



NBEP Quarterly Report

September 2011

NARRAGANSETT BAY
ESTUARY PROGRAM

Communications & Outreach

NARRAGANSETT BAY
WATERSHED
COUNTS
ECONOMY • ENVIRONMENT • EQUITY

On May 27, Watershed Counts partners came together to evaluate the first year of indicator development and plan for Year 2. Input from this meeting was incorporated into grant applications to the EPA Healthy Communities Grant program and the Rhode Island Foundation. Both applications were successful. During the next year, Watershed Counts will develop indicators for fresh water quality (in close partnership with DEM, Watershed Watch and watershed organizations), marine water quality (with NBNERR and the RI Monitoring Collaborative), protected lands (with TNC and the RI Land Trust Council) and natural resource economy (with Save the Bay and the EPA Narragansett lab). Current indicators (fresh water flow, impervious cover, beach closures, climate change and invasives) will be updated if new data are available.



The June NBJ featuring articles about recreational activities in the Narragansett Bay region was very well received. Two articles have been re-run by EcoRI (Trails Less Traveled and Gone Fishing) and one was picked up (Greenway Challenge) by the national River Management Society for their newsletter. The September NBJ will be available on September 7 and features articles highlighting sustainability initiatives throughout the region. To view the latest issue go to www.nbep.org/bayjournal-currentissue.html



NBEP has developed a blog to help inform the public about research, restoration and important scientific news happening in the Narragansett Bay Region. URI Coastal Fellow, Elizabeth Gooding, assisted Lesley in development of the blog. To read and follow the blog go to simply-science-nbep.blogspot.com. If you would like to participate in the blog contact Lesley Lambert at lesley@nbep.org, or call (401) 874-6482.

Presentations:

NBEP Chief Scientist Chris Deacutis was an invited speaker at the recent day-long workshop, A Day on the Upper Bay: Current Monitoring, Research, Source Reduction Progress & Future Challenges (6-16-11), sponsored by the Narragansett Bay Commission held at Johnson & Wales University. Stakeholders, scientists and regulators from throughout Rhode Island and Massachusetts participated in the workshop to exchange the latest information regarding Upper Narragansett Bay and discuss the future path toward achieving and surpassing water quality standards. Federal and state officials spoke, followed by presentations from various academic institutions and agencies from throughout the Narragansett Bay Watershed. Dr. Deacutis was also a member of the closing panel of experts on Narragansett Bay discussing the mutual goal of improving water quality and restoring Narragansett Bay. All presentations are available at snapshot.narrabay.com. Meg Kerr spoke about Watershed Counts to a group at the North Kingstown Library on July 27th, and Lesley Lambert was invited to speak about the health of the Narrow River Watershed to the Pettaquamscutt Boat Club on August 9th.

Program Planning & Management

Narragansett Bay Region Plan:

NBEP has continued to work with key agency and organization stakeholders to refine the current draft version of the plan. Individual work sessions to gain input have been held with RI Coastal Resources Management Council and R.I. Sea Grant. Additional comments on the economic section from economists Marissa Mazotta and Beth Ashman have been received and incorporated into the draft. After incorporating the results of these one-on-one sessions and targeted comments, the draft plan will be revised into a final draft for final review and public rollout later in Fall 2011.

NBEP Strategic Directions:

NBEP is working with the NBEP Executive Committee to define and articulate program directions. Working off the results of a staff strategic planning effort in May 2011, NBEP staff and the EC held a strategic directions meeting on September 8, 2011, to develop and endorse strategic directions for the program. This work will help the program focus its work, balance capacity and workload, and prepare for implementation of the NBR plan once completed.

NBEP Finance:

NBEP has secured additional funding for workplan implementation and staff costs for the upcoming workplan year. The program will draw \$25,000 from an EPA Supplemental Environmental Project grant award to the Roger Williams Park Ponds Restoration project (total: \$200,000) to cover related URI NBEP staff costs. \$8,500 is allocated to NBEP outreach staff costs as part of a separate \$424,000 EPA grant to the Roger Williams Park Ponds project. Over \$10,000 in staff funding was secured through grants totaling \$70,000 from the EPA Region 1 Healthy Communities grant program and from the R.I. Foundation to support the bi-state Watershed Counts project. Additional foundation funds have been and will continue to be received in FY2011 to support NBEP work in the Coalition for Transportation Choices. We have also been successful in securing funding from federal grant sources for science interns.

