

The Tidal Exchange



Newsletter of the New York ~ New Jersey Harbor Estuary Program

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THIS ISSUE

HARBOR ESTUARY NEWS

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Greening the Urban Environment: Rain Gardens Build Sustainable Communities in New Jersey

Rain gardens are an easy and inexpensive way to help tackle stormwater runoff problems. With funds received through a collaboration between HEP and the NJ Marine Sciences Consortium/NJ Sea Grant (NJMSC/NJSG), Future City Inc., a local community group, has led the installation of four rain gardens in Elizabeth and Newark. The Water Resources Program at Rutgers NJ Agricultural Experiment Station also partnered in this effort. This collaboration is an excellent case study of community improvement through cooperation that could be imitated in other urban areas in the NY-NJ Harbor Estuary and beyond.

The Problem: Stormwater Runoff

Once rain strikes the ground, water can have one of three main fates: be absorbed by the soil (infiltrate),

evaporate, or flow over the land surface (runoff).

On a natural landscape, most rainwater infiltrates the soil and is either used by vegetation or travels through the soil to recharge both groundwater and surface waterbodies. As land is developed, the natural landscape is replaced with the built environment, consisting of houses, roads, parking lots and other impervious surfaces that cannot absorb water. As a result, in urban settings, the majority of rainwater runs off our roofs and roads, turning an invaluable resource into a problem that is typically managed by moving the water out of the way as quickly as possible to avoid floods, sewage backups, and other problems.

Cities deal with runoff by way of their stormwater and sewage infrastructure; a system of buried pipes beneath our urban landscape.

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Future City students and interns plant native species at Third-Westminster Presbyterian Church rain garden.



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The Tidal Exchange – Summer 2009

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The Tidal Exchange is a publication of the New York – New Jersey Harbor Estuary Program (HEP), a partnership of federal, state and local governments, scientists and citizens working together to protect and restore the natural resources of the estuary. The purpose of the newsletter is to promote an informative dialog on issues related to the Harbor Estuary Program.

The HEP is sponsored by the States of New York and New Jersey and the US Environmental Protection Agency. The HEP Management Committee consists of representatives from the US EPA, NJ DEP, NYS DEC, NY and NJ local governments, US ACE, US DOI, NOAA, Port Authority of NY & NJ, Interstate Environmental Commission, NJ Harbor Dischargers Group, NYS DOS, Science & Technical Advisory Committee and Citizens Advisory Committee.

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Greening The Urban Environment (from page 1)

In separate sewer systems, there are two networks of pipes: one carries stormwater directly to surface water bodies, and the other sends sewage to a plant where it is treated before discharging. Older cities, including New York City, Elizabeth and Newark have combined systems, where both stormwater and sewage are transported through the same pipes to the treatment plant. However, when it rains and the volume exceeds the treatment plant's capacity, mixtures of sewage and runoff are discharged without treatment into our surrounding water bodies. These events are called combined sewer overflows or CSOs.

Stormwater-related problems in urbanized areas are numerous, including:

- As stormwater flows over the land, it picks up litter, dirt, and pollutants that it finds on its way, and discharges this polluted runoff into our waters, also known as nonpoint source pollution
- Combined sewer overflows can cause beach closures and shellfish harvest restrictions
- Floods, as large amounts of rain water are carried rapidly to surface waters. This is aggravated by litter

clogging stormwater drains and pipes

- Erosion, which removes soil from land and stream banks and deposits sediments along the Estuary's bottom damaging ecosystems and filling navigation channels

Solutions: Green Infrastructure

Historically, the most common approach to mitigate stormwater problems has been engineering or "end-of-pipe" solutions, such as installing larger pipes, or building storage tanks to hold stormwater and release it later on, when the system can handle it. Although these methods can

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HEP Requests for Proposals

HEP will soon release requests for proposals in three areas:

- Public Access Events (approximately \$20,000 will be available)
- Stewardship (\$45,000)
- Habitat Restoration Planning (\$135,000)

These requests for proposals will be posted on www.harborestuary.org, so please check out our website frequently.

