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## ENVIRONMENT

### Who Is Living at Masonville Cove? BioBlitz Results Are In!

In June, the [National Aquarium](#) hosted their fifth annual BioBlitz at [Masonville Cove](#) to find, identify, and record as many living organisms as possible. Forty-four specialists and 100 participants identified 222 species from 466 observations, the highest attendance and highest species count at Masonville yet. Notable finds included Striped Killifish and a Northern Red-bellied Cooter, an endangered turtle species, and the Maryland state reptile (Diamondback Terrapin), flower (Black-eyed Susan), and bird (Baltimore Oriole). The National Aquarium would like to thank its partners, [Maryland Department of Transportation](#), [Maryland Port Administration \(MDOT MPA\)](#), [Maryland Environmental Service \(MES\)](#), [U.S. Fish and Wildlife Service \(USFWS\)](#), and [Living Classrooms Foundation](#).

Also in June, the National Aquarium hosted the Masonville Cove Community Wetland Planting, during which volunteers planted 2,000 bay grasses.



*The fifth annual BioBlitz at Masonville Cove set the event's record for the highest attendance and highest species count.*

*Photo: National Aquarium*



*Volunteers planted 2,000 bay grasses. This restoration project helps to restore Baltimore's Inner Harbor and also supports a community enhancement project at Masonville Cove.*

*Photo: National Aquarium*

## **Patapsco Oyster Reef Thriving**

An oyster reef created a year ago beside Fort Carroll in the Patapsco River is in excellent condition, with most of the three million young oysters surviving and growing rapidly, according to recent monitoring results from May 2018. The once, tiny oyster “spat,” barely visible to the eye, are much larger and home to other marine life. “The results are an encouraging milestone in an effort to return oysters to Baltimore waters, and to other river bottoms throughout the Chesapeake Bay,” said [Chesapeake Bay Foundation](#)’s (CBF) Fisheries Scientist, Dr. Allison Colden.

CBF’s work to construct, seed, and monitor this 1.1 acre reef at Fort Carroll was financially supported by the [Abell Foundation](#) and MDOT MPA.



*A new oyster reef is thriving. Oysters remove pollutants from the water and create food and habitat for other creatures.*

*Photo: Chesapeake Bay Foundation*

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## Record Least Tern Nesting Pairs on Poplar Island



In winter 2014-15, severe icing of the Chesapeake Bay resulted in seven red fox making their way to Poplar Island. The predators affected the population of colonial waterbirds (primarily common and least terns).

*A red fox is caught on the trail camera on Poplar Island.*

*Photo: USFWS*

By late spring 2015, USFWS biologists successfully removed six foxes. However, the last remaining fox remained elusive until December 2017 when it was finally captured. As a result, state listed threatened least tern pairs increased from 64 pairs in 2017 to more than 298 pairs in 2018, with additional pairs still arriving. Poplar Island now supports the largest least tern colony in the state of Maryland, a title previously held at Assateague Island along the Atlantic Coast, and also supports the largest common tern colony in the Maryland portion of the Chesapeake Bay.





*Least tern chicks seek shelter from the sun on Poplar Island.*

*Photo: Peter McGowan, USFWS*

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## Pearce Creek Water Service Connections Complete

All scheduled in-home connections to the new public waterline from the [Town of Cecilton](#) are now complete. Well abandonment activities are still ongoing and are expected to be complete in the next few weeks. A recent study by the [USGS](#) had identified water quality issues in the domestic wells of the residents near the [Pearce Creek DMCF](#) and concluded that the historic placement of dredged material at the DMCF was a contributing source of groundwater degradation in the vicinity of the site, among other sources. As MDOT MPA and [U.S. Army Corps of Engineers](#) sought to reactivate the site in recent years, MDOT MPA agreed to fund the new public waterline to the affected communities.

"We are now in the final phase of the project mostly consisting of road restoration and appreciate the patience and coordination of the local residents," said [MDOT MPA Office of Harbor Development](#) Environmental Analyst Kristen Keene.