Restoration

Pawtuxet River Restoration:

In August, NBEP and its partner Pawtuxet River Authority successfully completed demolition of Pawtuxet Falls Dam—the largest ecological dam removal project ever undertaken in Rhode Island, which restored seven miles of free-flowing riverine habitat to Narragansett Bay’s largest tributary. The restoration targets anadromous fish such as river herring and shad, but will benefit many other estuarine and riverine species. The dam removal also opened passage for canoes, kayaks, and other small craft to navigate between the Pawtuxet River and Narragansett Bay during higher tides. During the past quarter we awarded the construction contract for the project; oversaw all engineering and construction; oversaw compliance with regulatory and funding requirements; developed and finalized site access agreements and provided coordination with abutting landowners. We approved an innovative construction approach which will serve as a model for projects throughout the country. NBEP continues to support Pawtuxet River Authority in all aspects of fiscal management—updating project budgets and cost schedules; approving contractor payments; requesting agency reimbursement; etc. NBEP managed communications for the project, and NBEP staff were interviewed by newspapers, radio and television. NBEP published a construction blog to keep partners and stakeholders up to date, and began planning a ribbon-cutting event for September 30th. Work at Pawtuxet Falls is now focusing on post-construction site restoration and planting, which should be substantially complete by the end of October, and identification of new restoration opportunities upstream. A blog has been set up to document the changes. Visit the blog at pawtuxet-falls-dam-destruction.blogspot.com.



Roger Williams Park Ponds Restoration:

NBEP continues to support the City of Providence in an innovative project to restore water quality to Providence’s most important urban ponds complex. After hiring an engineering firm in the spring, this summer we began working with the City and the contractor to develop a restoration master plan for the park. We worked with EPA’s Narragansett Lab to secure additional funding for the project. NBEP has now secured \$724,000 in cash toward the project—plus in-kind contributions—to fund on-the-ground improvements to the City’s largest greenspace and one of Rhode Island’s signature resources.

River Restoration Working Group:

NBEP continues to work with Save The Bay to chair a new working group on river restoration under the auspices of the R.I. Habitat Restoration Team. Over the summer, we worked on the group's white paper intended to accelerate the pace and scale of river restoration throughout the Narragansett Bay Region. NBEP and STB interns drafted descriptive portions of the document, working under NBEP and STBN staff. The working group now has membership representing more than 30 federal, state, private and non-profit organizations and will reconvene in the fall.

Watershed Activities

Coalition for Water Security:

CWS is monitoring the changes to the Water Resources Board required by Budget Article 9. CWS met with Ken Burke and Kevin Flynn to discuss the future of water management and looks forward to the WRB's September strategic planning session.

Coalition for Transportation Choices:

Since its formation in March 2009, the Coalition for Transportation Choices (CTC) has become a respected voice for transportation policy reform in Rhode Island. By combining solid research, savvy political advocacy and strategic communication and coalition building we have effectively defined the agenda, demonstrating the urgent need for new funding paradigms and working with state leaders on designing new strategies for transportation investment. CTC has grown in size, now representing 47 organizations and is the go-to organization promoting a 21st century transportation system for all Rhode Islanders. CTC held a planning retreat in August and has prepared its fall workplan focusing on 3 strategic goals: 1) RIPTA has sustainable funding that grows with demand, providing necessary resources to implement its strategic plan. 2) Complete Streets are institutionalized within state agencies (DOT, DOA) and municipalities. 3) Public transit ridership grows, resulting in reduced vehicle miles traveled. NBEP chairs the communications committee, leading the development of weekly e-blasts as well as other communications products and the fund-raising committee.



Blueways Water Trails:

NBEP worked with the Blueways Alliance and 9 watershed groups on a successful application to the RI Foundation to support development of paddle maps for each watershed. The grant will result in 2 new maps for each watershed which will be available for download from watershed web sites and from ExploreRI.org.