Map of the New York-New Jersey Harbor Estuary



The Urban Divers Help Raise Urban Community's Environmental Literacy through Education, Culture and Community Stewardship

Ludger K. Balan

Being a passionate diver, naturalist, and aquatic activity enthusiast, I found it very frustrating to be living in a city that is surrounded by water, and not only not being able to get to it but being frightened about so many unknowns regarding the pollution that challenges it.

Such a disturbing realization supplied the impetus for a socially and culturally diverse group of environmental and social activists, all divers, to get together and form an organization whose mission is to foster environmental stewardship and provide public education to all residents of the New York Harbor estuary, including the Hudson River.

Today The Urban Divers Estuary Conservancy (UDEC) is a not for profit environmental and cultural organization entering its 11th year. UDEC serves various communities in NY Harbor through environmental education, community stewardship, conservation support, and youth environmental leadership training. It sponsors numerous programs leading to maritime literacy and cultural enrichment.

About 4 years ago The Urban Divers conceived and established the Harlem River Ecology Center (HREC) and Hudson River North Marine Station to complement the organization's work on the saltier Gowanus/Red Hook South Brooklyn Harbor Marine Field Station. The HREC is an urban nature center and micro maritime museum located on the Bronx Harlem River Waterfront. It stands at the southern end of Roberto Clemente State Park—the first urban state park built in NYC and named after a legendary Afro-Latino Baseball Hall of Famer and, most significantly, a humanitarian hero. The urban nature center is uniquely located by NYC Bridge Park and River Park Towers (a low income housing development), and within walking distance of the Historic High Bridge Aqueduct, now in restoration.

This historic aqueduct, which brought water to upper Manhattan from the Croton Aqueduct, was a catalyst to the development of Washington Heights in upper Manhattan and served as a unique, pedestrian-only bridge, connecting the Bronx and Manhattan shore lines. Closed to the public about 35 years ago, it will be reopened, as early as 2012, reconnecting families on both sides of the Harlem River.

UDEC's unique and innovative environmental center offers a modest estuarium, aviary, reptarium, interactive and interpretive exhibits and other resources that inspire rediscovering and learning about the living nature and history of our urban estuary and watershed. With direct outreach to a diverse population within the State Park, and engaging 11 local schools, the Harlem River Ecology Center welcomes an extended audience of 120,000 community residents and park visitors. Other UDEC programs, along with its mobile unit, educate thousands more environmental stewards along Brooklyn, Queens, Western Long Island, and Lower Manhattan waterfronts.

UDEC was awarded its mobile unit, The Urban Divers "EnviroMedia Mobile," to reach out and bring their programs to a wider audience within the estuary and beyond. This mobile unit is a traveling nature and maritime museum that promotes environmental literacy and stewardship throughout the estuary, with a focus at its South Brooklyn Field Station. The EnviroMedia Mobile will also travel to schools, community centers, day camps, and local and regional community events and festivals, offering numerous programs. This unit "...hopefully will be fully operational and ready to serve by this summer. We are seeking volunteers and interns to help", adds Christina Health, Intern and Volunteer Coordinator.

With these tools, UDEC promotes responsible citizenry



Get On The Water NYC—Urban River Tours Ecocruise Series: Paddling the Bronx River in hunt of the Bronx River Beaver.

