Barnegat Bay Estuary Program

The Barnegat Bay Beat

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Barnegat Bay Reaches Global Audience

When the Barnegat Bay National Estuary Program (BBNEP) awarded the Literacy Volunteers of America, Ocean County, Inc. (LVA) a 2005 minigrant, it was obviously considered an excellent project for the Barnegat Bay Watershed, but no one could estimate the extensive audience that it would eventually reach. Under the supervision of Agnes Hebler, LVA Coordinator and project supervisor, the minigrant resulted in reaching a global audience by the introduction of the curriculum to a group of international schools.

Agnes Hebler explains the Water Cycle to a classroom filled with local students.

"Agnes is truly an unsung hero. She has made such a positive impact on so many lives in the local and global community. She creates an excellent project and makes it extraordinary, but she never takes the spotlight," said Shannon Shinault, BBNEP Public Outreach Coordinator.

The awarded minigrant money was used to create a learning module and educational brochures to assist low-literacy and non-English speaking adults in gaining a greater understanding of Barnegat Bay National Estuary Program concerns. This developed curriculum is not only used as an intrinsic part of training new tutors for LVA but has also been recently introduced and accepted by Quality Schools International (QSI).

On a recent trip to Thailand, Agnes Hebler visited the school that she founded in Phuket in 1989. The school is now a part of QSI, which is a group of non-profit international schools founded in order to provide a quality education in the English language for expatriates living in the international community. Hebler shared the curriculum with the director of the school. It received such a favorable review that the BBNEP concepts and LVA Curriculum will become part of the science program for dozens of schools around the world.

"Water is a critical resource in any country. It is especially important for Thai residents. Since Phuket is an island, water is used for recreation, as well as for commercial needs," said Agnes Hebler, LVA Coordinator. She was also encouraged that both the Ocean County tutors and their students were learning from this new curriculum. Hebler added, "The information for tutors who are newcomers to this area serves a clarion call for their awareness and responsibility for preserving the natural resources of their new locale."

This is only the beginning of a long-term partnership between the Barnegat Bay National Estuary Program and the Literacy Volunteers of Ocean County. According to Hebler, "On behalf of LVA of Ocean County, we have been both pleased and enriched by our partnership with the Barnegat Bay National Estuary Program. The information and visual materials have served as good tools for our instructional projects."

If you are interested in volunteering for the Literacy Volunteers of America in Ocean County, please contact their office located on the main campus of Ocean County College at (732) 864-9646.

Getting to Know Our Neighbors-- Phragmites: Hate it or Love it?

Joan G. Ehrenfeld, Ph.D., Professor, Cook College, Rutgers University

Phragmites australis, or the common reed, is one of the most abundant plants in the world. With a distribution throughout the temperate and subtropical zones of all continents, it is also perhaps the most infamous wetland plant on Earth. "Phrag," as it is often referred to, is a widely distributed reedgrass in coastal New Jersey, and the Barnegat Bay watershed is no exception.

Mature phrag can grow up to 9 feet tall with leaf blades up to 2 feet long. From July to October the reedgrass produces a pink-purple flower tassel that contains large amounts of seed. These seeds are dispersed between November and January.

Phrag is considered by property owners and developers alike to be a major weed that invades lakes, ponds, and basically any soil depression that holds water. It also invades gardens and wetlands where it suppresses desirable plants and often times displaces native plant species that provide food for wildlife and subsequently alters the wetland habitat.

However, there are positive aspects and uses to phragmites as well. Indeed there are those who even consider the reedgrass to be aesthetically pleasing…

Benefit or Bane?

In many parts of the globe, phragmites has been, and continues to be, a highly valued resource. Some of its many uses include forage and bedding for animals, thatch for roofing, stream bank protection, making arrow shafts and musical instruments by Native Americans, and habitat for a wide variety of animals, both vertebrate and invertebrate. It is also the most frequently used species in wetlands created for the treatment of wastewater. However, in the Eastern United States, it is often considered as the epitome of evil due to its uniform dense growth, which excludes nearly all other plant life.

Phragmites is thought to support little in the way of wildlife, fish or invertebrates, and it is feared for its ability to rapidly occupy huge swaths of land. However, some studies have suggested that there is actually more animal diversity in phrag stands than was previously thought. The genetic variety in most of the United States, or the hated kind that forms dense monocultures, is now thought to be non-native, having originated in Eastern Europe. Many believe this species has prevailed over and nearly eliminated the native variety that has always grown in places like the Delaware Estuary.

