onsite field trips in Great Bay and the Oyster River. On September 10, 2009, NH Chronicle on WMUR aired two segments (12 minutes total) on oyster restoration in Great Bay, focusing on a project in the Oyster River conducted by The Nature Conservancy, in cooperation with UNH Jackson Laboratory and NH Fish and Game Department.

Press Releases: For the year PREP produced three press releases and required grantees to create and send at least one press release that highlighted their PREP-funded project activities. From May 2009 to April 2010, six stories ran in the SMG newspapers and one ran in the Foster's Daily Democrat that referenced the PREP (source SMG and Google News archives). Other publications that covered PREP stories included NH Public Radio and New Hampshire Magazine.

Eye on Estuaries: For this monthly article series, two articles on estuarine issues related to PREP Management Plan implementation were submitted from May 2009 to April 2010 to the Seacoast Media Group (SMG), which produces the Portsmouth Herald. Topics included invasive species (submitted May, 27, 2009) and diadromous fish passage (published on May, 29, 2009). Due to excessive staff time needed to create these articles and variability of publishing, this effort was discontinued.

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.

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 the final numeric nutrient criteria that have been well-vetted through an iterative process that included review and input from many technical experts.

PREP's leadership role in completing the Piscataqua Region Environmental Planning Assessment took considerably more staff time than originally envisioned. This assessment effort yielded data that had never been collected for the whole region before, and therefore merited a very thorough analysis, a detailed final report product, and aggressive follow-up outreach with towns to promote the recommendations PREP generated based on the assessment. PREP staff also realized that the assessment provided a baseline status of the environmental planning efforts for all 52 towns in the PREP region, and it made sense to utilized this information to develop municipal land use planning targets that could be tracked to measure progress on implementation of PREP's Land Use Action Plans. The planning targets were developed, finalized, and integrated in the new Management Plan for 2009. Time spent on this project by PREP's Conservation Program Manager was deemed valuable, but did impact the availability of this staff member's time to pursue/implement new restoration projects as originally envisioned for 2009. The PREPA report is available at: http://www.prep.unh.edu/resources/pdf/piscataqua_region_environmental-prep-10.pdf

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. However, staff time writing, editing, and ensuring agency buy-in to the plan has been intensive and ongoing into 2010 – and will remain so until the plan is published. The delays in finalizing the new Management Plan have led to subsequent delays in finalizing an updated communications strategy for PREP, since the Communications Plan is meant to be tailored toward most effectively supporting Management Plan implementation.

In early December 2009, PREP Director Jennifer Hunter announced her intention to resign from her position. Jennifer completed her work with PREP at the end of February 2010. PREP did not have a Director or acting director during March and April of 2010. Existing staff assumed director work responsibilities during this period in addition to their normal workload. Obviously, this transition period strained limited staff resources. PREP's new Director, Rachel Rouillard, began work for PREP May 3, 2010, which restored PREP's staff resources back to full capacity.

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 workshops
- 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, stewardship projects
- 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

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.
The final numeric criteria document can be viewed at:
http://www.prep.unh.edu/resources/nutrient/20090601_nutrient_criteria.pdf

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
Coastal Zone '09	Boston, MA	July 2009	Derek Sowers Phil Trowbridge	$503
Coastal and Estuarine Research Federation '09	Portland, OR	Nov. 2009	Derek Sowers Phil Trowbridge	$3,595
National Estuary Program Fall Meeting	Portland, OR	Nov. 2009	Jennifer Hunter	$1,396
National Estuary Program Annual Meeting	Washington, DC	Feb. 2010	Dave Kellam	$2,509
New England Interstate Water Pollution Control Commission 21st Annual Nonpoint Source Pollution Conference	Plymouth, MA	May 2010	Rachel Rouillard	$497
Total Cost				**$8,500**

Travel costs anticipated for the remainder of 2010 include funding for PREP staff to attend the following conferences:

- NEP/Association of National Estuary Programs meeting Punta Gorda, FL (November)