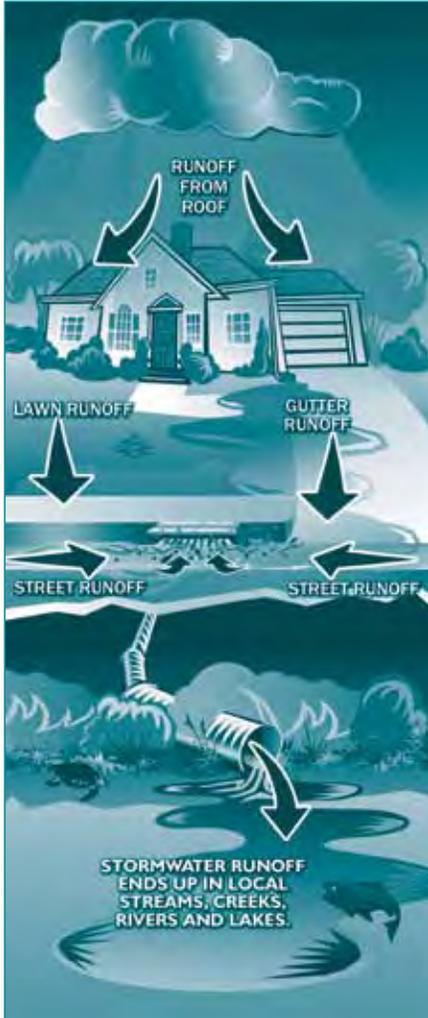
towards protecting, conserving and revitalizing the natural resources of the urban estuary and its watershed, while providing a vision for future public use and opening up access to them. "The larger hardworking urban families along the urban estuary in NYC and the lower Hudson Valley, especially during these harsh economic downturns, may no longer be able to afford a family vacation. Our parks and our waterfront may serve as the only refuge for outdoor recreation, and as a coolant", says Mitsue Nagase, Program Coordinator.

All year around, The Urban Divers Estuary Conservancy provides urban families with much anticipated on water and on shore environmental education through recreation. Its youth environmental leadership program Urban Marine Explorers is a staple resource that provides an alternative pathway in expeditionary and experiential learning, for the discovery and pursuit of higher education in environmental and maritime careers for community Middle and High School students. Teens 14 and older can also take advantage of summer internships and employment at UDEC through its youth environmental leadership and

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be effective, a common criticism is that they do not address the root problem and are very expensive.

Green infrastructure approaches, including rain gardens, have been



Courtesy of NCDENR

gaining support as alternatives or complements to engineering solutions. Green infrastructure is the use of vegetated areas to increase water infiltration and evapotranspiration, while providing additional benefits such as cleaner air, decreased urban temperatures, and aesthetic community benefits.

What are Rain Gardens?

Rain gardens are gardens designed to collect and hold water for short periods of time, allowing water to infiltrate the soil below. Although rain gardens may look no different from any other garden, they can absorb 30% more water. When it rains, rain gardens fill with a few inches of water, which then

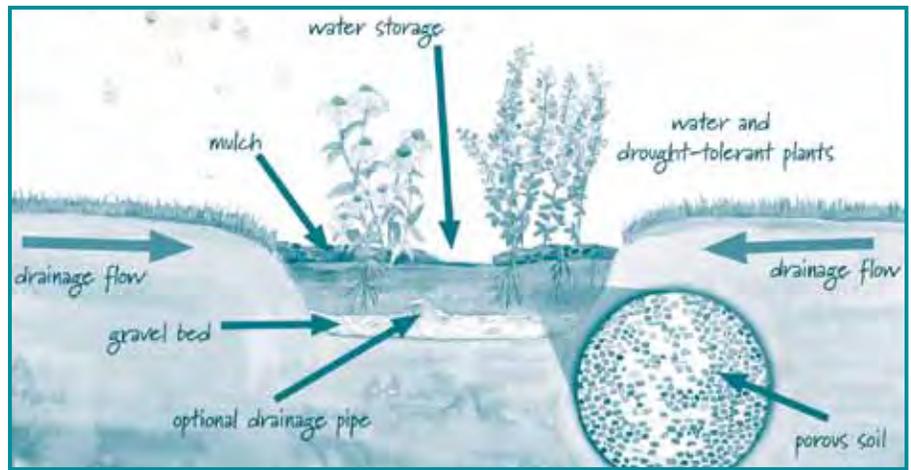


Diagram of a rain garden. Graphics prepared by U.S. EPA's Assessment and Watershed Protection Division.

filters slowly into the ground instead of running off to storm drains. One single garden will not solve all stormwater problems, but a large number of these and other simple solutions (such as rain barrels) can make a difference.