The Pearce Creek Implementation Committee will meet October 19, 2018. Click [here](#) for more information.



*A comparison of before (left) and post-connection (right) setup in a residence in the Pearce Creek Service Area shows that the homeowner had a variety of different water treatment components. Now connected to a public water supply, the components are very minimal.*

*Photo: MDOT MPA*

## **Innovative Reuse of Cox Creek Dredged Material**

Dredged material is valuable – removing it from shipping channels keeps the Port of Baltimore “open for business,” and exploring new uses can spur innovation, benefit the environment, and grow Maryland’s economy. The MDOT MPA has set a long-term goal to recycle 500,000 cubic yards of dredged material each year.

A new innovative reuse demonstration project will use dried dredged material from the [Cox Creek Dredge Material Containment Facility \(DMCF\)](#) as Alternative Daily Cover (ADC) at the Quarantine Road Landfill in collaboration with [Baltimore City’s Department of Public Works](#).

The demonstration project is approved to use approximately 6,000 cubic yards as ADC for one year. Depending on the results of the demonstration project, the [Maryland Department of the Environment](#) may consider dredged material as ADC for an extended period of time.



*A stockpile of dredged material will soon be hauled over to the landfill.*

*Photo: MDOT MPA*

## Underwater Cell Technique for Dredged Material Shows Promise

A year after MDOT MPA's Confined Aquatic Disposal (CAD) demonstration project, monitoring results show no adverse water quality impacts. This technique creates an underwater cell by dredging sand and sediment from the river bottom and reusing it elsewhere. The cell is then filled with dredged material.

The ~5.5-acre cell is located between Masonville Marine Terminal Pier 3 and Fairfield Marine Terminal Pier 4 and was filled with ~ 62,000 cubic yards of Ferry Bar Channel dredged material.



At six months, monitoring showed consolidation occurring at a relatively consistent rate with an essentially even surface. By nine months, a scour area formed in the cell, believed to be attributed to prop wash from ship traffic. At one year, this area appeared to have stabilized. Monitoring will continue.

*Loaded scow during the CAD site construction.*

*Photo: MDOT MPA*

## PORT

### Cargo Up, Emissions Down

The MDOT MPA has worked closely with its tenants and port users to identify and implement air emission reduction strategies for terminal activities by conducting air emissions inventories (EI) from cargo-related operations every 4 years.

The EI data shows that between 2012 and 2016, the cargo throughput at MDOT MPA terminals increased by 10% and at the same time emissions per ton of cargo handled decreased by an average of 23% for all pollutants. These reductions are attributed to modernization of cargo handling equipment (CHE), with Tier 4 diesel engines and increases in operational efficiencies.

"By continually upgrading CHE, heavy-duty diesel vehicles and adopting strategic



operational changes, the Port is able to show that emissions can be reduced even as the cargo throughput steadily increases,” said MDOT MPA Air Quality Policy and Program Manager Chandra Chithaluru.



*Upgrades to cargo handling equipment and heavy-duty diesel vehicles have helped to lower emissions even as the Port's cargo numbers have steadily increased.*

*Photo: MDOT MPA*

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## Algae to Energy

Algae, grown from nutrient rich water taken from the Patapsco River adjacent to Dundalk Marine Terminal, has been successfully digested on-site to produce biogas as feedstock to a fuel cell. Now the program is moving into Phase 3, sponsored by the [U.S. Department of Transportation Maritime Administration](#) through a cooperative agreement with MDOT MPA as part of its [Maritime Environmental and Technical Assistance Program](#).

Beginning this summer and fall the team will focus on:

- Testing to see how the algae changes over a growing season to better design harvesting and biomass management options.
- Optimizing digester operations and design for greater biomass production and consistency.
- Assessing fuel cell deployment opportunities at the Port's public terminals for using a fuel cell as an alternative to diesel or electric power.



