

FY2007 WORKPLAN



**Narragansett Bay Estuary Program
URI Bay Campus, Box 27
South Ferry Rd.
Narragansett, RI 02882
www.nbep.org**

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A. NBEP Background

The Narragansett Bay Estuary Program is part of the National Estuary Program (NEP), a national network of 28 programs working for collaborative solutions for estuaries designated by Congress as of critical importance. Created in 1987 under the Clean Water Act, the NEPs are charged with protecting and restoring U.S. estuaries by engaging state and federal agencies, nongovernmental organizations and local communities in planning and management decisions and actions. The U.S. Environmental Protection Agency provides base funding and federal oversight for each of the NEPs, but program management is typically the responsibility of an estuary stakeholder-based management committee.

In 1993, the Governor of Rhode Island and the Administrator of the Environmental Protection Agency affixed their signatures to the Narragansett Bay CCMP, committing both entities, with other partners who developed the plan's recommendations, to implementation of the Bay plan. Concurrently, the CCMP was accepted as part of the R.I. State Guide Plan, requiring that State agency and municipal plans are consistent with the CCMP. The plan specifically recognizes that it should be a living and dynamic plan and should be periodically reviewed and revised to address current needs and issues.

In keeping with Congress' mandate, since 1993 the Narragansett Bay Estuary Program has been implementing the CCMP by coordinating planning, policy, technical assistance, science and outreach pertaining to Narragansett Bay's environment.

The NBEP is affiliated with the Coastal Institute (CI) at the Graduate School of Oceanography at the University of Rhode Island, which provides program offices for its four-person staff; the R.I. Department of Environmental Management also provides some satellite office space in Providence, R.I. This institutional arrangement gives the program more flexibility to hire and oversee co-located or nonpermanent project staff and has allowed the program access to additional nonfederal match.

NBEP PROGRAM MISSION STATEMENT

To protect and preserve Narragansett Bay and its watershed through partnerships that conserve and restore natural resources, enhance water quality and promote community involvement.

The NBEP accomplishes this by:

- Promoting a holistic perspective of Narragansett Bay and its watershed that includes social, economic and environmental aspects.
- Coordinating actions to protect and restore coastal ecosystems;
- Initiating and managing restoration plans and projects;
- Using collaboration and partnerships to address common goals;
- Identifying information needs; acquiring, interpreting and disseminating data to support informed, science-based decision-making;
- Stimulating discussion on Bay issues and bringing expertise through public workshops, professional forums and scientific symposia and reporting on the results;
- Effectively keeping the public and policy-makers informed of Bay and watershed issues;
- Matching resources to management needs through grants and partnerships;

- Supporting local watershed organizations in restoration, protection and outreach initiatives;
- Convening and coordinating interagency technical teams and workgroups such as the Partnership for Narragansett Bay, R.I. Habitat Restoration Team and Dissolved Oxygen Strike Team;

The NBEP Role in Narragansett Bay Ecosystem Planning & Management

Like the other National Estuary Programs, the NBEP is the only planning, policy and project initiative with a specific Clean Water Act charge to work on a watershed/ecosystem basis and to do this in a highly collaborative manner, based on an articulation of stakeholder priorities for the watershed which is the foundation of a CCMP. NEPs serve as catalysts in their watersheds: working to attract and direct federal and other resources to local needs, building needed scientific and watershed information, informing the public and policy makers, convening collaborative workgroups around key issues in estuary watersheds, supporting local grassroots-level organizations to conduct implementation actions, and bringing together funding, partners and projects to implement the defined goals and objectives of estuary management plans.

The NBEP identifies areas of need where the program can have the greatest impact, filling data and action gaps. Using its skills in science, policy, management and communications, the NBEP seeks to address key issues in the Narragansett Bay watershed, through program and partnership action.

The program has taken leadership roles in several areas of Bay and watershed management including the restoration of anadromous fish to Bay rivers and streams and coastal marsh restoration, enhancing bi-state connections with stakeholders in the Massachusetts part of the watershed through grant programs and technical assistance, tackling data needs by actions such as instituting the first dissolved oxygen surveys of the Bay and creating the first baseline data sets on the status of the state's coastal habitats, increasing accountability and ability to measure environmental progress through development and use of Bay and watershed indicators, and creating a mechanism to broadcast information specific to Bay issues to the greatest possible number of watershed residents and stakeholders through the publication and distribution of the *Narragansett Bay Journal*.

Current Issues & Challenges

CCMP Update and State Planning Processes: Over the last few years, the NBEP supported and was involved in a state legislature mandated effort to produce both an interagency coordination process - the R.I. Bays, Rivers and Watersheds Coordination Team - and a new bay and watershed plan. The NBEP supported this effort as it was well-timed to integrate with the NEP requirement to revise the Narragansett Bay CCMP and the NBEP could provide something that the state-focused effort could not – a direct connection to the public, stakeholders and organizations in the Massachusetts part of the watershed who needed to be included in any attempt at watershed planning and implementation. The challenges the NBEP faces regarding coordination with this planning process are many; however, the program concluded that there are areas where the NBEP can play important roles related to the NEP Clean Water Act mandate. These include creating an effective status and trends report to inform decision-making and the setting of priorities, insuring that connections are built between authorities and communities in both the R.I and Massachusetts parts of the watershed creating processes for meaningful public and stakeholder input; ensuring that plan elements are based

on sound science; facilitating coordination on both planning and implementation actions; and working to create a well-supported dynamic plan and implementation framework developed on a true watershed basis addressing issues in both states. The NBEP intends to use the results of the Status and Trends work as the basis for CCMP revision.

Guidance from the NBEP Management Committee: The NBEP Management Committee, reformed in late 2006, made several significant recommendations for new and/or revised activities that the program is in the process of implementing and are reflected in the FY2007 workplan. In mid-spring, the Chair of the R.I. Bays, Rivers and Watersheds Coordination Team was added to the committee due to the need for close coordination between the development of the Team's state-level planning activities and the NEP bi-state watershed ecosystem planning activities. MC meetings were held in November 2006, March 2007, and June 2007 and are scheduled on a quarterly basis; meeting notices are widely distributed and the meetings are open to the public. MC comments and suggestions, documented in publicly available meeting summaries, have been very valuable to the program, particularly in the development of the status and trends work and in recent NBEP strategic planning.

NBEP Staff Changes: In November 2006, the NBEP hired a new staff person, Meg Kerr, to become the program's Watershed and Community Projects Coordinator. Meg's work focuses on providing technical services to communities and watershed groups as well as working to build the capacity of these parties to implement ecological protection and restoration projects and programs. Meg was formerly the Chair of the R.I. Rivers Council, a quasi-state entity that served as an umbrella group for the state-recognized watershed councils. She worked with the R.I. Land Trust Alliance to form the Land & Water Conservation Partnership which produces the annual Land and Water Conservation Summit – an event in which the NBEP is a major sponsor. The position description for the Watersheds and Community Projects Coordinator is included in this workplan. Also, over the last 9 months, the NBEP has had the assistance of environmental scientist, Lesley Lambert, a recent graduate of Roger Williams University. Lesley has been funded through a variety of grant project sources. Interns Vanessa Venturini and Linnae Rondeau also provided excellent outreach and monitoring support in this past fiscal year.

Plan Implementation and Program Funding: Though the National Estuary Program has received annual appropriations from Congress since 1987, it is a continuing challenge to ensure that the programs receive sufficient funding to carry out the charge that Congress has given them – to implement the comprehensive conservation and management plans for the 28 estuaries in the NEP. In 2005, the programs in the field received about 57% of the funds Congress allocated under Section 320 of the Clean Water Act (National Estuary Program); 43% of the funds remained within EPA Headquarters and Regions. After EPA reductions, each program received close to \$500,000 for implementation of annual workplans. Regarding the FY2007 budget, while Congress appropriated approximately the same amount overall under Section 320 of the Clean Water Act (National Estuary Program), however, as a result of fewer Congressional constraints due to the use of continuing resolutions to fund FY2007, EPA initially cut the individual NEP program budgets by 22%, retaining more of the Congressional funding for EPA purposes. After receiving responses to the cut from Congressional NEP supporters, the cut was reduced to 15% (to \$418,000 per program) - still a significant program cut which is having major impacts on the NBEP in this fiscal year. Recent appropriation committee bills for FY2008 seem likely to restore NEP individual program funding to at least the FY2005 level. For a small staff-oriented NEP, this reduction in program funding has been difficult to work with particularly since the State of R.I. fringe costs jumped dramatically this year. The program has created what is essentially an 80% budget with the intention of completing the workplan and accessing the federal funds earlier next year (beginning of July 2008).

Supporting Bay and Watershed Monitoring: The NBEP has been a leading organization in building the current capacity for Bay monitoring through its ground-breaking dissolved oxygen monitoring program, involvement in the federally funded Bay Window and National Coastal Assessment monitoring projects, and in developing bay and watershed ecological indicators. Last year, the program became a partner in the \$6.5 million 5-year NOAA-funded Coastal Hypoxia Research Project (Narragansett Bay element). While continuing the above efforts, over the past workplan year, the program, in cooperation with EPA's Atlantic Ecology Division lab, initiated a pilot Bay macroalgae monitoring project. Securing the use of a R.I. Airport Corporation helicopter, NBEP and EPA AED staff use high-resolution digital camera imagery to document the extent and type of macroalgae communities in nearshore areas of the Bay. The intent is to analyze for connections to the level of nutrients in Bay waters.