Because of their special properties, rain gardens need to be carefully planned, designed and built. Among other factors, the location and size of the garden, soil properties, and plant species must be considered. If you are interested in building a rain garden, make sure to check out some of the many available guides and brochures. A good source of information is the Water Resources Program at Rutgers NJ Agricultural Experiment Station: http://www.water.rutgers.edu/Rain_Gardens/Rain_Gardens.htm

Future City's Project

Out of several candidate sites, Future City built rain gardens at two local schools (Benedictine Academy and St. Benedict's Preparatory), Third-Westminster Presbyterian Church and Bonnell House (where Future City operates).

Throughout last spring and summer, local high school and college students worked hard to establish the rain gardens with help and supervision from Greg Rusciano (Rugters Cooperative Extension and NJSG Extension). Students also created numerous outreach materials in English and Spanish to educate this diverse community, from brochures and slide presentations to videos posted on YouTube (<http://www.youtube.com/user/FCINJ>). Community members and local businesses provided equipment and materials, or donated their time

and expertise. Property managers were involved in site planning, development and construction, and have committed to maintaining the gardens long term, ensuring the gardens' sustainability.

Rain gardens help build sustainable communities, not only because of their direct environmental benefits, but also because they bring aesthetically pleasing landscapes that improve well-being and livability, and can increase property values. When rain gardens are the result of a collective effort, they also contribute to a well-deserved sense of communal pride, increased awareness of environmental issues, and stewardship for these and other shared resources. Ultimately, this makes for stronger, healthier communities that also acquire useful skills.

Future City's collaborative approach ensured the success of this effort and demonstrated how people can be brought together to accomplish tangible, multiple improvements to their communities. We hope this will inspire similar efforts throughout the Harbor Estuary to protect and improve our waters for future generations. ❖

City of Water Festival

Save the date! On July 18, 2009, Metropolitan Waterfront Alliance will be hosting the 2nd Annual City of Water Day Festival in Governors Island. This will be a FREE day of food, live music, education, & adventure for the whole family celebrating the potential of our waterfront. For more information visit www.cityofwaterday.org/

New Jersey Programs for Marinas, Boaters and Anglers Help Keep Harbor Waters Clean

Tali McArthur

The New Jersey Clean Marina Program helps protect the Harbor's waters from pollution by providing incentives and assisting marinas to adopt more environmentally friendly practices.

The New Jersey Coastal Management Office (CMO), in partnership with several other organizations, launched the statewide NJ Clean Marina Program in the spring of 2005. Key Program partners include the NJ Marine Sciences Consortium/NJ Sea Grant (NJMSC/NJSG), the NJ Department of Transportation Office of Maritime Resources, and the Marine Trades Association of NJ.

The NJ Clean Marina Program is a voluntary education-based initiative that promotes the marina and boating industry's adoption of voluntary best management practices (BMPs) that help prevent adverse impacts to water quality, sensitive habitats, and living resources in proximity to marinas. The Program provides technical assistance and guidance to marina owners to reduce nonpoint source pollution including sewage disposal; fueling operations; waste management; boat and engine maintenance, repair and cleaning; and boater education. The Program also assists with state and federal regulatory compliance.

Marinas get points for adopting BMPs. They can use a self-assessment checklist to evaluate the implementation of BMPs at their facilities. Marinas that score at least 80% are eligible for certification as a New Jersey Clean Marina and receive a certificate, burgee, and recognition on the NJ Clean Marina website and in other publications.

