

**Vol. 9 Issue 1 – March 28, 2012**

Welcome to the *Massachusetts Bays Window*, the newsletter of the Massachusetts Bays National Estuary Program. Our quarterly newsletter reviews the latest Massachusetts Bays Program (MBP) projects and accomplishments. For more information about the MBP, please visit [www.massbays.org](http://www.massbays.org).



**Save the Date for these Upcoming Events**

<u>EVENT</u>	<u>DATE</u>	<u>DETAILS</u>
New England Estuarine Research Society Conference	April 12 - 14	More info found <a href="#">here</a>
Climate Adaptation Training for Local Governments	April 24 - 26	More info found <a href="#">here</a>
North & South Rivers Clean Up Day	April 28	Email <a href="#">NSRWA</a> for more info
Run of the Charles Canoe & Kayak Race	April 29	More info found <a href="#">here</a>

**MBP Research and Planning Grants 2011 PRODUCTS**



Projects funded by the 2011 MBP Research and Planning Grant Program are completed and the results are impressive. As with previous newsletters, the *Bays Window* will provide information on these projects' results and products, which are highlighted with the MBP logo in the articles below. We are thrilled to be a part of these innovative and exciting initiatives.

**Applause for Award Recipients of the 2012 MBP Research and Planning Grants**

Following the successful completion of eight projects funded during 2011, MBP is pleased to announce the award recipients of its Fiscal Year 2012 Research and Planning Grant Program. In its second year, this program will support local initiatives and fund projects to identify the causes of coastal habitat degradation, develop plans to address coastal water quality pollution issues, and build local capacity to protect estuarine resources. Grant awards will be provided to the following:

- The Town of Danvers to identify a sustainable funding mechanism for stormwater management (\$20,000).
- The Cape Cod Commercial Hook Fishermen's Association to enhance and expand the River Herring Warden Network, which was created thanks to a 2011 MBP Research and Planning Grant (\$7,441).
- The Saugus River Watershed Council to conduct a smelt spawning habitat assessment in the Saugus River (\$10,000).
- The University of New Hampshire to create an eelgrass habitat suitability



model in Plum Island Sound and identify potential restoration sites (\$25,000).

- The Wildlands Trust to develop a plan for the South River Greenway and establish a walking trail along the South River (\$6,749).
- The Provincetown Center for Coastal Studies to conduct research on the sources and persistence of pharmaceuticals in Cape Cod Bay (\$22,119).
- Salem State University to explore the nature and causes of reduced water clarity in Salem Harbor that may exacerbate eelgrass degradation (\$24,992).
- The Massachusetts Division of Marine Fisheries to identify and prioritize restoration opportunities for coastal aquatic habitats in the MBP planning area (\$20,000).

Funding for MBP and these grants is provided through an annual agreement with EPA.

## MBP to Update Its Comprehensive Conservation and Management Plan (CCMP)



A hallmark of each [National Estuary Program](#) (there are 28 in all) is its CCMP. The CCMP lays out a framework for addressing the most pressing environmental issues facing the estuary of concern, such as poor water quality, habitat degradation, or land use planning. MBP last updated its [CCMP](#) in 2003, and times have changed! While many if not all the issues addressed in the older Management Plan persist, new issues have come to the forefront, such as climate change and sea level rise.

This time around, MBP will take a new approach to comprehensive planning, focusing much of this effort on identifying local and regional needs - issues specific to each estuary within the MBP planning area. To kick-off this effort, MBP will work with a contractor to delineate 43 major estuaries and embayments (see image at left) within the Massachusetts and Cape Cod Bays system. The contractor will collect baseline environmental information on each of these systems and lay the groundwork for assessing their environmental health over the long-term.

This summer, MBP will host a series of regional listening sessions where preliminary priorities will be presented and feedback sought on the most important estuarine management issues and how we can best work with our local partners to address them. We look forward to presenting the results of these listening sessions in our next newsletter!

## Glimpsing the Future with King Tides?



In late October, the Atlantic coast experienced a King Tide, a naturally occurring but HUGE astronomical high tide. Throughout Massachusetts, tides rose one to two feet higher (and dipped one to two feet lower) than normal due to the twice annual alignment of the sun, earth, and moon.

These King Tides gave a glimpse of the future and how typical high tides could look in 20 to 30 years depending on the impacts of climate change on sea levels. The MBP regions caught some telling and thought provoking snapshots of familiar MBP vistas under the unusually high tide conditions.