As mentioned above, the NBEP is leading a collaborative project to develop a comprehensive report on the state of Narragansett Bay and its watershed ecosystem, including the 60 percent of the system in Massachusetts. The NBS&T will inform policy and management, serving as a foundation for collaborative decision-making about the Bay environment, including state planning efforts and an updated bi-state Narragansett Bay CCMP. In an effort to create a status and trends project that exists mainly as an online effort and to use innovative technologies that can more effectively reach and engage more people, the program is exploring the use of wiki technology to implement the status and trends initiative (for information on wikis, see <http://en.wikipedia.org/wiki/Wiki>).

Supporting Grassroots and Community Action: As mentioned above, the NBEP has been fortunate in being able to bring Meg Kerr onto our staff. Her connections with watershed groups and communities have been a strong asset in building partnerships, securing funding from a variety of sources, and in strengthening the NBEP's relationships to these key implementing and advocacy constituents. The NBEP is now a major partner in the Coalition for Water Security, a collaboration of several NGOs which is working to improve freshwater management in Rhode Island. The CWS policy agenda calls for protection of natural resources, management of water withdrawals, reductions in demand and permanent protection of watershed lands. The CWS produced a detailed issue paper on the topic and has crafted a legislative agenda that targets the goals defined in the issue paper. State legislation related to the topic was under consideration in the past legislative session but no bill was passed.

The NBEP and partners are developing the first-ever comprehensive maps of water trails for kayaks and canoes on the rivers, lakes and salt waters of Narragansett Bay (Blueways Project) and its watershed. By enhancing public use and enjoyment of lesser-known waterways, the project will promote public understanding of the links between fresh and salt waters, and stewardship of the Bay's larger watershed ecosystem. Community and economic stakeholders are also engaged in this effort.

NBEP Strategic Planning Effort: Using a \$5,000 grant from US EPA, the NBEP initiated a strategic planning process in May 2007. The funds allowed the program to contract with Cause & Effect, Inc., a consulting firm that specializes in strategic organizational, communications and financial planning for organizations. The intent of the process is to understand and analyze how key partners and others who interact with the program perceive the capabilities, successes, institutional setting, and charge of the NBEP; to identify key partners and alliances to either create or strengthen; to identify potential program funding from a diversity of sources; and to analyze program functions and operating processes to increase effectiveness and

accountability. To date, over three dozen key informants, including agency staff, legislators, NGO staff and watershed groups, were interviewed. A summary of the results from those interviews and staff and consultant analysis are included in this workplan document.

NBEP FY2007 Goals

Priority Area 1: Analyze, synthesize, and interpret monitoring and other data in order to communicate timely, meaningful information on the condition of the Bay and its associated watersheds, including habitats, water quality, and institutional efforts

- Objective 1.A: Synthesize, analyze and interpret Bay ecosystem data; support use of NBEP-developed Bay ecosystem indicators
- Objective 1.B: Communicate timely, meaningful information on the condition of the Bay and its associated watersheds, including habitats, water quality, and institutional efforts

Priority Area 2: Serve as regional leader for establishing a watershed-based framework that reflects key management issues that can be addressed and acted on in both RI and Massachusetts

- Production of new Narragansett Bay & Watershed Status & Trends Web Report; supporting revision of CCMP
- Coordination/Collaboration with related efforts

Priority Area 3: Focus program activities on key restoration and protection goals that secure broad public and stakeholder support

- Implement collaborative habitat restoration projects
- Provide technical assistance to community and watershed organizations to develop projects for implementation

Program Priority 4: Efficient, responsive and accountable program and committee management

- Complete and implement recommendations of Summer 2007 program strategic planning effort
- Enhance role of reconstituted Management Committee
- Continue work of the Narragansett Bay Journal Editorial Board
- Develop financial and organizational effectiveness strategies
- Improve program administration processes

C. 2007-2008 NBEP Workplan (FY2007 funds)

The 1992 Narragansett Bay CCMP contained a set of overall goals developed through a consensus-based stakeholder process. These broad goals are:

- *Protect and restore waters and water quality-dependent uses throughout the Bay and watershed*
- *Protect and restore bay and watershed critical resources and habitats*
- *Restore and better manage fisheries and other living resources*
- *Use partnerships, joint planning and agreements to implement the CCMP on a watershed basis and monitor progress*

Program Mission: *To protect and preserve Narragansett Bay through partnerships that conserve and restore natural resources, enhance water quality and promote community involvement (from www.nbep.org/program/index.html)*

Core NBEP workplan priorities have been derived from these and from input from past collaborative Bay planning processes and initiatives. In May 2006, the NBEP Management Committee recommended three consolidated areas of concentration for the NBEP that build on program strengths, identified needs, and are consistent with the CCMP goals:

- Analyze, synthesize, and interpret monitoring and other data in order to communicate timely, meaningful information on the condition of the Bay and its associated watersheds, including habitats, water quality, and institutional efforts
- Serve as regional leader for establishing a watershed-based framework that reflects key management issues that can be addressed and acted on in both R.I. and Massachusetts
- Focus program activities on key restoration and protection goals that engage constituencies and, concurrently, identify emerging issues and corresponding technical and information needs related to those issues.

In the tasks below, primary NBEP staff responsible for tasks are shown in parentheses.

Priority Area 1: Analyze, synthesize, and interpret monitoring and other data in order to communicate timely, meaningful information on the condition of the Bay and its associated watersheds, including habitats, water quality, and institutional efforts

Objective 1.A: Synthesize, analyze and interpret Bay ecosystem data

Tasks:

- In collaboration with data producers and data users, **organize and review** bay data and information with goal of tracking essential indicators of condition and synthesizing data for state of the bay status and trends report (C. Deacutis, staff)
- **Develop outline and stakeholder process** for production of web-based Narragansett Bay and Watershed Status & Trends Report.
- **Provide technical expertise** in assessing effectiveness of conventional and innovative monitoring technologies and approaches (C. Deacutis, staff)
- **Develop process for peer review** of NBEP scientific and technical products (C. Deacutis)

Products:

- Draft/final Status & Trends web product;
- Periodic analysis of DO survey data, including maps, published on schedule TBD
- Logistical oversight of multi-station DO survey, preparation
- Test of new DO and SAV surveillance methodologies; data products from each;
- South Shore habitat inventory and maps
- Analysis of wetlands loss trends in southern coastal RI

Resources Needed and Estimated Costs:

- Survey vessel time (via RIDEM, other partners)
- Significant participation by Bay and watershed technical stakeholders
- Web development/hosting/maintenance costs (initial cost estimate: \$14,000)

Objective 1.B: Communicate timely, meaningful information on the condition of the Bay and its associated watersheds, including habitats, water quality, and institutional efforts

Goal of NBEP Communications: There are 2 primary goals to NBEP communications efforts. The first is to inform the public and decision-makers about key Bay and watershed issues in an effort to enhance understanding of the ecosystem and encourage public involvement in decision-making. The second is to inform about the work of the NBEP and partners in implementing environmental improvement, science, policy and communication projects. Specific steps that will be taken will be outlined in the program communication strategy that identifies key audiences, messages, and delivery mechanisms. One aspect of the strategy will be to use existing networks to disseminate information and receive feedback; these will include the R.I. Rivers Council, the RIBRWCT, and watershed networks in the Blackstone and Taunton River watersheds as well as existing governmental outreach channels, initiatives and partnerships. (Also see Priority Area 2: Establish watershed-based framework for management.) Information and feedback vehicles will include the NBEP website (and other relevant websites such as NARRBAY.org), the Narragansett Bay Journal, direct communications with interested parties and organizations, public events, and published reports, fact sheets, and other materials.

Tasks:

- Develop and **implement program communication** strategy, tools, and products (T. Ardito, R. Ribb)
- If funded under NOAA free choice learning grant program, **develop public information/participation strategies and tasks** linked to the S&T and CCMP development for NBEP proposed project entitled *Home Waters* (NBEP staff)
- Produce and **publish** at least two issues of the **Narragansett Bay Journal** annually (T. Ardito)
- Revise and **maintain updated program** website with Home Waters and S&T elements integrated (T. Ardito, R. Ribb, L. Lambert)

Products:

- Standard formats for NBEP publications and other documents, strategy for program announcements and press releases
- Inventory of NBEP publications and reports; reports posted on NBEP website
- Publicize the Status & Trends work; promote the Bay Status & Trends Forum in early

2008

- Quarterly program updates; annual program progress report
- Re-evaluation of Narragansett Bay Journal for effectiveness of distribution and costs

Resources Needed and Estimated Costs:

- NBEP staff time
- estimated NBJ printing/production/distribution costs: \$40,000
- Website maintenance/hosting/technical services cost estimate: \$2,000 annually

Priority Area 2: Serve as regional leader for establishing a watershed-based framework that reflects key management issues that can be addressed and acted on in both RI and Massachusetts

Objective 2 A. Identify management priorities for the Bay and its watershed with input from bay and watershed stakeholders.