Currently, New Jersey has 21 certified clean marinas and 35 marinas that have pledged to participate. NJ's Program is one of 24 state programs nationwide. The National Oceanic and Atmospheric Administration (NOAA) supports the programs and recognizes the role of Clean Marina initiatives in protecting coastal waters from nonpoint source pollution. Funding for New

Jersey's Clean Marina Program is provided by the federal Coastal Zone Management Act grant awards, NJMSC/NJSG and the I BOAT NJ Program.

Marinas that participate in the Clean Marina Program enjoy many benefits. In a recent survey of certified clean marinas, almost all of them indicated that the Program and certification process helped them comply with state and federal regulations, thus avoiding citations and violations. Other incentives to participate include potential costs savings and new sources of revenue such as in the sale of oil spill prevention and clean-up products to boaters. Implementing new BMPs can cost money upfront, but long-term benefits to the facility, the industry, and the environment add up. Participating marinas also hear positive responses from boaters and slip holders to the efforts they make to maintain clean, safe, and environmentally friendly facilities. The Program hosts free educational workshops and provides BMP signage free of charge to participating marinas as well as copies of Clean Boater Tip sheets for distribution to slip holders and customers.

Grants for Clean Marinas

A new and significant benefit available to Clean Marinas and those committed to working towards the Clean Marina designation is a competitive grant program, part of the NJMSC/NJSG Marina Industry Enhancement (MIE) initiative. The grant program provides funding for marinas to implement BMPs and/or install vessel wash wastewater systems and stormwater control measures. Funding is provided by the I BOAT NJ Program and NJMSC/NJSG. There are



Collecting and recycling used fishing line keeps it out of the water and protects marine wildlife. Image provided by the Belmar Municipal Marina.

three grant categories:

- 1) BMPs up to \$4,000
- 2) Vessel Wash Wastewater Systems up to \$10,000
- 3) Stormwater Control Measures (funding has been allocated for approximately two projects and the award amounts will depend on the scope of the project).

Shrink-Wrap and Fishing Line Recycling Programs Reduce Waste and Floatable Debris

In addition to the NJ Clean Marina Program, the CMO has initiated two recycling programs targeted at marina owners, boaters, and anglers. Plastic shrink-wrap is a popular and cost-effective material used to protect boats from harsh winter weather conditions. It does however, create a waste disposal problem.

With funding from an I BOAT NJ grant award, nine counties in NJ (including Morris, Middlesex, and Union) have started or improved marine shrink-wrap recycling programs. The counties used the funding to purchase bins for shrink-wrap collection, transportation costs, and education and outreach efforts to marinas and boat owners. Depending on how the program is set up, marinas and boat owners bring their shrink-wrap to

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Shrink-wrap protects boats during the winter and can be easily recycled. Image provided by Jessica Staats, NJMSC/NJSG. municipal recycling centers, or the county may arrange for pick-up at individual marinas. NJMSC/NJSG implemented an outreach effort to educate marina owners and boaters about the importance of recycling shrink wrap and inform them about recycling options. As a result of this initiative, nearly 186 tons of shrink-wrap were collected and recycled in 2008. All nine counties will be implementing and even expanding the shrink-wrap recycling efforts this year.

Discarded monofilament fishing line can wreak havoc on the marine environment by entangling, injuring and killing marine birds and aquatic wildlife. It can also cost boaters thousands of dollars when it gets caught in boat propellers and other gear. To

address this issue, the CMO partnered with the BoatU.S. Foundation to collect and recycle monofilament fishing line. Collection bins and signs have been distributed to over 25 locations throughout the state and many marinas have built bins to place at their facility. The host facility collects the material from the bins and ships it in postage paid boxes to Berkeley Conservation for recycling. All boaters, fishermen, and marina owners are encouraged to collect and recycle used monofilament fishing line in order to keep it out of the marine environment and help prevent unnecessary harm to aquatic life and personal watercraft.