King Tides (A) flooded Pine Island Road in Newbury, (B) put the Norwell Boat Ramp under a few feet of water rendering it unusable, (C) rose to road level and overtopped the access stairs to Juniper Cove in Salem and (D) prohibited access to the Derby Wharf Lighthouse in Salem (see photos at right).



For more information about King Tides, please read the [EPA Factsheet](#) or this recent New York Times [article](#).

### *In the Regions: Upper North Shore*

#### **UPDATE: Great Marsh Revitalization Task Force**

The unique collaboration of legislators and local stewards, known as the Great Marsh Revitalization Task Force, is making strides towards its goal of managing invasive species in the Great Marsh. The Task Force met multiple times this winter to discuss 2011's accomplishments and set goals for 2012. Coordinated by the MBP's North Shore regional coordinator and chaired by State Senators Bruce Tarr (R-Gloucester) and Steven Baddour (D-Methuen) with State Representative Michael Costello (D-Newburyport), the Task Force meeting in January was attended by over 40 federal, state, local, not-for-profit, academic, and private stakeholders concerned with the spread of invasive *Phragmites* in the Great Marsh.



Actions recommended by the Task Force include:

- developing a hydrodynamic model of the Merrimack River Estuary and Plum Island River to better understand the tidal flushing and sediment transport patterns of the system;
- mapping the current extent of *Phragmites* to establish a baseline condition;
- treating and mowing the most robust and emergent stands of *Phragmites*;

- developing a five-year *Phragmites* Management Plan;
- hiring an education coordinator to lead *Phragmites* outreach activities; and
- identifying long-term funding sources.

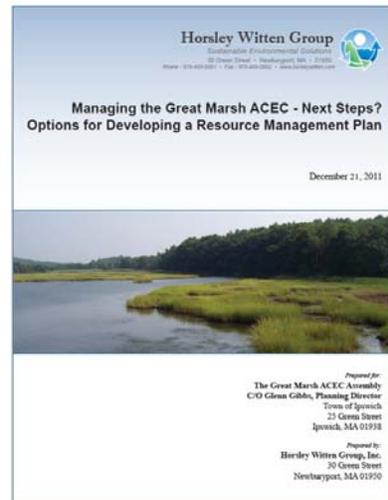
Specific priorities for 2012 include drafting a short-term management plan, which will include mapping of *Phragmites* in the region, identifying threatened areas, and further refining potential management options. The plan describing a suite of management options to be implemented in the Great Marsh will be submitted to the Massachusetts Environmental Policy Act (MEPA) Office requesting a certificate of approval from the Secretary of Energy and Environmental Affairs. This strategy would save time and money as applications would not be required for each individual management activity. Read more about this exciting initiative in two press pieces from the Newburyport Daily News and the Boston Globe: [Phragmites Battle Makes Progress](#) and [Reeds Threaten the Great Marsh](#). For more information, please contact [Peter Phippen](#), MBP's North Shore regional coordinator.

### All Together Now: Cooperative Resource Management Planning for the Great Marsh



The Great Marsh comprises the largest continuous stretch of salt marsh in New England, extending along the North Shore of Massachusetts from Cape Ann to New Hampshire. Because of its ecological and cultural significance, the Great Marsh, including 25,500 acres of barrier beach, dunes, and salt marshes, was designated an Area of Critical Environmental Concern (ACEC) in 1979. The ACEC boundaries extend across five communities and many habitats resulting in a complexity and diversity that warrants careful planning and management. In 2011, with funds from MBP's Research and Planning Grant Program, the Great Marsh ACEC Assembly, led by the Town of Ipswich, developed a [Cooperative Resource Management Strategy \(CRMS\)](#) which delineated a clear path for the management of the Great Marsh ACEC.

To gather input and ideas, the Assembly held a series of community forums. Through these discussions, the ACEC municipalities (Newbury, Rowley, Gloucester, and Essex) achieved consensus on key management approaches and chose to develop an ACEC Resource Management Plan (RMP).



The Assembly outlined next steps for the development of the RMP: (1) establish an RMP committee, (2) develop a public dialogue to garner support from local decision-makers to develop the RMP, (3) identify the key management issues to be addressed in the RMP, (4) establish working groups to assess existing conditions and recommend management strategies; and (5) develop and formally adopt the RMP. The Great Marsh Assembly laid the groundwork for concrete planning and management of the Great Marsh. For more information or to get involved, please contact [Peter Phippen](#), MBP's North Shore regional coordinator.

