



ESTUARY NEWS

NEWSLETTER OF THE PARTNERSHIP FOR THE DELAWARE ESTUARY: A NATIONAL ESTUARY PROGRAM

Autumn's Bounty

By Jennifer Adkins, Executive Director, Partnership for the Delaware Estuary

Autumn is such an exciting time of year. It's a great time to get outdoors in the Delaware Estuary, and we've got some ideas for you here in *Estuary News*.

For our scientists, fall means relief from the heat and the chance to catch up on planting and monitoring (pictured) before heading indoors. For our outreach team, it brings opportunities for sharing creative new ideas in classrooms, indoors and out.

Like the colors of autumn, our work has never been more varied. As you'll see in this issue of *Estuary*

News, we're connecting with restaurants to recycle shell, with volunteers to clean up trash, and with students to create art and gardens for clean water.

Autumn is also a reflective time of year. This is especially true this year as we celebrate our 20th anniversary and reflect on our top priorities and successes in this issue. Join us to celebrate these successes and bring our 20th-anniversary year to a close at the Delaware Estuary Science & Environmental Summit in Cape May in January. ■



LeeAnn Haaf (right) of the Partnership for the Delaware Estuary joins partners studying a marsh's elevation in southern New Jersey on October 20. They include Allison Anholt (center) of The Wetlands Institute and Metthea Yepsen (left) of The Nature Conservancy.

Marking a Milestone

Almost 400 people marked the Partnership for the Delaware Estuary's (PDE) 20th anniversary on October 6 at the Experience the Estuary Celebration in Deptford, New Jersey. Highlights included networking, a silent auction, dinner and live music. See for yourself in photos at tinyurl.com/z3gfrcx. Thank you to our many sponsors, and guests who especially enjoyed the fresh Delaware Bay oysters and local craft beer. ■



Credit: Shaun Bailey of PDE

Coast Day a Success

An estimated 3,000 people visited Pennsylvania Coast Day on September 10 in Philadelphia. Over 500 of these visitors explored the Delaware and Schuylkill rivers outside the Independence Seaport Museum and Fairmount Water Works. This was possible thanks to our free boat rides, pedal boating, rowboating, and roundtrip shuttles. At least 400 people also learned environmental lessons in their quest to earn prizes. Please visit DelawareEstuary.org/coast-day for info and photos. ■



Credit: Shaun Bailey of PDE

Teaming with Teachers

More than 25 educators learned how to teach students about environmental issues in July. These professionals attended up to four days of lectures and tours during the Delaware Estuary Watershed Workshop. Topics included pollution from abandoned mines, citizen science, family farming, sewage treatment, and wetlands. Destinations included Camden; Philadelphia; Smyrna, Delaware; and Pennsylvania's Berks and Schuylkill counties. Visit DelawareEstuary.org/teacher-workshops for details. ■



Credit: Michelle Hoover of PDE

Reaching People Through Art

Four students' street art is now educating thousands in Philadelphia.

This comes just months after winning first place in the Green City, Clean Waters Art Contest. PDE coordinated the contest and then turned winning drawings into temporary street art stickers – eight in all. These teach people to only allow rain down the storm drain, because storm sewers can overflow into waterways. Look for the artwork in Philadelphia, or see it now at DelawareEstuary.org/art-contest. This program is sponsored by Philadelphia Water. ■



Credit: Elizabeth Horsey of PDE

Getting Students Outside

To learn outdoors at W. Reily Brown Elementary School in Dover, Delaware, all students have to do is visit their new rain garden. So do students at Talley Middle School in Newark, Delaware. **Both schools have new rain gardens** this year thanks to PDE and the muscle power of over 100 students. The Talley Middle School rain garden was also made possible by 3M. Visit DelawareEstuary.org/rain_gardens to discover what rain gardens can do for your neighborhood. ■



Credit: Sarah Boulboulis of PDE

Listening to Concerns

People in Delaware, New Jersey, and Pennsylvania attended **three listening sessions** in July and August to comment on the environmental health of the Delaware River Valley. Ideas from these sessions will guide PDE and its partners as they begin to revise the *Comprehensive Conservation and Management Plan for the Delaware Estuary* (CCMP). Created in 1996, the CCMP is a long-term plan for collective action to protect and enhance the Delaware Estuary. Visit DelawareEstuary.org/plan for updates. ■