Information about the New Jersey Clean Marina Program and both recycling initiatives can be found at www.njcleanmarina.org or by contacting Tali MacArthur at tali.macarthur@dep.state.nj.us or via phone at 609-633-2201 ❖

Tali McArthur works at the New Jersey Coastal Management Office at the NJ Department of Environmental Protection. She coordinates the NJ Clean Marina Program and two recycling programs for boat shrink wrap and monofilament fishing line. She also works with state and local government and interested stakeholders to facilitate completion of the Hudson River Waterfront Walkway.

Public Access Errata

In our previous issue (Winter 2009), the article on “Mapping Public Access to the Waterfront” omitted the invaluable contribution of NY/NJ Baykeeper in compiling the database of public access points on the New Jersey side of the Harbor. NY/NJ Baykeeper continues to be an advocate for access and we are grateful to the organization for its efforts.

HEP Office Welcomes Kevin Reilly

Kevin Reilly recently joined the HEP Office as our Habitat Coordinator. Kevin is currently finishing his Masters degree in Environmental Planning at Pratt Institute in Brooklyn. In recent years, he has worked as an environmental restoration intern, landscape designer, and project manager for several firms in the Northeast. Kevin has experience with native plant community design, wetland delineations, permitting, streambank restoration, as well as GIS and other electronic tools. He will be working primarily on habitat issues but is already dabbling in public access work as well. Please join us in welcoming him to the HEP community.

Urban Divers Raise Community's Environmental Literacy

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maritime apprentice training program, The Urban Marine Explorers. High School teens receive training and qualify for seasonal and part-time employment with the organization.

In celebration of its 10th Anniversary, and with support from local legislators, the Hudson River Foundation, and others, The Urban Divers will introduce several innovative environmental education programs through recreation. “It is our goal to continue to develop and present public programs that offer a fresh perspective and comprehensive overview of our urban biosphere, from the benthic environment, through the water column, to its surface, to the

very air that we breathe, and the soil from which we harvest”, espoused Neal Phillips, UDEC Board of Officer and Professor at Bronx Community College. The programs will be offered at various events throughout the region, including: a preview of “Urban Wings Over Water” (on urban raptors), “Live! Beneath the Estuary” (a live underwater video exploration), and “Lil Micro-Maritime Museum.”

The Urban Divers Estuary Conservancy’s program unleashes the inherent cultural and social connections that the community has to the water, reinforcing the social and environmental responsibility that is needed to maintain the health, beauty, sustainability, and vitality of this fragile home we all share.

To find out how you can get involved with The Urban Divers



Getting to the bottom of the pollution issue in the Gowanus Canal: The Urban Divers conduct a sediment core analysis with professor and toxicologist Dr. Nasreen Haque, Columbia University.

Estuary Conservancy and for a complete schedule of programs you can visit www.urbandivers.org or call 347-224-5828, 347-224-5687, or 718-901-3331. You can also send an email to enviromediamobile.udec@gmail.com. ❖

Ludger K. Balan is Co-Founder and Executive Environmental Program Director at The Urban Divers.

Pumpout Services Protect New York's Waterways

Alma H. Mitchell

The New York State Environmental Facilities Corporation (EFC), via its Clean Vessel Assistance Program (CVAP), works diligently with marinas to provide pumpout services to recreational boaters for keeping the State's navigable waters clean.

To date, EFC has provided approximately 500 CVAP grants totaling \$4.8 million for pumpout-related projects. To help promote the CVAP and recognize those marinas that are committed to the program, EFC holds its Annual CVAP Pumpout Excellence Awards, which coincides with National Marina Day in August.

EFC relies on the boating community to help nominate facilities for its Pumpout Excellence Award program. Last year EFC developed a confidential Boater Survey to help in collecting Award nominations as well as to obtain boater comments on pumpout services. The survey is available online at www.nysefc.org/CVAP for marinas to download and distribute paper copies to boaters, or boaters can download it themselves. Those who submit a completed Boater Survey to EFC with their contact



Filming CVAP's new DVD "Pump It - Don't Dump It" at the Albany Yacht Club.