## *In the Regions: Salem Sound*

### **NEW RELEASE: Salem Sound to Boston Kayak Guide**

Attention kayakers and paddlers! Explore the North Shore by kayak with Salem Sound Coastwatch's (SSCW) [Salem Sound to Boston Kayaking Guide](#). Funded in part by the Massachusetts Department of Conservation and Recreation's Recreational Trails Program, this online resource provides detailed trip information for non-motorized watercraft within the estuaries and bays of the North Shore from Manchester to East Boston. Suggested trails outlined by the guide provide opportunities to paddle in a variety of settings, from rocky shorelines and sandy beaches to salt marshes, rivers and estuaries. The user friendly guide maps the locations of over 35 access sites with photos and other detailed information about parking availability and fees, facilities and accessibility, paddling trails, and points of interest – historic, scenic, and fishing spots. The [Salem Sound to Boston Kayaking Guide](#) can be found on the [SSCW website](#). For more information contact SSCW by [email](#) or 978-741-7900.



The *Salem Sound to Boston Kayaking Guide* starts where the [Kayaker's Guide to the Great Marsh](#) leaves off. The Great Marsh Guide, also online, starts in Salisbury at the New Hampshire border and includes the coastal areas of Amesbury, Essex, Gloucester, Ipswich, Newbury, Newburyport, Rockport and Rowley.

### **Volunteer Opportunity: Adopt a Beach in Salem Sound**

If you're looking for a rewarding way to get outside and enjoy the coast of Salem Sound, the newest volunteer opportunity with SSCW may be for you. The goal of the Adopt a Beach program is to protect water quality, public health, aquatic habitats and marine resources by training teams of community based volunteers to serve as year-round "beachkeepers." Towns included in the program are Manchester-by-the-Sea, Beverly, Danvers, Salem, Marblehead, Swampscott and Nahant. Beachkeepers typically

- Visually monitor for sources of pollution, signs of erosion, & evidence of invasive plants.
- Collect samples from stormwater outfall pipes and coastal streams for testing for bacterial contamination (where appropriate).
- Conduct or organize regular clean-ups, especially after storm events.
- Report on the effects of storms on the beaches.
- Identify other problems and issues affecting water quality.
- Participate in beach-profiling surveys (where appropriate).
- Assist in fundraising to assure sustainability of the project.

More information can be found on the [SSCW website](#). If you are interested in participating, please contact SSCW by [email](#) or 978-741-7900.

## *In the Regions: Metro Boston*

### **Moving Right Along – Boston Harbor Habitat Atlas**



This winter, MBP, in partnership with the Urban Harbors Institute and CZM, completed the first phase of the Boston Harbor Habitat Atlas project. Funded by a grant from the Massachusetts Environmental Trust, the project partners developed the Boston Harbor Habitat Atlas, which describes the extent, condition, and protection/restoration potential of seven priority habitats: diadromous fish, intertidal flats, nearshore submerged, rocky intertidal, salt marsh, seagrass beds, and shellfish beds found in the Boston Harbor region. There are two primary components to the Atlas: the Atlas website (banner image above) and the online data viewer (the Atlas's own version of CZM's [MORIS](#)). The Atlas website acts as a gateway to the spatial and non-spatial data found in the data viewer. Depending on their interest, the two parts of the Atlas allow the user to read about or view spatial information depicting resources in the Boston Harbor region.

The first phase of the project successfully engaged over 30 community and environmental interest groups who are active in the Boston Harbor region to form the Boston Harbor Habitat Coalition. The Coalition identified and prioritized habitat protection and restoration opportunities for priority habitat types in Boston Harbor and its contributing watersheds. The Coalition will continue to serve as an active stewardship group in the Boston Harbor region while using the Boston Harbor Habitat Atlas as a means to identify protection and restoration opportunities. This spring, MBP will continue to refine and develop the priority habitat descriptions and restoration opportunities. The Atlas will go live in May of 2012. For more information, contact the Metro Boston Regional Coordinator, [Lisa Engler](#).

