



August/September 2010

The Dredging *Link*

FLOATING WETLANDS AT THE INNER HARBOR | *Article by Fran Flanigan*



People walking the Baltimore Harbor promenade these days have something new to ponder: “floating wetlands” at work.

Floating wetlands were installed this summer both at the foot of the World Trade Center and next to the National Aquarium.

Floating wetlands look like small, grassy islands tethered into a group. Wetland plants and grasses are suspended at the surface, while the roots grow down through the water. The plants draw wildlife and the roots attract marine life.

The Waterfront Partnership (a consortium of waterfront businesses, nonprofit organizations, and government agencies) installed the floating wetlands at the foot of the World Trade Center in August to show how wetlands may help to clean up the harbor. The wetland cluster consists of ten units, each measuring approximately two by four feet and tethered into a group. Cameras will be installed in the near future so that visitors can witness the underwater activity.



The Baltimore Harbor Waterkeeper funded the project, and the **Maryland Port Administration** granted permission for its installation. Students at the **Living Classrooms Foundation** constructed the wetlands using plastic bottles pulled from the harbor for flotation devices.

Wetlands are an integral part of healthy aquatic ecosystems and they have been largely missing from the harbor since the earliest days of settlement and development. Scientists are monitoring water quality around the wetlands and using underwater cameras to look for signs of marine life.



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Article by Fran Flanigan

One of the three ongoing innovative reuse demonstration projects was highlighted this summer during a special tour at Cox Creek.



Schnabel Engineering hosted about 50 individuals who looked at three of five embankments being built at Cox Creek. The embankments simulate one-lane wide roads, and are being built from varying mixtures of dredged material and steel slag – another waste product. The theory is that slag and dredged sediment, in the proper proportions, will weather to form a geotechnically stable material suitable for road construction and structural fill applications. The steel slag being used in this demonstration project comes from Sparrows Point, and the dredged material is from the Cox Creek containment facility.



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FLOATING WETLANDS AT THE INNER HARBOR

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While this project will not restore the harbor to health, the floating wetlands will demonstrate the beneficial impact of living plants on water quality and aquatic habitat. The Waterfront Partnership has a goal of a “fishable, swimmable” harbor by 2020, and these wetlands may play a small part in achieving that goal.

The National Aquarium also installed a commercially constructed floating wetland in August. Both projects are being monitored by the same team, which will provide insight on the effectiveness of the two construction methods.



Both the Aquarium and the Waterfront Partnership hope these projects serve as teaching tools for Baltimoreans who care about improving the Inner Harbor.



INNOVATIVE REUSE DEMONSTRATION AT COX CREEK

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The project is being closely monitored to determine how the slag/dredged material mixtures respond to a variety of weather conditions including rain and freezing temperatures. The environmental and geotechnical characteristics of the material will be carefully measured next summer, after the embankments have weathered for a full year. At that time, it should be clear whether the material can meet the standards of the MD Department of the Environment as well as the various engineering construction standards.



CITIZENS ADVISORY COMMITTEE VISITS POPLAR ISLAND

Article by Angie Ashley and Fran Flanigan

Citizen volunteers who help shape the Port of Baltimore's dredging program made recent visits to Masonville and Poplar Island—two of the Port's most important dredged material placement sites.

The Masonville Citizens Advisory Committee toured the Masonville site in July to learn more about the project and see the construction first-hand. Guided by the Maryland Environmental Service, committee members observed new trailers being readied for the Operations and Maintenance staff at the end of Childs Street and then traveled by passenger van onto the dike that circles the facility. They learned about the construction process and the pump that drains water from the placement area.

The dike was a perfect spot to witness the abundance and diversity of wildlife already using the area—including a female Canada goose at rest with her five fledglings and a great blue heron that surveyed potential prey within the pond in the dike's interior. Numerous ducks were also using the pond, which was reportedly much larger after recent rainfall.

The committee viewed the area where the fringe marsh will be constructed along the dike's outer edge. The site also afforded a great view of the cove, future location of two thousand reef balls. On the way back off the dike, a red fox ran across their path.

The committee also saw the location of the future pier and the holding area that will eventually receive capping material for use during site remediation.

Committee members were amazed at the progress and the size of the site. Most agreed the aerial photographs just do not do it justice.

"Even though Masonville has mainly been touted as a local community mitigation program, it is my firm belief that Marylanders from across the state will eventually trek to the park and dike facility in considerable numbers to view this project for themselves," commented committee chair Mike Sakowski.

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David Bibo (MPA) shows Laura Baldwin & Fran Taylor a female terrapin found crossing the dike near the nesting area at Poplar Island.

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"When the observation towers are done and paths are in place, I think many people from other areas will utilize the park on a regular basis for its nature trails and wonderful views of the city."

Members of the Citizens Advisory Committee made their biannual pilgrimage to Poplar Island in June. The island has become a national model for beneficial reuse of dredged material as the U.S. Corps of Engineers and the Maryland Port Administration re-establish 1,140 acres of lost habitat to the Chesapeake ecosystem.

The committee enjoyed a beautiful early summer day as they toured the island via bus, led by an informative guide from the Maryland Environmental Service who explained the history of Poplar Island and its rebirth as a dredged material placement site.

Progress on Poplar Island wetlands has been remarkable since the committee's last visit to the island two years ago. Members commented on the growth of new wetland plants and the presence of abundant wildlife. Bald eagles, turtles, and many species of birds were enjoying the island as committee members snapped pictures.

Committee chair Fran Taylor thanked the Maryland Port Administration for the trip and for its willingness to use Poplar Island as an educational destination for Marylanders interested in beneficial ways to manage dredged material.

Trips to Poplar Island are available to groups of adults and students by contacting the Maryland Environmental Service at (410) 729-8200.

