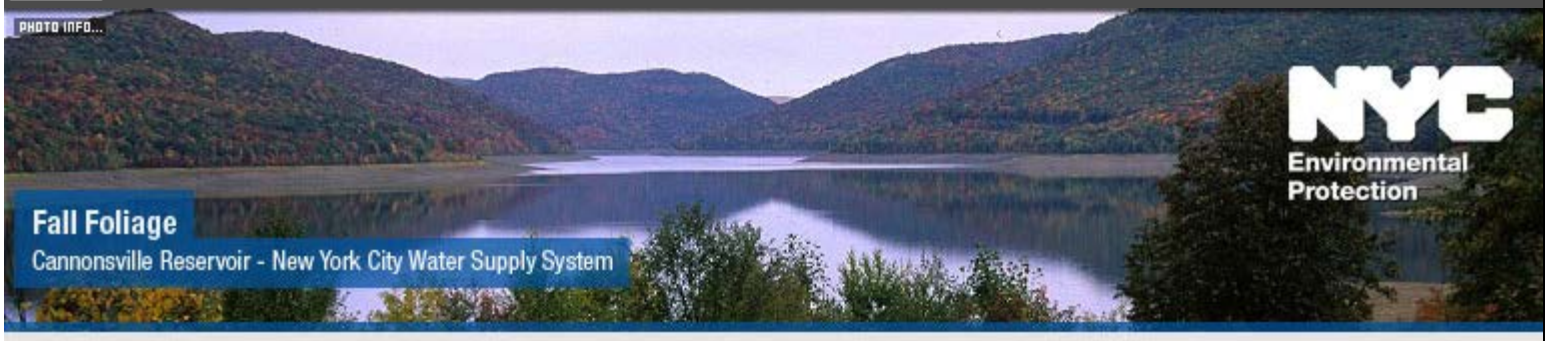

SEARCH Advanced Search

facebook
flickr
twitter

Home

CUSTOMER SERVICES
Ways to Pay Your Bill
Account Information
Customer Assistance
Water Rates
Property Managers and Trade Professionals

WATER UTILITIES
Drinking Water
Wastewater
Stormwater
Harbor Water

THE WATERSHED
Watershed Protection
Watershed Recreation

CITYWIDE INITIATIVES
Regulatory Reform
Environmental Education
Conservation Programs
Air Pollution Control
Noise Codes & Complaints

BUSINESSES & PROFESSIONALS
Forms & Permits
Doing Business with DEP
Asbestos Abatement

FOR IMMEDIATE RELEASE 11-73

August 1, 2011

CONTACT:

Farrell Sklerov / Angel Román (718) 595-6600

DEP Launches Pilot Ribbed Mussel Ecological Project

Part of PlaNYC Effort to Improve Water Quality in Jamaica Bay

Environmental Protection Commissioner Cas Holloway today announced the completion of a ribbed mussel ecological project to help improve the overall water quality and ecology of Jamaica Bay. Ribbed mussels are an important part of aquatic ecosystems, filtering out nitrogen and bacteria to improve water quality. The pilot project will test the effectiveness and long-term viability of using ribbed mussels to remove nutrients and other pollutants from the waters of Fresh Creek, a tributary of Jamaica Bay. The project includes the construction of five cargo net and A-frame structures that resemble underwater fencing which are suspended in the middle of the creek by metal posts. This is the first time that a structure is being installed in the middle of the creek, where mussels cannot ordinarily establish a habitat. As the mussels grow throughout the next two years, they are expected to fully cover the structures and filter the water passing through them to remove nutrients, bacteria, and other suspended organic substances. DEP will closely monitor the project for the next two years. This pilot project is one of several contributing to the overall goal of reducing nitrogen and other nutrients, which can deplete the oxygen that fish and other aquatic life need to thrive, in the bay.

"We are well on our way to restoring Jamaica Bay to its rightful place as a recreational destination for New Yorkers and tourists," said Commissioner Holloway. "Building a ribbed mussel habitat to filter water in Jamaica Bay will give us critical information on the long-term viability of using natural techniques to restore and strengthen the bay's ecosystem. It is part of our larger commitment to improving water quality in Jamaica Bay, and builds on last year's historic agreement with the state and other environmental stakeholders to reduce nitrogen discharges into the bay by 50% over the next 10 years. Together, all of these projects mean that the best days for Jamaica Bay are yet to come."