Marina staff passing a pumpout hose to a recreational boater and instructing him on how to use it.

information are eligible for prizes. Nominations must be received by June 1st for the 2009 Awards; those received after the cut-off date will be considered for the 2010 Awards.

All CVAP grant recipients are eligible for an Excellence Award which was designed to promote CVAP's mission while recognizing marinas for their dedication to the principles of the CVAP. An Award plaque is presented to one municipality or not-for-profit organization and one privately owned marina each year. Past awardees (listed at www.nysefc.org/CVAP) are committed to preventing water pollution from recreational waste and take pride in CVAP's recognition.

The Boater Surveys are also an excellent source for ideas on how EFC can enhance CVAP services. Based on Survey comments, EFC recently developed online, user-friendly pumpout locator maps at www.nysefc.org/CVAP. The maps include 287 marinas offering CVAP-funded pumpout services for the Coastal and Inland Zones regions. Each regional map contains a listing of marinas; by clicking on the name, a flag pops up providing a marina link that offers more details. All CVAP funding recipients are included on a list of pumpout locations on EFC's website.

Also helpful to boaters in locating pumpout facilities, is EFC's "Fly the Flag" program where marinas fly bright orange CVAP flags over their pumpout facilities. These flags and other signage are provided to CVAP grant recipients free of charge through assistance from the federal Sport Fish

Restoration Fund.

EFC administers and manages the federally-funded CVAP with the New York State Department of Environmental Conservation (DEC). Federal funding is made possible under the Clean Vessel Act of 1992. ❖

Alma H. Mitchell is Corporate Communications Information Specialist at NYS Environmental Facilities Corporation

CVAP Grants

EFC's CVAP offers four different grants related to pumpout facilities, as listed below. Detailed information on the grants is available online at www.nysefc.org/CVAP. Applications are accepted year-round.

Construction Grants assist marinas, municipalities and not-for-profit organizations with costs for new or replacement pumpout and dump station facilities that receive sewage from recreational boats.

Operation and Maintenance Grants assist with the annual operation and maintenance of CVAP-funded pumpout facilities.

Information & Education Grants (I&E) are available to municipalities and not-for-profit organizations for projects that increase boater awareness of the benefits, use and availability of pumpout services.

Facility Upgrade Grants are available to prior CVAP grant recipients for improving or repairing existing equipment, as opposed to replacing it.

Bird's Eye View Workshops

Learn how to use aerial images and other geospatial data to develop lesson plans for the classroom. Don't miss the chance to participate in these engaging workshops! (See article in the Winter 2009 issue of The Tidal Exchange).

Workshops are free and open to all levels formal and non-formal educators and teachers. Activities meet several NYC Science Scope & Sequence for middle school students. Space is limited, so **PLEASE RESERVE YOUR SPACE** soon! Workshops will be offered on:

- June 13 at the High School for Food and Finance in Midtown Manhattan
- July 28 at Teaching the Hudson Valley in Hyde Park, NY
- August 4 at Wildlife Conservation Society Teacher's Training Program in Central Park, Manhattan.

For more information see our calendar of community events: www.harborestuary.org/communityevents.htm.

FREE Pumpout DVD

EFC's new educational DVD, *Pump It, Don't Dump It!*, which was taped at several New York marinas with pumpout facilities, is available free of charge. Just call EFC at (800) 882-9721 (within New York State) or (518) 402-7461 to request your copy. The DVD also can be viewed on EFC's website at www.nysefc.org/CVAP.

Pump It, Don't Dump It raises the awareness of marinas, operators and recreational boaters on the importance of pumpout use to preserve and protect the water quality of New York State's precious natural resources. EFC believes that by working together, we can protect and preserve the quality of water, the environment and public health in New York State.