Ecosystem Science

Dissolved Oxygen Surveys:

Summer dissolved oxygen surveys were conducted on June 28, July 27, August 10 and August 25, 2011. Stations in Greenwich Bay were completed, but West Passage stations could not be captured due to loss of time dealing with sampling equipment failure, which occurred in the field. Our SeaBird sampling device was brought back online for the August 25 survey, but heavy winds precluded completing the survey outside of the protected stations within Greenwich Bay. All data and survey DO maps for the 2011 field season will be available on the Insomniacs website (www.geo.brown.edu/georesearch/insomniacs) once Brown is able to complete processing of the raw data. Based on the survey data, summer of 2011 did not exhibit significantly severe hypoxic waters, although hypoxia did occur in Greenwich Bay and the lower Providence River.

The federal NOAA Bay Window and CHRP grants have supported the DO surveys but that funding has come to an end. During the past seven years, the survey team has conducted 36 surveys that occupied about 65 stations each survey, resulting in over 2000 station profiles of DO and associated water column properties. NBEP is working with Brown University (W. Prell and D. Murray) to analyze the entire data set to identify the persistent footprint of hypoxia in Narragansett Bay and understand its variability.



Future funding for DO surveys:

A new proposal to the NOAA Coastal Hypoxia Research Project (CHRP) was awarded a reduced funding grant. Brown University will be receiving a small amount of funds to continue collecting and analyzing data, while the R.I. Bays, Rivers & Watersheds Coordination Team is funding will fund a seasonal intern to support NBEP survey efforts.

Macroalgae Surveys

Helicopter-based macroalgae surveys were reinitiated this summer. Surveys were completed on June 14, July 14, and August 30, 2011 (2 days post-Irene). NBEP is hoping to get in at least one more survey in late Sept. The most recent flight observations indicated that the majority of macroalgae has been swept away from the shallow intertidal and near subtidal due to Hurricane Irene. It will be interesting to see how much new growth will occur in the month of September on what is essentially a “clean-swept” benthic habitat at this point. Dr. Giancarlo Cicchetti (EPA AED) is now pre-processing the photos so that an NBEP intern can analyze them this fall.



NBEP focused analyses this summer on photos from 2006 in order to interface these results with an initial attempt to develop a predictive model that includes hydrodynamics as well as growth. NBEP is using new image analysis software developed by Andrew Bird, who recently successfully defended his M.S. in Ocean Engineering. Andrew developed an analytical plug-in tool for Image J, an open-source image analysis program. NBEP has used this tool extensively this summer, and find that it provides very accurate percent cover estimates for algae in the photos. Dr. Deacutis will present this work at the International Bi-Annual Coastal & Estuarine Research Federal (CERF) conference this November in Florida.

NBEP has collaborated with Dr. Carol Thornber of URI and submitted an invited full proposal to the NOAA ECOHAB grant program to continue measuring and model macroalgae growth in the Bay. Notification of grant awards will be made in February or March 2012.

Sediment Microbial Community Changes During Hypoxic Conditions:

NBEP has continued its collaboration with URI researcher Dr. Bethany Jenkins and her graduate student, Shelley Brown, in examining the role of sulfur and sulfate-reducing bacteria in the sediments of Greenwich Bay expressing the nitrogen fixing gene (*nifH*) only after the onset of hypoxia to verify the results of 2010.

NBEP has just learned that we have been successful in a collaborative proposal with Drs. Candace Oviatt and Bethany Jenkins submitted to RI Sea Grant to further our understanding of this issue in 2012-13. This new work will include nutrient measurements in the sediments simultaneous with DNA-RNA work. The NBEP staff will work with a URI grad student to acquire the sediment and water samples, and Dr Oviatt will perform the nutrient analyses, while Dr. Jenkins will complete all the genetic work. Technical Reviewers were highly enthusiastic about the proposed work, and indicated the results will likely have important implications for nutrient (nitrogen) cycling and nutrient load estimates in high-nutrient-load estuaries like Narragansett Bay.



Assistance to RIDEM Regulatory Actions

NBEP Chief Scientist Chris Deacutis has participated in several decision-making conference calls this summer with the U.S. Navy and the RIDEM Waste Remediation Division, including a review of the Navy sampling results and next steps in the major Phase 2 Remedial Investigation and Baseline Ecological Risk Assessment of Site 17, Gould Island.

The NBEP has continued to assist the RIDEM Water Resources in the process of the 316a and b permit review for the Manchester Street Power Station. We will be reviewing the literature in September 2011 to check citations used to justify acclimation and avoidance temperatures provided by the consultant to the Dominion Power Company and investigate if they missed any critical papers /tech documents.