Work undertaken in this priority area will build on previous NBEP and other efforts to engage stakeholders in identifying common goals and priorities, developing a watershed framework, and in setting priorities for the Bay and watershed.*

Tasks:

- With advice and participation of Management Committee, **develop and initiate process to solicit and facilitate public involvement** and input for watershed-wide environmental priorities; coordinate with other networks (RI Rivers Council, RI Land Trust Council, MA Riverways, etc.) and other planning initiatives (RI Bays, Rivers and Watersheds Coordination Team, etc.) (R. Ribb, staff)
- Participate with the Coalition for Water Security to advocate for **integrated freshwater management** that addresses environmental requirements for clean, adequate fresh water throughout the RI portion of the NB Watershed (M. Kerr, R. Ribb)
- **Initiate planning** for 2008 Bay Forum (R. Ribb, staff)
- Develop strategies to **secure broad buy-in and support** for Bay plan and implementation (R. Ribb, staff)

Products:

- Preliminary public input regarding goals and priorities for Narragansett Bay and watershed to serve as core of a revised CCMP and against which progress can be monitored
- Outline of revised CCMP that integrates existing goals and priorities and identifies new or revised ones;
- Timeline, sponsors, and workplan for Bay Forum (timed with release of draft status and trends); target date February 2008

Resources Needed and Estimated Costs

- Estimated forum costs: \$16,000 (will work to secure sponsors)

Resources Leveraged

- Private sector grants to the Coalition for Water Security (\$7,250 direct to NBEP)
- Attendees at Watershed Forum (time)
- Forum sponsors' contributions

** These efforts include the NBEP Habitat Restoration Charrette, the NBEP Denitrification Technology and Policy Forum, the Narragansett Bay Summit 2000 and the NBEP-published white papers from the Summit, the Partnership for Narragansett Bay (PNB) work on inventorying monitoring programs and developing ecological indicators for the Bay and watershed, the Chafee-HUD studies including the development of a draft vision/goals document for the Bay and watershed, the work organized under the Coordination Team Ad Hoc Group to develop a concept for a watershed plan and collaborative framework, other R.I. and Massachusetts planning efforts, and the Narragansett Bay Journal Bay Status and Trends Special Report.*

Objective 2B. Strengthen and empower municipal and grassroots conservation organizations throughout the Narragansett Bay Watershed by building connections and learning between organizations, providing technical tools and access to expertise and developing shared administrative support services.

Tasks

- Organize annual **Land and Water Conservation Summit** focused on tools and techniques for land and water management throughout the NB watershed.
- In at least one NB watershed, develop **model technical assistance program for watershed based planning** that links state programs (e.g.: 319, TMDL) with federal resources (through NRCS and EPA) and empowers environmental action by municipal government and grassroots conservation organizations.
- Implement **nationally significant model of shared administrative support services**. Implement the shared volunteer management program with 18 grassroots conservation organizations. Develop donor/member support services and share with 6 grassroots conservation organizations. Explore opportunities to share learning with broader national audience.
- In partnership with the Land and Water Partnership, organize and support a network of **Bay, River and Watershed Advocates** to advocate for restoration and governance priorities.
- With Town of Portsmouth, apply for designation of public access site at Town Pond south end.

Products

- Production of annual Land and Water Conservation Summit.
- Summit program and evaluation identifying areas for additional work and learning.
- Model program for watershed based planning and funding strategy.
- Model volunteer management handbooks for participating organizations.
- Model volunteer job descriptions for conservation tasks.
- System for tracking volunteer hours and procedures for recognizing volunteer contributions.
- Plan for long term sustainability of administrative support services.
- Completed CRMC application for public access site at Town Pond, Portsmouth RI

Resources Needed and Estimated Costs:

- Staff time
- Sponsorship for March 2007 Land and Water Summit: \$500 NBEP contribution

Resources Leveraged

- March 2008 Summit attendees and speakers (approx \$50,000)

- Grant support for back office support project (Volunteer IMPACT \$50,000)
- Volunteer time, support from Volunteer Center of RI (approx \$50,000)

Priority Area 3: Focus program activities on key restoration and protection goals that secure broad public and stakeholder support

Tasks:

- **Identify outreach and training needs for users of new technical tools** (e.g., restoration analysis data, SAV monitoring methodologies, community-based monitoring) (M. Kerr, T. Ardito)
- **Co-chair RI Habitat Restoration Team** and participate in review trust fund proposals (T. Ardito)
- **Oversee completion of fish passage and stormwater BMP projects** funded under the 2003 Targeted Watershed Initiative Grant (R. Ribb)
- With restoration partners, **develop strategies to prioritize habitat projects** and more efficiently access funding and resources (T. Ardito,); to be included as part of CCMP revision;
- Seek opportunities to **partner on key habitat projects by providing technical assistance** (T. Ardito, R. Ribb)
- Formalize, expand and promote fledgling **water trail network** in RI and throughout the NB Watershed. Use the water trail to foster connections with stakeholder groups from recreation and economic development sectors and promote links to Bay conservation.

Products:

- As suggested by S&T stakeholders, develop public report, drawn from the S&T project, to review accomplishments in habitat restoration since 2003; update list of planned, completed and potential habitat restoration sites (fresh and salt water) by consulting with the RI Habitat Team, watershed and community groups, towns, and governmental agencies.
- Training with user-friendly restoration analysis/project prioritization tool.
- Final habitat restoration strategy, including identification of bi-state restoration opportunities
- Completed projects and final reports from TWIG, and other supported projects (possible event for project implementers to present their results, discuss their projects)
- Provide technical support to local implementing organizations and communities; continue work on Pawtuxet River, Blackstone River, Wood-Pawcatuck and Ten Mile River fish passage efforts
- Water Trail (Blueway) web site (ExploreRI.org) containing access information at a minimum for the Blackstone watershed, Pawtuxet watershed, Salt Ponds watershed.
- Funding strategy for expansion of ExploreRI.org site to include paddling trips/routes
- Paddling events on all major rivers in the NB watershed in June/July celebrating Rivers Month and Governor's Bay Day.

Resources Needed and Estimated Costs:

- ExploreRI.org web site development (\$3,000 paid by RIRC. Additional funds will be sought from DEM Trails Grants and other funders)

Resources Leveraged:

- National Park Service staff time (John Monroe) (\$20,000)
- Volunteer time for data collection on access sites

- Watershed council and other participation in paddling events (time and materials)

<p>Program Priority 4: Efficient, responsive and accountable program and committee management</p>
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Tasks:

- ***Complete and implement NBEP strategic planning effort*** (NBEP Staff, consultant)
- ***Program fiscal and personnel management*** (R. Ribb)
- ***Committee process management*** (R. Ribb, staff)
- ***Secure federal and other grant funding*** for CCMP implementation projects (NBEP staff)
- Federal and other ***grant administration and reporting*** (R. Ribb, staff)
- ***Coordination*** with state, federal and local partners and initiatives (NBEP staff)
- ***Improve program administrative processes*** (R. Ribb, staff)
- ***Improve awareness*** of NBEP accomplishments and capabilities (NBEP staff)
- ***Participate in EPA Coastal Management Branch NEP Implementation review assessment*** (R. Ribb, M. Pryor)

Products:

- Approved annual workplan and budget
- Final report from strategic planning project with recommendations for program management, operations, and directions.
- Committee recommendations for NBEP; decisions on workplans and program directions
- Production of reports required for submission to EPA (habitat acreage restored/protected; match to federal grant; funds leveraged)
- Annual program report; quarterly program updates
- NBEP organizational and fiscal strategy based on strategic planning effort
- Defined program roles and priorities to support Bay protection and restoration (based on NBEP management committee and Bay stakeholders input)
- Support for development of accurate NEP program evaluations by federal funding agency

Resources Needed and Estimated Costs:

- work with EPA-funded consultant: \$5,000
- NBEP staff time

OVERALL WORKPLAN OUTCOMES:

- Identified, protected and/or restored priority coastal and watershed habitats, including eelgrass beds, shoreline buffer areas, and Anadromous fish passage.
- Updated Narragansett Bay CCMP to reflect greater public input, better defined priorities, and opportunities for complementary actions with the state-mandated systems level plan for the Bay and watershed.
- Continued implementation of the long-term priority actions in the current CCMP.
- Decreased nutrient loadings to achieve a 40-50% overall nitrogen reduction to the Bay and resulting improved concentrations of dissolved oxygen.
- Leveraged resources committed to the R.I. Bays, Rivers and Watersheds Coordination Team operations, projects and monitoring over the past year.
- Increased understanding of the Bay and watershed to inform management and facilitate public involvement.

D. NBEP FY2007 Accomplishments

Narragansett Bay and Watershed Status & Trends Initiative: The NBEP has launched its Bay & Watershed Status and Trends Report. The Report is being designed as an online effort in order to make it more of a living document that can be easily updated and enhanced. This will also save money as it significantly reduces production costs. Though primarily a digital product, the program will likely produce a print version summary of the report. The program is also exploring the use of wiki technology as a digital format for the report in order to engage a broader group of participants in the process. While the NBEP is initiating this work and taking on the major development role for the work, we are seeking partners who will also benefit from the results. The development of current status and trends information for the Bay is also required under R.I. state legislation passed in 2004; state agencies and NGOs have expressed a strong interest in this work and are likely partners.

The initiative kicked off with a Bay technical stakeholder meeting held on May 31, 2007. Representatives of agencies, NGOs, watershed groups and universities met to discuss the S&T outline that the NBEP had distributed and breakout groups identified data needs and key issues. A report of the results of the meeting are included in this workplan document. The NBEP staff are currently developing draft elements of the S&T report and will be distributing them for review in Fall 2007.

2007 Targeted Dissolved Oxygen Surveys – Upper Narragansett Bay: Using monthly boat surveys and high-tech monitoring technology, the NBEP, with assistance from the R.I. Dept. of Environmental Management, conducted targeted monitoring of Upper Narragansett Bay and one of its most sensitive embayments, Greenwich Bay in summer 2007. The survey methodology is an improvement on the overnight, large team surveys that the NBEP organized from 1997-2003 and provide better data using fewer resources (for survey information, maps and photos, see <http://www.geo.brown.edu/georesearch/insomniacs>). The surveys indicated that, during the selected monitoring times – neap tides, warm weather, no rain events – hypoxic and anoxic conditions were relatively common.