Ribbed mussels are found in great numbers along the edges of marshes, rocks and shell beds along much of the East Coast, including within Jamaica Bay. They are named and

MORE INFORMATION

NYC Department of Environmental Protection
Communications & Intergovernmental Affairs

59-17 Junction Boulevard
19th Floor
Flushing, NY 11373

(718) 595 - 6600

Construction, Demolition & Abatement

ABOUT DEP

Inside DEP

News

DEP Featured In...

Stories from DEP

Press Releases

Public Notices

Testimony and Public Comments

Capital Projects

Job Opportunities

Environmental Reviews

A to Z Index

Contact Us

distinguished from other mussel shells by the ribs that line the surfaces. Located in the eastern Canarsie area of Brooklyn, Fresh Creek's shores contain a natural population of ribbed mussels that spawn throughout the summer, starting in May and ending in August. Construction was completed in time for this season's spawn so that naturally-occurring mussel larvae will settle on the metal and rope panels.

The five cargo net and A-frame structures are each 15 feet long and five feet high. Creek water will flow through the openings of the structures on the incoming and outgoing tides bringing particulate material and nutrients to the ribbed mussels growing on the structure. The structures consist of alternating panels of metal grates and rope netting suspended in the creek by metal posts. As these mussels grow throughout the next two years, they are expected to fully cover the structures. The two-year study will evaluate to what extent ribbed mussels can play in nutrient removal, what densities are necessary to address urban pollution and nutrient problems, and the costs associated with achieving various levels of water quality improvement. The mussel-encrusted panels will be monitored for differences in water quality both up-current and down-current of the pilot project to estimate the total filtering capacity of the mussels. These numbers can then be used for potential larger-scale projects in the future. The pilot will also be monitored during a two-year deployment for mussel colonization and growth rates, size, coverage, environmental preferences, health and disease, and other factors such as changes in sedimentation and water flow patterns. The data will be used to demonstrate whether the ribbed mussels can reduce excessive particulate matter and nutrients within the tributary. If it does, future uses could include placing mussels near stormwater outfalls to capture nutrients before they enter the bay.

DEP has invested in a number of other ecological restoration projects to improve the quality of Jamaica Bay. Eelgrass and oysters were all once widespread throughout the harbor and the loss of these species means the loss of some of nature's finest filtration systems. Last October, DEP re-introduced oyster beds to Jamaica Bay for the first time since they disappeared many decades ago. A single oyster can filter roughly 35 gallons of water per day, and the 10,000 that were added will help to improve water quality by filtering out nitrogen, which can reduce oxygen levels and impact the overall ecology of a water body. Another project launched by DEP last year was the second phase of the Eelgrass Restoration Project. Eelgrass has the potential to serve as an important habitat and shelter for fish and shellfish. Eelgrass is a type of submerged aquatic vegetation that grows in estuaries and shallow bays and forms meadows on the bay bottom, where aquatic creatures such as shellfish and small fish take shelter among the grass-like leaves. Much like trees do on land, eelgrass stabilizes sediments and reduces erosion, and naturally removes nitrogen from the water. Returning eelgrass to the bay is possible due to DEP's capital investments which have improved water quality, enough for eelgrass to survive. Also, New York City reached a historic agreement last year with New York State and the Natural Resources Defense Council to improve water quality and preserve marshlands in Jamaica Bay to reduce the nitrogen loads discharged into the bay from wastewater treatment plants by nearly 50 percent over the next ten years.

Jamaica Bay is the largest estuary waterbody in the New York City metropolitan area covering an area of

approximately 20,000 acres. The bay is a diverse ecological resource that supports multiple habitats, including open water, salt marshes, grasslands, coastal woodlands, maritime shrublands, and brackish and freshwater wetlands. Jamaica Bay is known for its wildlife refuge and excellent fishing and these habitats support 91 fish species, 325 species of birds, and many reptile, amphibian, and small mammal species.

DEP manages the city's water supply, providing more than one billion gallons of water each day to more than nine million New Yorkers, including eight million in the city. New York City's water is delivered from a watershed that extends more than 125 miles from the city, and comprises 19 reservoirs, and three controlled lakes. Approximately 7,000 miles of water mains, tunnels and aqueducts bring water to homes and businesses throughout the five boroughs, and 7,400 miles of sewer lines take wastewater to 14 in-city treatment plants. For more information, visit www.nyc.gov/dep or follow us on Facebook at www.facebook.com/nycwater.

- View all press releases
- Sign up to receive DEP press releases by email