The Root of Phragmites' Success

Phragmites deserves our respect. In order to appreciate the species' success in commandeering wetland habitats, it is helpful to understand the numerous adaptations it has undergone to deal with harsh environments. Phragmites is a member of the grass family and thus, it has features characteristic of this group. These include peculiar flower structures and hollow stems with strengthening cross-plates at the nodes. The hollow stems connect to a vast underground system of roots and rhizomes (underground stems that spread out laterally).

These rhizomes in particular are one of the secrets of its success. They measure over an inch in diameter and are often 20 feet long. These stems are hollow and allow oxygen to travel from the leaves to its root tips in the oxygen-deficient soil. They also have a bud at each node that can form new shoots (large, hollow stems) that may emerge from the soil.

(continued on page 3)

Three quick tips for a healthy lawn:

* Test your soil's pH before fertilizing. Call Rutgers Extension (732-349-1246), or purchase a simple soil testing kit from a garden shop.

* Fertilize with an organic fertilizer in the autumn, not the spring -- over-fertilizing with a chemical fertilizer will create a chemically-dependent lawn. Keep your lawn aerated, rake in some good leaf compost or mushroom soil, and reseed with a tall fescue.

* Log on to www.ocscd.org for a free downloadable copy of the "Low Maintenance Landscaping Guide for the Barnegat Bay Watershed."

Congratulations Paul D. "Pete" McLain

Paul "Pete" McLain was a recent recipient of NOAA's Environmental Hero Award. For more than 50 years, Pete McLain has been involved in promoting stewardship and public awareness of Barnegat Bay. As an official with the New Jersey Department of Fish, Game and Wildlife for 36 years, Pete McLain developed the New Jersey Non-game and Endangered Species Program, a model for the nation, reestablished ospreys and peregrine falcons in New Jersey, and studied beach grass and eelgrass in Barnegat Bay. McLain was responsible for the acquisition of more than 18,000 acres for wildlife management areas and recreation areas from Delaware Bay to Barnegat Bay, including the Great Bay Boulevard and Atlantic County Meadows, Sedge Island, Higbee Beach at Cape May Point, Island Beach, and parcels of land along the shoreline in the Delaware Bay from Fortescue to Cape May Canal.

Our Neighbors...(cont. from page 2)

Rhizomes can grow downward as well as outward. In fact, a single phragmites plant can spread out laterally and form a large clonal colony while, at the same time, maintaining a root system deep in the soil. This takes place thanks to its ability to transport oxygen-containing air through its rhizome system.

Phragmites' method for moving oxygen downward to the roots is also a unique and specialized system, which gives it a great advantage in the highly anaerobic (oxygen-deficient) soils of marshes. When stems die and break off, they leave the base of the shoot sticking above the surface of the ground. As wind blows across the hollow bases of these old stems, it lowers the air pressure inside. This decrease in pressure causes a flow of air from the leaves of each new shoot through the rhizome system, and this supplies even more oxygen to roots that sprout from the rhizomes. Through this mechanism, Phragmites can move oxygenated air three to four feet from each stem, or much farther than plants lacking this structure.

The rhizomes also give the plant another kind of insurance, for even when separated from the mother plant, buds located on fragments of rhizomes can germinate and start new plants. The most common causes of this method of spread are storms and human activities, both of which distribute rhizome fragments across the land.

Water Cleansing at a 'Phrag'ment of the Cost

Phragmites' ability to grow rapidly and tolerate high concentrations of nutrients and pollutants has made it the plant of choice for artificial wetlands. Engineers have discovered that these wetlands carry out the same process as wastewater treatment plants. Therefore, wetlands are now frequently constructed in ways that make them as effective at cleansing polluted waters as conventional treatment plants, but at a fraction of the cost thanks to energy supplied by the sun.

Phragmites is the most commonly used plant for such wetlands. Its ability to move oxygen to its roots enhances the growth of the microbes necessary for treating wastes. Its rapid and large growth also removes large amounts of excess nutrients from the water, and its ability to tolerate high concentrations of toxic substances makes it ideally suited for these wetlands. Perhaps it is no wonder this species has thrived with such success in the Barnegat Bay watershed.

For more information about on Dr. Ehrenfeld's research on the subject visit www.rci.rutgers.edu/~ehrenfeld.