New State Appropriation of \$750,000 for Bay and Watershed Monitoring: The NBEP has been working with the R.I. Bays, Rivers and Watersheds Coordination Team in an effort to build state support for ecological monitoring. Last year, \$250,000 from the State's Oil Spill Prevention and Response (OSPAR) fund was allocated to support a limited number of priority monitoring actions as identified by the Team's Environmental Monitoring Collaborative (NBEP Chief Scientist is Vice-Chair of that group). Those funds support ongoing operations and maintenance of a network of fixed monitoring stations in the Bay, the restoration of several key stream gauges that were not longer to be supported by federal funds, and an economic monitoring action. In the most current state legislative session which ended June 2007, the R.I. General Assembly allocated \$750,000 through the same method to support monitoring. In addition, the Assembly passed a new funding mechanism to support monitoring – a fee on underwater cable line operators. This new fee mechanism is in the process of being put into action.

NBEP Management Committee – Workplan Review and Enhanced Role: As identified in the most recent Implementation Review, the NBEP needed to reform and re-engage an effective Management Committee to review and approve NBEP workplans and to provide guidance and direction to the program. The Management Committee was very involved in the development of the FY2007 workplan and in the future of the NBEP. And, as mentioned previously, the NBEP

Management Committee has been engaged in major program initiatives such as the Bay & Watershed Status and Trends project and the program's recent strategic planning initiative.

Communications Updates: In Spring 2006, the program engaged a graphics designer to create a new NBEP, using the Narragansett Bay icon, the Pell Bridge connecting Jamestown and Newport, R.I. Concurrently, the program hired the University of R.I. Web Development Group to do a comprehensive website re-design (www.nbep.org) that would add value to users, attract new viewers to the site, and provide information on Narragansett Bay and its watershed as well as other educational materials. The site will allow viewers to subscribe to the Narragansett Bay Journal and download any of the over 125 NBEP technical and policy reports produced since the program's inception including the complete CCMP.

In Spring 2007, the NBEP engaged a web designer to work with the program to overhaul the existing website. That process is nearing completion and the new site should go live at the end of August 2007. It will provide access to all Narragansett Bay Journals as well as all the NBEP technical reports as mentioned above. It will also be the home website for the online NBEP Status and Trends report. As part of the strategic planning process, the program also intends to review and re-develop the program communications strategy, seeking efficiency and effectiveness in communicating both program and watershed information.

R.I. Coastal and Estuarine Habitat Restoration Trust Fund Provides \$250,000 for Projects: As members of the review and selection recommendation technical group for the Habitat Restoration Trust Fund and co-chairs of the R.I. Habitat Restoration Team, the NBEP participated the selection and awarding of \$250,000 in state funds (OSPAR) to.....FINISH.

Baseline Survey of Macroalgae in Narragansett Bay: The NBEP secured funding from the R.I. Department of Environmental Management to do some baseline macroalgae monitoring in order to test methodologies. Monitoring was done using both underwater videography and aerial photography (via helicopter). The project was developed to try to fill data gaps on extent and condition of macroalgae growth and its relation to areas with significant nutrient loading and low dissolved oxygen readings. The program now has a digital record of macroalgae extent for the spring and summer of 2007 of nearshore areas of the Bay and maps will be produced based on this information.

Continued Collaboration with the Narragansett Bay NERR: The NBEP is represented on the NBNERR's Advisory Board and Coastal Decision Makers Steering Group and the NBNERR is represented on the NBEP Management Committee and the Narragansett Bay Journal Editorial Board (the NBNERR also provides an annual sum of \$7,500 to support the Bay Journal). Discussions have been initiated on a collaborative effort to get Narragansett Bay included in the national Estuary Live events in the future.

Land & Water Conservation Summit Held March 2007: This summit, which attracts many watershed group members and citizen activists, as well as governmental representatives, is an annual event hosted by the R.I. Rivers Council and the R.I. Land Trust Alliance. The NBEP provided staff and financial support and provided training presentations to participants.

NOAA CZMA Envisioning Process Participation: In April 2007, the NBEP director participated in a regional meeting held by NOAA and the Coastal States Organization in the Boston area as part of a new visioning process to develop a new framework for the Coastal Zone Management Act. Subsequently, the director was invited to join a group of 25 coastal experts convened by NOAA in Washington, D.C., on July 17-18, 2007 to take the results of the

U.S. regional visioning meetings (held in Boston, Chicago, Atlanta, San Francisco, Honolulu), and further develop and define concepts that will guide the development of new proposed legislation for the CZMA. The director advocated for the inclusion of greater openness and accountability in coastal management decisions, broader public review and involvement, and stronger working relationships with communities and watershed groups.

Improved NBEP Fiscal Management: The NBEP has arranged for technical fiscal staff support at the University of Rhode Island to assist in managing grant funds and accessing the University PeopleSoft accounting system. Michelle Moulton, fiscal clerk, is providing several hours a week of support time and works closely with the NBEP program director to improve program access to fiscal information and to assist in grant application development.

E. Status of Current NBEP Projects in Progress

Status & Trends/Bay Ecosystem Science projects

Bay & Watershed Monitoring: Last fiscal year, the state legislature appropriated \$250,000 to support a few of the highest priority monitoring actions, including \$30,000 for an economic monitoring element. As part of this work, the NBEP assisted R.I. Dept. of Environmental Management with the marine component of the statewide monitoring strategy that the agency was required to submit to U.S. EPA. For state fiscal year starting July 1, 2007, approximately \$750,000 was included in the state budget as part of the state oil spill and recovery program to support critical Bay and watershed monitoring.

Baseline Survey/Testing of Technology - Macroalgae Distributions in Narragansett Bay: The NBEP was able to secure funding from the NOAA Bay Window monitoring project to initiate an effort to quantify and identify locations of high macroalgae concentrations. This data is considered valuable in assessing the impacts of significant nitrogen reductions that are and will be occurring at major wastewater treatment plants along the bay. State of the art underwater video equipment was used and the Rhode Island Airport Corporation, a state entity, provided a helicopter and pilot to the NBEP and EPA Atlantic Ecology Lab for overflights to acquire digital images of bay areas showing significant macroalgae growth.

In summer 2006, the NBEP, in collaboration with Dr. Giancarlo Cicchetti of the US EPA AED lab, flew 4 helicopter missions monthly on spring low tides acquiring over 1,000 high resolution oblique photos with GPS coordinates of the western shoreline of Narragansett Bay from the Slater Mill dam at the mouth of the Blackstone River to the mouth of Narragansett Bay. The NBEP has analyzed the photos for the type of macroalgae and categorized areas into density classes. GIS maps with this information are being developed. Three helicopter flights have been flown so far in summer 2007 and the program expects to complete at least one more. Dr. Carol Thornber of the University of Rhode Island is also a partner in the project, assisting in ground-truthing specific areas (Greenwich Bay) with species identification and biomass estimates. Dr. Thornber is funded through other sources, and is a willing collaborator on the project this year.

Continued participation on Bay Window Monitoring Project Steering Committee: The NBEP has helped guide this NOAA-funded project since its inception and will continue for the 5-year life of the project. This project has received an annual average of \$700,000 in NOAA funds.

NOAA Coastal Hypoxia Project: Dr. Deacutis is one of the principal investigators, along with researchers from the University of Rhode Island, Brown University, University of Connecticut and Virginia Institute of Marine Science, in a 5-year project designed to develop a predictive hypoxia model and linked ecological model that will be verified by field measurements. The project relies on the NBEP dissolved oxygen survey data.

NBEP Atlas of South Shore Coastal Habitats: This project is intended to be the second of two reports that cover the entire state of Rhode Island. All photo-interpretation, GIS mapping and graphic design for the report are completed; remaining work includes completion of the report text, printing, and distribution. This project has been put on hold due NBEP commitments to other priority projects.

SAV Trends Analysis 1996-2006: Aerial photography acquired August 2006 (delayed from 2005 due to poor weather conditions coinciding with suitable time periods based on time of day, wind, weather, and tide). Ground-truthing of selected areas was completed by Summer 2007 by Save The Bay and maps are currently being produced.

Narragansett Bay Coastal Wetlands Loss Trends CD: One of the other habitat projects that was being overseen by Helen Cottrell, all photo-interpretation, comparison of wetlands condition and extent over the 1950-1996 period, digital maps and CD design and artwork are complete; the only remaining work is the production of the actual CD-ROM and distribution. This project has been put on hold due NBEP commitments to other priority projects.

Southern R.I. Coastal Habitat Inventory: By securing funding from a variety of sources, the NBEP, in partnership with the URI Environmental Data Center and RIDEM, completed production of GIS data layers and maps based on photo-interpretation of habitats by the Natural Resources Assessment Group at the University of Massachusetts. These data will be incorporated into the current Status and Trends work.

Communications Projects

Publication of the Narragansett Bay Journal: The Narragansett Bay Journal is entering its 6th year of publication by the NBEP. The mail subscriber base continues to grow (approximately 7,500), it has attracted both governmental and nongovernmental funding, and the special issues and newspaper inserts are well-received and reach nearly 200,000 readers. Supported by a talented and engaged Editorial Board, drawn from agencies, NGOs and citizens, the NBJ continues to provide news and perspectives on issues related to the Bay and watershed.

NBEP Website: As mentioned previously, the NBEP is working with a web designer to revamp the program website, build in an element for the Status and Trends information, post all NBEP research and program reports, and include continually updated information on NBEP activities.