## *In the Regions: South Shore*

### **Seeing Results through Partnership: Green Harbor River Restoration**

The Green Harbor River restoration project exemplifies a true partnership between MBP and its state and regional partners working together to ensure a successful restoration project. Recently featured in a [Boston Globe article](#), the Green Harbor River is showing ecological improvements upstream of an automated tide gate installed in 2009 to improve tidal flushing in the river. Through a bevy of monitoring and sampling efforts, MBP and local partners are documenting this project's success.

The MBP's South Shore regional partner, the North and South Rivers Watershed Association (NSRWA), has been coordinating the biological monitoring efforts for the project since the installation of the tide gate. With help from the Cohasset Center for Student Coastal Research and with funding through the Massachusetts Department of



Interns C. Lawson and L. MacPherson upstream of tide gate walking to fish seining site (Sara Grady, NSRWA)

Ecological Restoration (DER), MBP is conducting vegetation, nekton, and macroinvertebrate surveys as well as measuring how quickly *Phragmites* is receding due to increased salinity. Another partnership with CZM's South Shore regional coordinator, Jason Burtner, established the ongoing water quality monitoring program for the project.

Among the improvements noted through these monitoring efforts are fewer algal blooms, increased water clarity, and a reduction in the presence of *Phragmites*. Also, fish and macroinvertebrate species diversity is increasing and more closely resembles that of the river on the downstream side of the culvert. Thanks to all the many partners involved in documenting the success of this project! Continued monitoring is planned for Summer, 2012.

### **Prioritizing Stormwater Improvements for the Jones River and Kingston Bay**



Historically, Kingston Bay harbored a thriving shellfishing industry. But over time, deteriorating water quality resulted in restrictions on shellfish harvesting. In an effort to restore what once was, Kingston is seeking to improve the quality of its waters with the ultimate aim of lifting the prohibitions on shellfish harvesting. To this end, and with funding from a 2011 MBP Research and Planning Grant, the Town of Kingston evaluated the feasibility of installing BMPs at stormwater outfalls that discharge into the Jones River and Kingston Bay.

Beginning with 35 known stormwater outfalls to the Jones River, the Town identified a subset at which to perform water quality sampling during two storm events. Water samples were analyzed for bacterial contamination and total suspended solids. Based upon the results of the sampling, local site conditions, and proximity of the site to the Bay, BMPs for 10 of the sites were brought to a conceptual design stage. More detailed engineering designs were developed for the two most promising sites: Delano Avenue (photo below left) and Town Landing (photo below right). Implementation of BMPs at these two sites will be a priority for the town and funding sources are being identified. We look forward to seeing BMP implementation at these two locations and water quality improvements in Kingston Bay.



*In the Regions: Cape Cod*

### **Congratulations! Coastal America Partnership Award for Stony Brook**

Kudos was bestowed upon the Stony Brook Salt Marsh Restoration Project team this winter in the form of a [Coastal America Partnership Award](#). Only awarded to a few projects each year, this national honor goes to "outstanding collaborative projects and excellence in leadership for protecting, preserving and restoring the nation's coastal resources." Read more about the award and the project [here](#).



## **Calling Future Environmental Leaders!**

Fostering environmental ethics in future environmental leaders is a key part of the Association to Preserve Cape Cod's mission. For many years, APCC, MBP's Cape Cod regional partner, has sponsored summer interns through the Whitlock Internship, named after APCC's founder Dr. Herbert Whitlock, providing exciting and unique opportunities for students and young professionals. The 2012 Whitlock Intern will conduct a field survey to identify and map Cape Cod's natural plant communities as part of APCC's ongoing work to update the Cape Cod Critical Habitats Atlas. The information collected will be organized into a GIS database, and maps of natural communities will be prepared.

This year, APCC announces a new opportunity in addition to the Whitlock Internship. The new Maggie Geist Internship is named after former Executive Director Maggie Geist who retired in September, 2011. The Geist Internship is a funded position designed to provide undergraduate students committed to ecology and environmental protection with a meaningful learning experience on Cape Cod. For 2012, APCC is seeking a college student to evaluate the current state of stormwater management on Cape Cod and identify gaps and needs in the context of state and federal stormwater policies and regulations. APCC will utilize the evaluation to prepare "stormwater report cards" that describe how well each Cape Cod municipality is addressing stormwater management.

For more information please see the [APCC website](#). Students should submit a letter of interest outlining their qualifications, relevant coursework and career goals with a technical or scientific writing sample to [info@apcc.org](mailto:info@apcc.org).