For information about Phragmites management and control visit http://www.rcre.rutgers.edu/pubs/subcategory.asp?cat=1001&sub=1001 (Fact sheet number: FS927).

National Estuary Program Faces Cut Backs

Dave Wilson Jr., Public Outreach Coordinator for the Maryland Coastal Bays Program

In the United States, there is one program charged with working with local citizens to protect and preserve coastal estuaries - the National Estuary Program (NEP). But this year, the NEP is proposed to be slashed by 25 percent.

Last year, the country's 28 National Estuary Programs received $24.5 million to achieve the monumental task of conserving what's left in estuaries on the East, Gulf, and West Coast. This year the president's budget wants that number cut to $18 million. This number is almost half of the $35 million authorized by Congress in 2006. Last year, after a portion was given to other federal programs, the funds to each National Estuary Program came in at about $500,000.

This year the Association of National Estuary Programs is asking to finally receive full funding at the $35 million level, which would mean that each of the 28 programs receive at least $600,000.

The urgency of restoring and protecting our coasts and estuaries has never been greater. Recent reports by the Pew Ocean Commission and the US Commission on Ocean Policy (USCOP) underscored the widespread agreement that our oceans and marine resources are in serious trouble. The US Ocean Action Plan to implement the USCOP recommendations placed significant emphasis on managing our coasts and their watersheds.

In fact, the President's recently released Fiscal Year 2007 budget request noted that "the National Estuary Program (NEP) is EPA's flagship watershed protection effort. The NEP provides inclusive, community-based planning and action at the watershed level and has an established record of improvements to ecosystem conditions."

In 1987, Congress created the National Estuary Program to restore designated estuaries of national significance. There are 28 estuaries in the NEP, all of which are implementing their Comprehensive Conservation and Management Plans (CCMPs). More than 42 percent of the continental U.S. shoreline is included in the NEP, and 15 percent of all Americans live within NEP-designated watersheds, with thousands of new residents arriving every year. In the United States, estuaries provide habitat for more than 75 percent of America's commercial fish catch, and 80-90 percent of the recreational fish catch. Estuarine-dependent fisheries are among the most valuable, with an estimated worth of $1.9 billion nationwide.

Coastal recreation and tourism generate an additional $8 to $12 billion annually. According to recent EPA analyses, estuaries of the NEP employ 39 million people and support total economic output and employee wages estimated in the trillions. The tourism sector alone employs 1.2 million people and generates more than $87 billion in expenditures. We believe the NEP warrants full funding at the $35 million authorized level because it has proven to be one of the most effective and efficient national environmental programs. Full funding is necessary to continue ongoing work to implement all 28 CCMPs, and to ensure the restoration and protection of our nation's estuaries.

EPA estimates that the NEP has preserved, restored or created more than 700,000 habitat acres. The NEP has accomplished this by fostering and maintaining strong partnerships among federal, state, and local governments, the private sector, and local stakeholders, and by using a consensus, community-based approach with strong local control in developing and implementing management plans.

In the weeks ahead, we look forward to working with congress and citizens to realize a strong and successful National Estuary Program.

A BIG thank you to the following New Jersey representatives for their recent support of fully funding the National Estuary Program:

*** Congressman James Saxton**

*** Senator Frank Lautenberg**

*** Senator Robert Menendez**

These dedicated individuals signed their names to a letter, addressed to the U.S. House of Representatives Committee on Appropriations, requesting full funding, at the $35 million authorized level for the National Estuary Program for fiscal year 2007.

Without the support of our leaders in Washington, D.C., the work we do here in Ocean County to protect this valuable estuary would not be possible.

Visiting Residents of the Long Swamp Creek

Liz Glynn, New Jersey Community Water Watch Campus Organizer

"Long Swamp Creek? I didn't even know it had a name. You mean Lester Lake?" remarked local residents in response to Ocean County College (OCC) student interns working with NJ Community Water Watch.

The OCC Chapter of NJ Water Watch headed out into the neighborhood on a sunny Saturday afternoon and knocked on the doors of the residents living along the Long Swamp Creek. People were friendly and eager to talk, but unfortunately, did not know they lived in the Long Swamp Creek watershed. Most people thought their local waterway was a drainage ditch and did not know it was a tributary of the Toms River. Nor were they aware that the creek empties out into the river near a bathing beach.