NBEP Quarterly Reports: In June 2007, the program began issuing an e-newsletter that provides updates on program activities. This is partly in response to the fact that, as a result of ineffective communication about the program, many partners do not have a good understanding of the program's goals, history, and activities.

Technical Assistance Projects

Town Pond Restoration Project, Portsmouth R.I.: Town Pond Restoration Project, Portsmouth R.I.: The majority of excavation and grading work associated with this 40-acre salt pond/salt marsh restoration project is complete. Work is now focused on completing restoration of the historic tidal breachway, which is complicated by the need to construct a coffer dam and to protect a historic rail bridge. Due to delays caused by difficulties in sediment assessment, construction is now scheduled for completion in December, 2007. Grant-writing and advocacy by NBEP played a pivotal role in securing federal and non-federal funding to complete the \$3.85 million project.

Pawtuxet River Fish Passage: The NBEP has been involved with the Pawtuxet project over the last three years, assisting with securing funding from a variety to state, federal and local sources. In May 2006, the NBEP and partners held a well-attended public meeting to gain input on preferred alternatives. It was clear that many local residents and businesses are concerned

with the visual impact of the project on the dam and river landscape. In April, 2007, NBEP developed and awarded, in partnership with the Pawtuxet River Authority, a \$56,000 contract to conduct hydrologic modeling of the river and assess restoration alternatives, funded in part through an EPA Targeted Watershed Grant developed by NBEP. NBEP organized and chairs an interagency project management team to oversee the study, which is now in draft; we anticipate presenting its results to the public in September 2007 in order to select a restoration design in the fall and construct a passage alternative during calendar 2008.

Blackstone River Fish Passage: In 2000, NBEP convened Blackstone River stakeholders to develop a plan to restore fish passage to the lower river. Recently, the NBEP has supported and worked with the Blackstone River Watershed Association to hold several stakeholder meetings to discuss ways to move fish passage – particularly over the first four dams – on the Blackstone River. As a result of this work, three dam owners have entered agreements with the Natural Resources Conservation Service to pursue fish passage with NRCS committing \$2 million toward the project. In 2004, NBEP proposed decommissioning an idle hydro-electric plant (Elizabeth Webbing Mills) to pursue dam removal; the R.I. Department of Environmental Management is now working to implement this idea by acquiring the property.

Ten Mile River Fish Passage: This project will provide fish passage over three dams on the Ten Mile River, opening up over 700 acres of fish habitat including Turner's Reservoir. Ten Mile River Fish Passage: This project will provide fish passage over three dams on the Ten Mile River, opening up over 700 acres of fish habitat including Turner's Reservoir. The NBEP helped secure nonfederal funding for a feasibility study and provided much technical assistance to the U.S. Army Corps of Engineers and R.I. Department of Environmental Management in developing designs and engineering. The NBEP is now working with R.I. DEM and Save the Bay to secure non-federal match for the project.

Saw Mill Pond/Sand Hill Brook: The NBEP provided technical assistance to the Town of North Kingstown, R.I., in investigating fish passage, habitat enhancement and water quality improvements in the upper part of this system and potential dam removal opportunities in the lower part. Project completed in May 2007.

Woonasquatucket River Fish Passage: The NBEP has been assisting the Woonasquatucket River Watershed Council in working on a comprehensive fish passage strategy initially focusing on fish passage at the redeveloped Rising Sun mill complex in the river's urban segment. In addition we are working on fish passage at Atlantic Mills and removal of Dyerville and Paragon Dams. Adding to funding from the NRCS, the NBEP helped secure U.S. Fish & Wildlife Service funds (\$30,000) for this project as well as from the R.I. Habitat Restoration Trust Fund (\$150,000) and will continue to provide additional technical assistance.

Wood-Pawcatuck Assessment for Fish Passage and Dam Removal: The NBEP is providing technical assistance to the Wood-Pawcatuck Watershed Association and partners to develop a feasibility study for fish passage over 3 dams on the upper Pawcatuck River that will open up one of Rhode Island's largest fresh waterbodies, Worden Pond, providing 1,043 acres of fish habitat. The project has received \$50,000 in nonfederal funding from the R.I. Coastal and Estuarine Habitat Restoration Trust Fund and additional NOAA funds are being dedicated to the project. The feasibility study has been completed; partners are now assessing next steps for engineering and construction. NBEP is working closely with US Fish and Wildlife Service and Senator Jack Reed to develop a federal funding allocation that would fund this, and other fish passage projects in Rhode Island.

Organizational Development & Administration

EPA grant supplement for financial/organizational planning: The NBEP received a supplemental grant of \$5,000 from EPA Coastal Management Branch to conduct financial and strategic planning for the program, in particular to identify ways to sufficiently fund CCMP implementation work as well as to possibly increase such funding from a variety of federal, state, local and private sector sources. The program selected a strategic planning consulting firm, Cause & Effect, Inc., to assist in designing and implementing the strategic planning process. The project is being planned in phases with the first phase being a series of interviews with key informants. This was completed during June and July of 2007. The program and the consultants developed a summary report of the findings from this work (included with the workplan), plan to hold a meeting on September 18 with the NBEP Management Committee and invited interviewees to provide the program with more guidance for future workplans and to better address the challenges identified through the planning process. The program is also starting an internal process to review the NBEP communications activities with an eye to efficiency, costs, and addressing the issue of how the program is perceived. The program is also working with the consultant to scope out the next phase of the strategic planning work.

F. NBEP Management Committee

The NBEP Management Committee has developed into an effective panel that is engaged in the program's work and provides feedback and direction to NBEP implementation actions. The group oversaw current workplan development and provided key guidance and suggestions for improving the workplan.

The Committee met in November 2006, March 2007, and June 2007; remaining meetings in calendar year 2007 are September 18 and December 18. Meetings will be held on a quarterly basis in future years.

Current Management Committee membership:

Member	Affiliation
Dr. Peter August	Univ. of Rhode Island – Coastal Institute
Jane Austin	Save The Bay, Inc.
James Boyd	R.I. Coastal Resources Management Council
Rachel Calabro	Massachusetts Riverways Program/Taunton River Stewardship Alliance
Mel Cote	U.S. Environmental Protection Agency – Region 1
David Gregg	R.I. Natural History Survey
Susan Kiernan	R.I. Department of Environmental Management
Roylene Rides at the Door	USDA Natural Resources Conservation Service
Robert Stankelis	Narragansett Bay National Estuarine Research Reserve
Ames Colt	R.I. Bays, Rivers & Watersheds Coordination Team
Donna Williams	Blackstone River Coalition

H. NBEP Program Strategic Planning: 2007



Summary of Cause & Effect Report – NBEP Strategic Planning

The NBEP engaged the consulting firm, Cause & Effect, Inc., to assist in strategic planning work for the program. A key step was to survey the perceptions people had of the program. Interviews were conducted with key informants; these are people who interact with the program in many ways. They include agency directors and staff, legislators and legislative policy staff, and NGO and watershed group representatives. The interviews were conducted during June and July 2007.

Cause & Effect, Inc. provided the NBEP with a results document from the interview process; the following summarizes issues and points raised in the interviews.

Identified as Program Strengths/Successes

- Organizing and producing the Bay Summit and its associated White Papers
- Production and distribution of the Narragansett Bay Journal
- Initiating and organizing the Narragansett Bay Dissolved Oxygen Surveys since 1999

Roles for the NBEP identified by participants: Convener on issues/science to address gaps and data needs, data synthesizer, network enabler/sustainer, building local capacity, create partnership opportunities for collective action, facilitator, analyze and report on status and trends, bi-state connector with ecosystem perspective.

Issues from the interviews

Lack of knowledge about the NBEP: This comment came through quite clearly in the interview process. While the individual members of the program were well-known by participants due to working relationships, uncertainty was expressed about the program's overall mission, institutional placement, the products and projects it has produced, its federal connections, what authority it has, and its role in managing the Bay ecosystem.

Role in habitat restoration: The NBEP has expertise and success in implementing habitat restoration projects and has been one of several organizations collectively responding to and meeting the need for these projects. Restoration projects are time and labor-intensive but provide visible markers of progress; habitat acres restored are a key measure used by the federal government in assessing the National Estuary Programs. The NBEP needs to re-examine its investment and role in this work.

Concern over the Status & Trends Report: Participants noted the perceived difficulty and different expectations associated with the production of this report. While widely supported, it is difficult work, reveals turf issues, and needs partners to succeed.

Partnership Issues: Need to identify key partnership opportunities with agencies, NGOs and the private sector. How can the program work more closely with DEM and better utilize watershed data that the agency collects? How does the NBEP define a successful partnership? What is the program's role in the government and NGO "ecosystem" and how can the NBEP best market itself?

Revision of the CCMP for Narragansett Bay: This is not seen as a mandate at the state level and introducing this into the current plethora of planning processes brings turf issues out. There is likely

agreement on key goals and priorities – the difficulty is getting agreement on the next level down of goals and objectives and then laying out specific strategies to achieve them. A significant role the program can take is facilitating interstate connections within the Bay watershed.

The NBEP’s relationship to EPA: This relationship is not well understood by participants; both the program and EPA need to help clarify this for people. How do EPA’s program assessments affect the program? What do they mean for the program’s future?