Would you like to change your address or add someone to our mailing list?

Provide changes or additions below, cut out or copy this section (include mailing label to the right so we can find you in our records) and mail to the Harbor Estuary Program Office, 290 Broadway, 24th Floor, New York, NY, 10007.



New York - New Jersey
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Atlantic Brant

Branta bernicla hrota

This article is part of a series of species profiles commissioned by HEP and compiled by Claire Antonucci, Rosemary Higgins and Peter Rowe (New Jersey Marine Sciences Consortium/New Jersey Sea Grant)

Brant are small, darkly colored geese that undertake one of the longest migrations of any waterfowl. The Atlantic Brant (one of three recognized subspecies of Brant) might travel up to 7,000 miles by way of Hudson Bay to their estuarine and coastal wintering grounds which range from Cape Cod to North Carolina and include the New York/New Jersey Harbor Estuary. Others fly 3,000 miles nonstop from the Arctic Ocean to their wintering grounds in Mexico. On average, 70% of the total Atlantic Brant population overwinters in New Jersey with the next largest group settling in on the south shore of Long Island.

Brant are similar in shape to their close cousin the Canada Goose (*Branta canadensis*) but they are smaller (3 pounds or less), darker in color and have shorter necks. The Atlantic Brant has a black head, neck, breast, bill, and feet. Their backs are dark brown and their chests are white-gray in color. Mature Atlantic Brant appear to have a white ring around their neck. Males tend to be slightly larger than the females, but otherwise the sexes look alike. In flight they beat their wings rapidly, similar to ducks.

The Atlantic Brant that overwinter in our area can be found, in large groups for the most part, on the bays, tidal flats, salt marshes and uplands adjacent to the salt marshes of the Harbor Estuary and in nearby coastal areas. They are rarely found on fresh water, having a specially adapted gland that allows them to drink salt water for hydration. During the overwintering period, which begins in late fall and ends in spring, the Atlantic Brant feeds on vegetation. Eelgrass is preferred but they will eat sea lettuce (*Ulva lactuca*), cord grass, and cultivated grass. These additional food sources are a relatively new adaptation. An eelgrass wasting disease in the 1930s killed much of the eelgrass along the Atlantic Coast of the United States which led to a drastic decrease in the Atlantic Brant population at that time. Since then, populations have recovered because the Brant was able to adapt to the other food sources. Of late, Atlantic Brant have taken to feeding on fields, lawns and in other cultivated areas throughout their range but especially in the NY/NJ metropolitan area, likely due to development and loss of estuarine feeding grounds. It is especially important that food is plentiful during the overwintering period. The Atlantic Brant needs to store energy to fuel its long trip back to its breeding grounds especially since once it arrives there, little food is available at first. In fact, females use nutrients stored in their body fat to produce eggs and to sustain them during incubation.

Atlantic Brant mate for life unless one is lost. They begin breeding at about three years old. Brant migrate to the Arctic Circle and beyond during our summer months to breed. Throughout their breeding season, the Atlantic Brant can be found in the Central Canadian Arctic through Greenland to Svalbard and Franz Josef Land, north of the Barents Sea. Females lay between 4-6 eggs in a bowl shaped depression lined with down on the ground. The eggs take about 24 days to hatch. Once hatched, the male assumes the lead in herding the brood with the female following close behind. Young Brant feed on marine invertebrates, mosquito larvae, and various plants. As they age their diet shifts to almost all plant matter.

Atlantic Brant are hunted as sport under strict regulations in both New York and New Jersey. To keep the population stable, hunting is managed through the use of waterfowl surveys and hunting regulations. At the current time, the main threats to the Atlantic Brant are predation, severe weather conditions during the breeding season and, in our area, industrialization, development and pollution in the overwintering grounds. ❖



Photo courtesy of Bill Hubick, www.billhubick.com