Residents complained about floating trash, fishermen who litter, and the geese population. People often feed the geese at the area known as "Lester Lake," which contributes to high fecal coliform counts.

This neighborhood canvas was part of OCC Water Watch's efforts to educate residents about their local waterway and the effects of non-point source pollution. OCC student interns put together a survey to assess the habits of residents, such as fertilizing lawns and using pesticides, which could negatively impact the health of the local waterway. Students researched lawn care and created a brochure entitled, "A Guide to Environmentally Friendly Lawn Care," which was handed out to residents.

OCC Water Watch student interns were motivated to inform the neighborhood after spending the semester monitoring the Long Swamp Creek. While completing visual assessments and biological testing of the creek, students were surprised to find shopping carts, furniture, tires, bikes, and lots of trash. As a result, they knocked on doors and organized an Earth Day cleanup of two sites along the creek, which the local residents were invited to attend. Nearly 60 people, students and community members, came out early Earth Day morning to clean up the creek and pull all the trash out of the water.

OCC Water Watch utilized the knowledge and information provided by the Barnegat Bay National Estuary Program to assist them in their efforts to make a difference in their community. NJ Community Water Watch is a state-wide environmental program located on college campuses, and works with local community groups and governments to encourage stewardship of our local waterways. Water Watch is a joint project of Americorps and the NJPIRG Law and Policy Center.

MAILING LIST:

☐ Please add my name to your mailing list for my free subscription to *The Barnegat Bay Beat*.

☐ Please remove my name from your mailing list. There's no more room in my mailbox, but I will be sure to check your website at www.bbep.org.

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Mail this coupon to: Barnegat Bay National Estuary Program, at Ocean County College, PO Box 2001, Toms River, NJ 08754-2001, OR email us at: sshinault@ocean.edu

Don't Miss Out On These Upcoming Events!

32nd Annual Dover Twp. Founders Day Parade & Street Festival
Washington St., Toms River
June 10, 9 am - 4 pm

Farmer's Market
Water Street, downtown Toms River
Every Wednesday, Rain or Shine
June 14-October 25, 12 pm – 6 pm

Baymen's Seafood and Music Festival
Tuckerton Seaport, June 24, 11 am
Information: (609) 296-8868 or
www.tuckertonseaport.org

National Beach Volleyball
Seaside Heights
June 29
Information: (732) 854-8000 or
www.SeasideHeightsTourism.com

Wooden Boat Festival
Huddy Park
Toms River Seaport Society
July 8
Information: (732) 349-9209 or
www.tomsriverseaport.com

Ocean County Fair *
Robert J. Miller Airpark, Rte. 530, Berkeley
July 11 – 16
Information: (732) 914-9466 or
www.oceancountyfair.com

Red Wine and Blues Festival,
Tuckerton Seaport, Tuckerton
July 15
Information: (609) 296-8868 ext 100 or
www.tuckertonseaport.org

4th Annual NJ State Ice Cream Festival*
Washington Street, Toms River
July 22, Information: (732) 341-8738 or
www.downtowntomsriver.com

Sixth Annual FantaSea Festival*
Veteran's Bicentennial Park,
Engleside & Beach, Beach Haven
July 29
Information: (609) 492-0222

In the Classroom

Cattus Island Park Tidal Marsh Camera
Christopher Claus, Chief Park Naturalist

The tidal marsh camera at Cattus Island Park is more than a wonderful way to allow visually and physically impaired visitors an intimate view of an important habitat. It is also a testament to the success of community partnerships. Four organizations and one anonymous donor understood the Cooper Environmental Center's mission and the importance of the project enough to share $13,000. The gifts included: an anonymous donation of $10,000, $1,000 from the Toms River Daybreak Kiwanis Club, $1,500 from the Ocean County College Experimental Watershed Project, a computer from the Ocean County Vocational and Technical School, and a $500 grant from the Ocean First Foundation.

The initial $10K donation stipulated that the funds be used for a project that would benefit the visually impaired. Due to visual impairments, certain visitors cannot use binoculars to see the osprey nesting platforms on the marsh. Physical impairments prevent others from getting close enough to the tidal marsh to appreciate its beauty. The camera, which allows visitors to pan, tilt and zoom, provides excellent views of the nesting osprey and the other wonders of the marsh. The image appears on a touch-screen monitor, as well as on a 32" LCD display.