Identification of Critical Bay and Watershed issues by Participants

- Climate change and rising Bay temperatures
- Biodiversity/habitat/invasive species (ecosystem changes)
- Public access to waterfront/Blueways
- Water quality and quantity
- Natural disasters/hurricanes/floods
- Mt Hope Bay/Brayton Point
- User conflicts
- Impacts of land development
- Connecting to the Massachusetts part of the watershed
- Fisheries/food web issues

Critical Human System/Management Issues

- Management of ecosystem not working well
- Need broader watershed-wide engagement/ public involvement
- Need to move the system to action/ remove bureaucratic delay
- Lack of collaboration and coordination
- Turf impedes transparency and collaboration
- Need better connections between managers and scientists
- Need trustworthy information sources
- Lack of consensus on solutions
- Lack of neutral forum for multiparty discussions

List of those interviewed (*NBEP Management Committee members in italics*):

Jared Rhodes, Statewide Planning	Rep. Eileen Naughton	Matt Auten, Environment RI
W. Michael Sullivan, RIDEM	Sen. Michael Lenihan	John Reiner, NK Planning Dept.
Grover Fugate, RI CRMC	Ken Raposa, NBNERR	Art Ganz, Salt Ponds Coalition
S. Whitehouse, RI House Policy Office	<i>Bob Stankelis, NBNERR</i>	Mark Bullinger, Salt Ponds Coalit.
Ken. Payne, RI Senate Policy Office	Laura Ernst, ESS Group, Inc.	<i>Roylene Rides at the Door, NRCS</i>
Michael Rauh, Washington Trust Co.	<i>Mel Cote, US EPA Region 1</i>	Eric Scherer, NRCS
<i>Donna Williams, Blackstone River Coalition</i>	Bob Billington, Blackstone Valley Tourism Council	<i>Ames Colt, RI Bays, Rivers & Watersheds Coordination Team</i>
<i>David Gregg, RINHS</i>	Curt Spalding, Save The Bay	Alan Desbonnet, RI Sea Grant
<i>Rachel Calabro, Mass. Riverways Prog.</i>	Wenley Ferguson, Save The Bay	Virginia Lee, URI CRC
<i>Peter August, URI/GSO/CI</i>	<i>Jane Austin, Save The Bay</i>	Jennifer McCann, URI CRC
Donald Pryor, Brown University	<i>Barry Costa-Peirce, RI Sea Grant</i>	David Taylor, Roger Wms. Univ.
Candace Oviatt, URI/GSO	Steve Medeiros, RISAA	Brad Bourque, Roger Wms. Univ
Warren Prell, Brown University	Dave Leavitt, Roger Wms. Univ.	Marcie Marston, Roger Wms Univ.

I. NBEP Position Descriptions

Current NBEP positions

- Program Director
 - Chief Environmental Scientist
 - Policy & Outreach Director
 - Watershed & Community Projects Coordinator
 - Interns (usually 2 on staff at any given time)
-

Program Director (Richard Ribb)

Basic Functions:

As part of the federal National Estuary Program, provides management to stakeholder-based Bay watershed planning and implementation initiative. Works to ensure that sound science is integrated into management decisions; oversees stakeholder processes related to implementation of the Narragansett Bay Conservation and Management Plan (CCMP); administers program activities and grants; oversees program staff and develops and manages collaborative actions to address priority issues. Focus on water quality assessment, protection and restoration; land/watershed and habitat protection and restoration; addressing emerging issues; and developing/reviewing resource management initiatives related to Narragansett Bay and its watershed.

Essential Duties and Responsibilities:

- Oversee and direct a wide range of projects related to the implementation of the Narragansett Bay CCMP;
- Identify short- and long-range planning, funding, and implementation goals;
- Develop and track operating budgets and expenditures to achieve grant and contract commitments;
- Facilitate partnerships, planning processes and project teams involving local, state, and federal agencies and other stakeholder organizations;
- Supervise professional staff (and graduate students, interns) and workload assignments;
- Oversee development and administration of multiple technical consulting contracts;
- Research varied policy issues to support program and project development;
- Interact with the Rhode Island Congressional delegation, the state legislature and commissions, government agencies and nongovernmental groups regarding policy, planning and project activities;
- Conceive projects and develop grant proposals;
- Develop, review and analyze state policy, regulations and legislation;
- Represent the program on governmental and academic technical committees;
- Serve as liaison to 28-program nationwide network of National Estuary Programs and to the Association of National Estuary Programs;
- Present program information and lessons learned at national and regional symposia and conferences;
- Seek out and secure additional funding sources for CCMP implementation.

Other Duties and Responsibilities:

Perform additional duties as required.

Qualifications:

Graduate degree in environmental science, policy or planning or closely related field and a minimum of 10 years professional experience in coastal ecosystem science, management and policy issues. Experience in synthesizing complex ecological issues into information for decision-makers and the public. Strong skill set in writing, public speaking, facilitation and building consensus. Working knowledge of estuarine science, habitat restoration, water quality protection and restoration, public outreach, legislative processes (state and national), watershed management techniques, and data collection and analysis. Ability to build and manage stakeholder-based decision-making processes. Ability to develop and implement collaborative solutions to priority watershed and bay problems. Experience with state and federal grant processes and the proven ability to develop successful grant applications for governmental and non-governmental grant processes. Familiarity with U.S. EPA (especially the National Estuary Program and Office of Water programs), NOAA, and other coastal and environmental programs. Ability to develop and implement collaborative solutions addressing estuarine and watershed problems. Knowledge of ecosystem and management issues in other U.S. coastal systems.

Supervision:

Works under the administrative direction of the Coastal Institute Director and in accordance with NBEP annual workplans and program directions approved by the NBEP Management Committee with the considerable latitude for the exercise of independent judgment and initiative. Work is subject to review based on progress and consistency with program goals and principles by the U.S.EPA and the NBEP Management Committee.

Chief Environmental Scientist (Dr. Christopher F. Deacutis)

Basic Functions:

As part of the federal National Estuary Program and in conjunction with the Program Director, the Chief Environmental Scientist will serve as scientific director responsible for prioritizing and coordinating applied science studies, field work, and focused scientific reviews and white papers directly or indirectly supported by the NBEP, as well as directly participate, and in some cases, lead the work to be completed. In addition, the Chief Environmental Scientist will interact with science advisory committees and the academic research community, including active participation as co-Principal Investigator in collaborative grant applications and collaborative projects where suitable to address priority science-linked issues associated with the CCMP goals and objectives. This position will address priority technical / scientific workplan tasks, including writing of technical documents, synthesis of technical information, and development of management recommendations based on such analyses, including presenting this information to both technical and general public audiences at a technical detail level appropriate to the targeted audience.

Essential Duties and Responsibilities:

- Oversee wide range of science-based projects related to the implementation of the Narragansett Bay CCMP
- In conjunction with the Program Director, prioritize and coordinate responses of the NBEP to science-linked tasks addressing CCMP priority issues
- Provide the Program Director and other state policy and decision-makers with technical advice on issues related to priority environmental management topics associated with NBEP workplans, and actively participate in technical advisory committees when requested
- Write or oversee the writing of white papers and technical reviews necessary to clarify the state of the art knowledge of specific science-linked topics
- Oversee program monitoring efforts to fill important data gaps to meet management and applied scientific research needs.
- Develop technical recommendation on, coordinate, or in some cases perform tasks related to critical monitoring needs to fill data gaps not addressed by current state monitoring programs for Narragansett Bay
- Where feasible, collaborate and co-author grant proposals to obtain funds to address critical scientific issues related to better understanding the response of the Narragansett Bay ecosystem to anthropogenic pollutant loads in priority management areas (e.g., nutrient impacts).
- Where feasible, actively participate in scientific studies of the response of the Narragansett Bay ecosystem to anthropogenic pollutant loads in priority management areas such as excess nutrients, changes / trends in the distribution of pollutants, studies of the response of important ecosystem components such as macro algae to changes in anthropogenic loads such as excess nutrients along pollution gradients within the Bay.
- Participate in program planning, administration, budget development, and reporting
- Represent the NBEP at technical conferences and symposia, presenting work associated with the program when appropriate.

Other Duties and Responsibilities:

Perform additional duties as required.

Qualifications:

Minimum qualifications: Graduate degree in marine / estuarine environmental science, biological oceanography, or marine biology and extensive applied research and monitoring experience in estuarine environments; preferred, PhD in the above with a minimum of 10 years professional experience in coastal ecosystem science and management issues. Experience in synthesizing complex environmental issues into information for decision-makers and citizens. Working knowledge of GIS, habitat restoration, watershed management, public outreach and data collection and analysis. Ability to develop and implement collaborative solutions addressing estuarine and watershed problems. Knowledge and experience with state and federal grant processes as well as ability to develop successful grant applications for governmental and nongovernmental grant programs. Knowledge of ecosystem and management issues in other U.S. coastal systems. Familiarity with U.S. EPA, NOAA and U.S. F&W coastal programs.

Supervision:

Works under the direction of the NBEP Program Director and in accordance with NBEP annual workplans approved by the NBEP Management Committee with the considerable latitude for the exercise of independent judgment and initiative. Work is subject to review based on progress and consistency with program goals and principles by the Program Director, the U.S.EPA and the NBEP Management Committee.

Policy & Outreach Director (Thomas Ardito)

Basic Function:

The Policy & Outreach Director oversees program communications and stakeholder relations for the Narragansett Bay Estuary Program. The position develops and distributes outreach and communications products to NBEP constituents and oversees planning for communications directions and initiatives. This staff person will also manage funding needs related to communications component of program, working to secure external resources where possible. The position has an additional role in assisting the Program Director and staff in setting program priorities and directions, organizing work assignments, and forecasting program needs. This position will provide targeted technical assistance to stakeholders and organizations in organizing and developing habitat and ecosystem improvement projects.