*A project that successfully turns algae into fuel moves into phase 3.*

*Photo: MDOT MPA*

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## Race Increases Heartbeat for Hart-Miller Island

In June, the inaugural [Hart-Miller Island](#) 5 Miler hosted 50 runners, with Darren Thompson, director of operations for [Ports America Chesapeake](#), winning first overall in 29:59. He never stepped foot on the island until the race, which was part of the reason the event was held: to increase awareness about the island's history and amenities.

"The scenery is beautiful, lots of things to look at. A lot of bugs, but if you run fast enough they don't land on you," Thompson joked.

The 1,100-acre island was built using dredged sediment from shipping channels that serve the Port of Baltimore. In 2016, the south cell opened for public access.

The race was held in cooperation with MDOT MPA, [Maryland Department of Natural Resources](#), [Friends of Maryland State Parks](#), MES, [Maryland Park Service](#) and [Charm City Run](#).





*Fifty runners raced in the first-ever Hart-Miller Island Five-Miler.*

*Photo: MDOT MPA*

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## North American Dredging Summit Takes Place in Baltimore

In May, Baltimore was host to [Active Communications International's \(ACI\) 2nd North American Dredging Summit](#). The seminar attracted leading experts and stakeholders from across the dredging sector for two days of presentations, interactive Q&A sessions and engaging panel discussions. The summit covered technological innovations, in-depth case studies exemplifying a variety of successful projects, updates on regulatory and funding initiatives, creative solutions for environmental compliance and more. MDOT MPA Office of Harbor Development Chief of Outreach, Policy & Permits, Kristen Fidler was one of the presenters at the conference, on a panel with Matt Rowe from MDE and Isaac Hametz with [Mahan Rykiel Associates](#).

MDOT MPA Office of Harbor Development provided a tour of the Cox Creek Dredged Material Containment Facility for a number of attendees. "The Port of Baltimore continues to enjoy opportunities to showcase our innovative approaches to dredged materials and other achievements," said Fidler.



*MDOT MPA Office of Harbor Development provided a tour of the Cox Creek Dredged Material Containment Facility for a number of summit attendees.*

*Photo: MES*

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## **New Eco-Minute Video Highlights Partnership to Plant 1,000 New Trees in Baltimore**

You read all about the partnership to plant 150 new trees at the [Cherry Hill Homes](#) community in the last edition of the GreenPort Newsletter. Now, you can watch the video thanks to the latest [GreenPort EcoMinute](#) produced by MDOT MPA.

See if you spot someone you know, working hard to increase Baltimore's tree canopy. This partnership between MDOT MPA and the nonprofit organization [Blue Water Baltimore \(BWB\)](#) will eventually lead to a total of 1,000 new trees for the [City of Baltimore](#).





## UPCOMING EVENTS

### **DMMP Citizens Advisory Committee Meeting - August 8th at 6:30PM**

Point Breeze Maritime Center I  
2200 Broening Highway  
Baltimore, MD 21224

***For questions or to confirm attendance please contact [Greenport](#).***

### **Innovative Reuse Committee Meeting - August 28th at 5:30PM**

Pt. Breeze Maritime Center I  
2200 Broening Highway  
Baltimore, MD 21224

***For questions or to confirm attendance please contact [Greenport](#).***

### **Hart-Miller Island Citizens Oversight Committee - September 18th - 6:30 PM**

Pt. Breeze Maritime Center I  
2200 Broening Highway  
Baltimore, MD 21224

***For questions or to confirm attendance please contact [Greenport](#).***

### **DMMP Management Committee meeting - September 26th at 10:00AM**

World Trade Center  
401 East Pratt Street, Baltimore, MD 21202.

***For questions or to confirm attendance please contact [Greenport](#).***



**MARYLAND PORT ADMINISTRATION**

GreenPort Newsletter is the Maryland Department of Transportation's Maryland Port Administration's bi-monthly update of projects and programs that help the agency contribute to a thriving economy, environmental stewardship, and community partnerships. As always, we thank the many private sector businesses, government leaders, communities, and individual citizens who have helped make these achievements a reality.

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