Once the Parks Department makes a commitment to provide broadband data service to the Cooper Environmental Center, the images from the camera can be streamed to the entire world. Students from Ocean County College to Oxford University could use the images to learn more about our complex estuarine ecosystem. Until then, stop by and visit the Cooper Environmental Center. Young and old, visually impaired or not -- all are welcome to use the camera to see osprey and other tidal marsh critters closer than ever before.

Berkeley Island Beach Bash
Berkeley Island County Park, Bayville
August 4th
5:30 - 9:30 p.m.
www.oceancountyparks.org

Waterfest 2006*
Bayview Park, Brant Beach
August 9, 11 am – 2 pm

Brick SummerFest2006 *
Featuring Total Soul and Kenny Vance & The Planotones plus FIREWORKS!
Windward Beach Park, 5:30 p.m.
For information: 732-262-1006 or visit
www.bricktownship.net/summerfest

*** Look for the BBNEP display!**

Looking for Kid's Summer Programs? Check out these great websites for more information.

www.livingocean.org/events.html

www.co.ocean.nj.us/parks/programs.htm.

www.ocean.edu/conted/index.htm

www.oceancountylibrary.org/Calendar/Events.htm

www.lbifoundation.org/ArtsAndEducation.html

Where's Barney?

Barney keeps exploring. Think you have the answer to this month's location? Be the first to email the correct answer to mjudge@ocean.edu to receive your Barnegat Bay tote bag.

PLEASE NOTE THAT THERE WILL BE NO BARNEGAT BAY FESTIVAL IN 2006. WE'RE PLANNING A BIG CELEBRATION FOR OUR 10-YEAR ANNIVERSARY IN 2007, SO PLEASE SAVE THE DATE – SUNDAY, JUNE 3, 2007

May we have your attention please!!

The BBNEP is looking for dedicated, enthusiastic volunteers for our newly forming Fundraising Committee.

If you would like to:

- Help plan successful community events
- Meet new people
- Work with new organizations
- Be a leader in the community
- Help the BBNEP to protect and improve the health of the Barnegat Bay Estuary…

then this is the opportunity for you!!

This committee will meet on a regular basis to plan fundraising events in the Barnegat Bay watershed to benefit the BBNEP.

If this sounds like a good fit for you, please contact Jeanine Cava at 732.255.0472, x 4 or jcava@ocean.edu as soon as possible.

We look forward to hearing from you!

Real-Time Water Monitoring in the Barnegat Bay

Dr. Robert Scro, BBNEP Director

A major initiative is now underway by the Barnegat Bay National Estuary Program (BBNEP) to provide accurate and comprehensive measurements of water quality parameters in the Barnegat Bay-Little Egg Harbor Estuary, as specified in the Comprehensive Conservation and Management Plan. The BBNEP, working together with the Institute of Marine and Coastal Sciences (IMCS) at Rutgers University, and the New Jersey Department of Environmental Protection's Bureau of Marine Water Monitoring, has established two automatic data logger sampling stations in the Barnegat Bay-Little Egg Harbor Estuary for long-term water quality monitoring. The project is led by Dr. Michael Kennish, IMCS, who has a great deal of experience using YSI 6600-M automatic data logger units for estuarine water quality monitoring. Parameters being measured every 30 minutes, include water temperature, salinity, pH, dissolved oxygen, and turbidity, all of which greatly influence biotic communities in the estuary. A total of $75,000 for the project was provided to the BBNEP Program Office as part of a legal settlement with the Oyster Creek Nuclear Generating Station.

The two data logger monitoring sites are in proximity to critically important submerged aquatic vegetation (SAV) beds and vital resource species of fish and shellfish. The data is being sent via telemetry to various websites, including the BBNEP(www.bbep.org), NJDEP and Rutgers University.

Ocean County College and the Ocean County Vo-Tech School (MATES) are also providing support in the field and for data management.

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Fishin' for Ideas

We welcome all contributions and story ideas for inclusion into *The Barnegat Bay Beat*. Please contact Shannon Shinault via email at sshinault@ocean.edu for more information.

The Barnegat Bay Beat is a quarterly newsletter produced by the Barnegat Bay National Estuary Program. The Barnegat Bay National Estuary Program is a partnership of federal, state and local interests. Our office is located on campus at Ocean County College, College Drive, Toms River, New Jersey.

The Barnegat Bay Beat

Barnegat Bay National Estuary Program

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