Essential Duties and Responsibilities:

- Edit and publish *Narragansett Bay Journal*. Chair editorial board; serve as lead reporter, writer, and editor; oversee production and distribution; and supervise staff and interns.
- Write, edit and produce a wide range of communications products for NBEP: program reports, outreach brochures, op-ed pieces, press releases, talking points, speeches, PowerPoint presentations, briefing packets, website materials, technical documents, broadcasts, videos, etc.
- Organize and manage press events, media campaigns, and public events.
- Assist Director in managing state and federal legislative affairs: advocate legislative action; develop and deliver testimony; assist in writing bills; organize meetings and site visits with members and staff on Capitol Hill and in the region.
- Organize, lead and manage broad-based teams of stakeholders, as appropriate, to accomplish results in watershed conservation and restoration.
- Co-chair and coordinate R.I. Habitat Restoration Team.
- Provide technical assistance to local governments, community groups and other stakeholders regarding watershed stewardship and conservation.
- Supervise and manage staff, interns, contracts and grants as required.
- Initiate and co-manage ecological restoration projects and partnerships as appropriate.
- Assist the Program Director in setting program priorities and directions.
- Assist the Program Director in fiscal and organizational management of the NBEP.
- Participate in program planning, administration, budget development, and reporting.

Other duties and responsibilities:

Perform additional duties as required.

Qualifications:

Graduate degree or equivalent in environmental science, policy, planning or related field. Experience in synthesizing complex environmental issues into information for decision-makers and citizens. Experience in conservation policy, planning and management; ability to use communications and stakeholder relations to promote sound natural resource policy and science. Record of success in leveraging program resources and maximizing the effectiveness of new and traditional media. Ability to organize and lead collaborative partnerships to achieve tangible results, working closely with non-profit, governmental, private sector, academic and lay stakeholders. Skill at writing, editing, and publications management. Accomplished at public speaking and stakeholder relations. Knowledge of desktop publishing and website design. Knowledge and experience with state and federal grant processes as well as ability to develop successful grant applications for governmental and nongovernmental grant programs. Knowledge of ecosystem and management issues in other U.S. coastal systems. Familiarity with U.S. EPA, NOAA and U.S. F&W coastal programs.

Other Duties and Responsibilities:

Perform additional duties as required.

Supervision:

Works under the direction of the NBEP Program Director and in accordance with NBEP annual workplans approved by the NBEP Management Committee with the considerable latitude for the exercise of independent judgment and initiative. Work is subject to review based on progress and consistency with program goals and principles by the Program Director, the U.S.EPA and the NBEP Management Committee.

Watershed and Community Projects Coordinator (Meg Kerr)

Basic Functions:

The Watershed and Community Projects Coordinator will address specific program technical assistance and capacity-building tasks as assigned by the Program Director based on CCMP goals and annual workplans and will work closely with other program staff as well as with individual project partners. The position will require supervision of graduate and undergraduate student assistants to NBEP projects. Current program planning priorities require that the person in this position have extensive experience in organizing collaborative efforts with grassroots groups and communities as well as have a working knowledge of general ecosystem science and management issues.

Essential Duties & Responsibilities:

- Create and oversee watershed-based projects related to Bay science and management involving resource identification, protection and restoration including but not exclusive to these areas: water quality, habitat, biodiversity, introduced species, land use, and environmental monitoring.
- Participate in program planning, grant development, administration, budget development, and reporting.

- Provide technical assistance to local governments, community groups and other stakeholders regarding watershed stewardship and conservation.

Other Duties and Responsibilities:

Perform additional duties as required.

Qualifications:

University/college degree in environmental science/management or closely related field and 10 years professional experience in coastal ecosystem science and management issues. Experience in synthesizing complex environmental issues into information for decision-makers and citizens. Working knowledge of GIS, habitat restoration, watershed management, public outreach and data collection and analysis. Experience in collaborative, stakeholder-based processes and decision-making. Ability to develop and implement collaborative solutions addressing estuarine and watershed problems. Experience in working with nonprofit groups and local communities. Knowledge and experience with state and federal grant processes as well as ability to develop successful grant applications for governmental and nongovernmental grant programs. Knowledge of ecosystem and management issues in other U.S. coastal systems. Familiarity with U.S. EPA, NOAA and U.S. F&W coastal programs.

Supervision:

Works under the direction of the NBEP Program Director and in accordance with NBEP annual workplans approved by the NBEP Management Committee with the considerable latitude for the exercise of independent judgment and initiative. Work is subject to review based on progress and consistency with program goals and principles by the Program Director, the U.S.EPA and the NBEP Management Committee.

**Attachment 2: NBEP FY2007 Workplan
Narragansett Bay Estuary Program
Travel Report FY2006 and Proposed FY2007**

FY2006

Date	Event	Place	NBEP staff/others	Cost	Note
October 26-27, 2006	New England Estuarine Research Society Mtg	Portland, ME	C. Deacutis	\$225	
11/21/2006	Meeting with EPA HQ staff on NEP issues	Washington DC	R. Ribb	\$248	
December 12-15, 2006	Restore Americas Estuaries national conference	New Orleans, LA	R. Ribb	\$1,044	
December 12-15, 2006	Restore Americas Estuaries national conference	New Orleans, LA	T. Ardito	\$1,035	
December 12-18, 2006	EPA National Estuaries Experts Workgroup mtg. - Nturients	Arlington, VA	C. Deacutis	\$0	EPA ORD funded
February 13-14, 2007	NEP/EPA HQ Meeting	Washington DC	R. Ribb	\$235	
March 5-8, 2007	March 2007 EPA/NEP meeting	Washington DC	R. Ribb	\$998	
March 26-27, 2007	RR participation - Barnegat Bay NEP Search Committee	Toms River, NJ	R. Ribb	\$0	BBNEP funded
April 16-17, 2007	RR participation - Barnegat Bay NEP Search Committee	Toms River, NJ	R. Ribb	\$0	BBNEP funded
May 15-17, 2007	EPA Tiered Aquatic Life Use meeting	Portland ME	C. Deacutis	\$0	EPA ORD funded
May 21-23, 2007	MIT Sea Grant Invasive Species Meeting	Boston MA	C. Deacutis	\$178	
6/4/2007	Coastal States Org. Coordinating Committee meeting	Washington DC	R. Ribb	\$0	ANEP funded
6/5/2007	20th Anniversary of NEP Event	Washington DC	R. Ribb	\$0	ANEP funded
July 17-18, 2007	Participate in NOAA CZMA Envisioning Workgroup Meeting	Washington DC	R. Ribb	\$0	NOAA funded
July 21-25, 2007	Coastal Zone 2007 International Conference	Portland, OR	T. Ardito	\$1,884	
FY2006 TOTAL				\$5,847	

FY2007 ***PROPOSED FY2007 TRAVEL***

Date	Event	Place	NBEP staff/others	Cost	Note
November 4-8, 2007	Estuarine Research Federation Conference	Providence RI	R. Ribb, C. Deacutis	\$850	
November 13-15, 2007	NEP/EPA Fall 2007 Meeting	San Juan, PR	R. Ribb	\$1,500	
February 25-28, 2008	Spring 2008 EPA/NEP meeting	Washington DC	R. Ribb	\$1,300	
FY2007 TOTAL (proposed)				\$3,650	

Attachment 3.

Bay & Watershed Status & Trends From the NBEP May 31, 2007 Work Session

Attached are the summary notes from the four breakout groups that discussed status and trends at the NBEP May 31 meeting held at Save The Bay.

A number of trends emerge from the different sessions and start to tell a story about the Bay ecosystem, at least from the perspective of the initial S&T meeting participants. Listed below are the four major themes that were identified.

- **Impacts of development/land conversion**
- **Changes in the ecosystem**
- **Lost Uses and Access to Resources**
- **Climate change impacts**

Water Breakout Group Notes

NBEP Status & Trends Meeting - May 31, 2007

Participants: Chris Deacutis, , Donna Williams, David Murray, Walt Galloway, Warren Prell, Marcus Waldron, Monica Allard Cox, Don Pryor, Sue Kiernan, John Torgan, Meg Kerr (facilitator)

ISSUES, TRENDS & BIG STORIES:

- **Development brings increased nonpoint source pollution** -- of increasing importance as a source / driver of many of the issues, especially as point source nutrients become more controlled in near future (nutrients / flows fresh water and salt water). Of special concern in salt ponds, etc., where there are no point sources. Development also leads to shoreline armoring - salt water issue + public access issue. Also loss of buffer zones – we need more **riparian zone protection**.
- **Bay and watershed's aquatic habitat increasingly impaired** – linked to biological indicators of stress (fresh water – have some data - shows many water bodies with stress to bottom sensitive insect communities). Salt water – little data & no indicator yet developed to interpret benthic community data. One indicator of habitat (biogenic habitat) loss: Eelgrass as example of negative habitat trend loss in Narragansett Bay. Eelgrass is an integrator of water quality, we have information to track changes over time which shows historic losses, and we see continuing losses in ponds (tracks increase of non-point sources)
data gap identified – need data & interpretation help.
- **Stormwater affecting flow in rivers – and water quality**
Impacts: flashiness / flow changes. Also affect groundwater infiltration / recharge + habitat regime (steady flow for biota); causes increased stream bank erosion; sediment transport downstream (embedding issue for former cobble bottom streams etc.)
Linked to impervious surface % cover w/in subwatersheds
Request for analysis: several participants indicated GIS analysis of impervious surface is critically needed for this issue at adequate resolution level (undefined).
Stormwater- CSO issue – Worcester has treatment planned for 4 storms/yr release & NBC ~ 4 storms/ yr release
- **Toxins in waters** -- Some discussion of **Hg and PCBs as fish tissue** / human health issue because RI comes out in front in New England for all studies done so far (D. Pryor). Endocrine disruptors & pharmaceuticals and personal care products (PPCPs) of concern but little/ no info on these in terms of environmental levels for RI (USGS in MA has some data outside of Narr. watershed in the Charles & Merrimack Rivers). Good progress for metals from point sources RI (MA ? not discussed)
- **Fish tissue contamination MA DEP** – good program. RI – little data on freshwater fish some w/ Dr. Vanderslice + Dr. Jim Lake of US EPA – source of significant data he has

gathered over time for freshwater fish. Some data for salt water fish through EPA National Coastal Assessment

- **Climate change / warming** waters noted as contributor to a number of other topics due temp. and sea level and weather pattern changes – linked to reduction in cold water species (salt water e.g., winter flounder and fresh water coldwater trout species -- stormwater also contributes to loss of riverine / riparian zone buffer); stormwater flow increases; eutrophication increase etc., but still considered by most participants to be a research gap issue since responses of system unclear/ unpredictable for now except likely to be negative. Related concern is the loss of marine wetlands with an increasing trend projected due to sea level rise. Need info on possible incursion / migration potential or loss of migration potential just upland of wetlands
- **Bacterial** / pathogen indicator issues **widespread and linked to stormwater** (fresh water & salt water). Considered an issue for salt water where problems are increasing and in the mainstem of rivers, but interpreted as less important in headwaters with less human alterations (even if found in sampling – problem issue of interpretation of these indicators due wild sources from warm-blooded species (and plant sources for enterococci) indicators)...DNA analysis is expensive and does not always provide clear results.
- **Eutrophication is of concern and seems to be getting worse** in both fresh water (Phosphorous) Hypoxia (related to eutrophication) a problem in fresh water – mainly bottom waters of lakes & impoundments and in salt water * – significant areas of upper half of Narragansett Bay). The issue links to climate change / warmer waters
- **Water withdrawals impacting flow and biota** This is mainly fresh water issue with problems occurring in the Taunton R, Hunt River, Queen and Chipuxet (and perhaps other places as well). recommendation from group: NBEP S&T consider withdrawal impacts on ecosystem health, *NOT* issues of distribution of water among human user-groups. There are also cooling water withdrawal issues fresh water and salt water (e.g.: Brayton Point) and desalination under development in the Taunton, Palmer (Swansea) and studied at Quonset. Dams also affect rivers -- loss of connectivity for species + impoundments behind dams – issue of low DO, historically polluted sediments, loss of natural / normal flow regimes
- **Sediment quality** - Some data for the Woonasquatucket R – PCBs. Sediment biomarkers available now to look at but not likely changing – a historical pollution issue (may be covered over by cleaner sediments but erosion transport can re-suspend and move loads – linked to stormwater issues). Sediment cores can give info. on metal & organic pollution history
- **Invasive Species increasingly of concern** – Freshwater: concern over zebra mussel + lake aquatic nuisance sp. Salt water – considered significant ecological threat. Need for state Management Plan

OTHER STORIES

Oil Spills – we have seen a significant spill occur about every 10 yrs, but not major issue – no long-term damage so far (due processed petroleum vs. crude oil where long-term damage occurs)

Dredging stories – Providence River and other areas completed and planned – how impact or remove impact of sediments etc. Also marina dredging and other dredging projects including “restoration” efforts.

WHAT ELSE SHOULD S&T PROJECT ADDRESS?

Group noted need to measure how well mgt. is doing

- Include threats and projections of achievable goals (what improvements are reasonably expected with management efforts).

Questions posed by group:

- Rank trends?
- Suggestion to combine trends where logical – get cumulative impact indicator
- for water quality and sediment quality (e.g., EPA National Coastal Assessment regional report)
- Will S&T do socio-economic trends? - boating and use of ship channel by commercial users etc.?

Biota Breakout Group Notes

NBEP Status & Trends Meeting - May 31, 2007

Participants: David Gregg, Ames Colt, Wenley Ferguson, Marci Cole, Mark Gibson, Tom Ardito (facilitator)

1 & 2. KEY ISSUES & TRENDS

- Invasive Species
- Trend from wild to managed ecosystems
 - Threatened and endangered species will occur only in reservations
 - Fisheries exist only through management
- Habitats
 - Importance of restoration
 - **Eelgrass** as excellent example of habitat & habitat trends
 - integrator of WQ & habitats
 - historic losses >> possible current gains in Bay (tracks increase & control of point sources)
 - continuing losses in ponds (tracks increase of non-point sources)
 - opportunity to illustrate shifting WQ management challenges point >> non-point
 - link to climate change (unifying theme?)
 - link to land use—map? Ponds watershed? show increase in housing linked to loss of SAV (Fred Short paper?)
 - Need for habitat **complexes** to support species' life histories (e.g. resident flatfish)
- Resident demersal fishes (winter flounder, hogchoker, etc.)
 - Decline of non-fishery spp. implies habitat problems
 - Possible complex interactions: temperature, DO
- Seasonal migrants up
- Anadromous fish down coast wide
- Horseshoe crabs down
- True crabs up (include invasives)
- Lobsters up, then down
- Marine mammals—NMFS, STB surveys
- Coastal birds
- Freshwater wetlands
 - fragmentation
 - loss of buffers
- Freshwater fishes (**brook trout** as exemplar)
 - ongoing loss of coldwater habitat?
 - water withdrawals
 - Alan Libby, Saul Salla
- Stream connectivity
- Bivalves:
 - steamers up—new Bay fishery

- quahogs flat
- oysters up, then down—fishing, disease
- Dennis Erkan: new shellfish survey

3. CRITICAL DATA

- Watershed Watch—possibility of mining data, correlating with biological data?
- Governors’ commission reports
- Fishery-independent surveys (DEM, URI)
- Altieri—mussel study?
- Lisa Meng—flounder habitat?
- Bay Window data for DO, etc.
- Candace—Bay synthesis; geographic species assemblages

4. HOW TO DESCRIBE CONDITIONS & TRENDS

- “Zonation” of Bay (Upper, mid, lower, etc.)
- Integrative transect from Providence to Newport?
- show trends with case studies where necessary; use bay-wide data where available; be careful about extrapolating the former to the latter
- indicators—integrative, EBM-based, oriented toward management

5. MANAGEMENT NEEDS

- Need multidisciplinary coordination & synthesis of data
- Need better approaches to adaptive management, ecosystem-based management
- Climate change: impacts on restoration, species, habitats (estuarine & terrestrial: forests, etc.)
- Importance of water temp & DO >> driving fish abundance
- Difficulty presented by differing spatial & temporal scales for monitoring (e.g., fisheries & WQ)

Watershed Lands Breakout Group Notes

NBEP Status & Trends Meeting - May 31, 2007

Participants: Lisa Primiano, Eric Scherer, Kathleen Wainwright, Robb Johnson, Margherita Pryor, Richard Ribb (facilitator)

KEY ISSUES

- Habitat fragmentation from development practices
- Habitat conversion & nutrient loading (conversion from field and forest to impervious)
- Sprawl Development
- Single-landscape focus, based on narrow focus – lack of integration of perspective; not accounting for interrelatedness of actions; misses opportunities for multiple benefits
- Lack of integrated approach to protect multiple habitats
- Few and decreasing opportunities for public access – inability to control private property choices – need more aggressive approach in permitting
- Need for transparency in land use decisions/permit decisions
- Need accountability for wetland buffer protection
- Development occurring without consideration of natural resource values; decisions made in absence of ecosystem framework
- Incompatible GIS/land use coverages between RI and Mass.
- Dispersed data – not accessible, not well analyzed
- Need new approaches for adaptive management; stop doing what doesn't work
- Upland connectivity
- Voting public not well connected to environmental/ecosystem management needs – not seen as a priority although climate change has drawn attention

MAJOR TRENDS

- Challenges in ensuring public access
- High cost of coastal lands reduces ability to acquire or protect
- Conservation outpaced by sprawl
- Decreased state investment in open space but increased investment by municipalities
- Human impacts combined with climate change impacts = cumulative threat

CRITICAL DATA

- Wetland buffer data (physical maps) to measure incremental changes from baseline; inform future decisions
- Need information regarding value of ecosystem services provided
- Hardened shoreline data/maps
- Mapcoast > baseline for shoreline features
- Inventory of data sets – update PNB work

- TNC eco-regional plans for lands – now beginning marine eco-region studies (need to connect with TNC data)
- Check Trust for Public Land data
- Pawcatuck watershed (and others) impervious surface data > analysis
- State wildlife data (e.g., river herring)
- TNC forest connectivity index (% of land's distance from nearest road)
- TNC – request to ACOE for impacts of sea level rise
- Connect with federal efforts to plan for sea level rise (NOAA, EPA, USGS)

BEST WAYS TO DESCRIBE CONDITIONS & TRENDS

We did not cover this question in this session

ACTIONS NEEDED TO BETTER MANAGE BAY & WATERSHED

- Relating comparable scales of various kinds of monitoring (temporal & spatial attributes) – example: M. Gibson cites trawl survey not connected to WQ measurements)
- Integration/compatibility issues with R.I. / Mass. data
- Need to enable adaptive management – allow flexible responses
- Set of integrated measures to assess condition/effectiveness of management actions
- Need common goals/priorities
- Need more resources that have to get to key partners (funding, technical assistance)

Session Notes:

There was quite a bit of discussion on the impacts of climate change; lack of ecosystem perspective and management approaches; permitting decisions based on economics not ecology; public access challenges