Credit: Shaun Bailey of PDE

Making Mussels Matter

Credit: Kathleen Laforce of PDE



The Partnership for the Delaware Estuary (PDE) is advising the Fairmount Water Works on its **new, one-of-a-kind exhibit** in Philadelphia. Its centerpiece will be a demonstration of how freshwater mussels are reproduced in a hatchery and why this is important for environmental restoration. These shellfish are arguably the world's most endangered animal group, yet few people know about them. You can change that this February – for free – when PDE scientists help finish construction. In the meantime, go in depth with this new video produced by WHYY-TV 12 PBS: tinyurl.com/gvu8jxj. ■

Restaurants to the Rescue

The Oyster Shell Recycling Program has reached its goal! **Eleven restaurants are now participating** in New Castle County, Delaware. This collaboration diverted about 25,000 pounds of shell from landfills in its first three months. The recycled shell is destined for use in coastal restoration projects along the Delaware Bayshore, which are currently hampered by a lack of needed shell. Visit DelawareEstuary.org/shell-recycling for details. PDE is currently looking for funds to continue this program. It also aspires to expand it in both New Jersey and Pennsylvania. ■



Credit: Shaun Bailey of PDE

Tackling Trash

More than 70 people cleaned up litter on Little Tinicum Island on September 30; this, despite rain, wind, and cold. This was truly a collaborative event. PDE recruited a variety of corporate volunteers. They rode in boats provided by Philadelphia Water, the Independence Seaport Museum, and Pennsylvania's Department of Conservation and Natural Resources. Keep Pennsylvania Beautiful disposed of the 15,000 pounds of litter volunteers collected. And United by Blue provided both lunch and prizes. ■

Credit: Shaun Bailey of PDE



Studying Local Shellfish

Scientists recently performed **three more experiments** on local freshwater mussels. The purpose was to measure how much pollutants are removed as these animals filter water clean while they eat. This will help tell planners how investments in mussel restoration lead to cleaner water. Imagine if we could decrease our need for water treatment simply by investing in shellfish, many of which can live up to a century. Visit DelawareEstuary.org/freshwater-mussels to learn more. ■



Credit: Dr. Danielle Kreeger of PDE

Getting Knee Deep in Science



Credit: LeeAnn Haaf of PDE

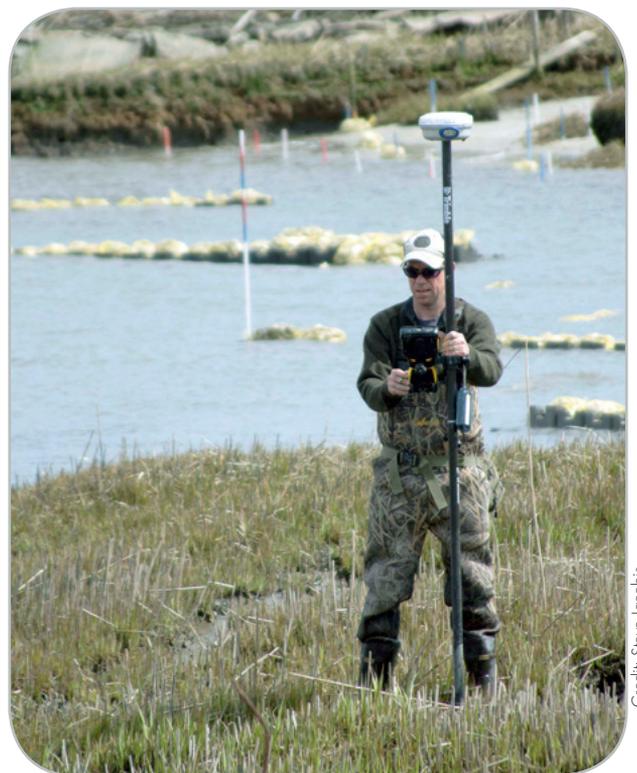
Freshwater mussels, coastal shorelines, and wetlands are under the microscope thanks to **continuous monitoring** by PDE scientists. They and others are using these data to study the health of local ecosystems and track the success of restoration projects. Examples include:

- reintroducing freshwater mussels to their historic habitats
- building living shorelines for coastal resilience
- studying how well post-Sandy investments in wetlands are holding up

Visit tinyurl.com/z6b94pz for details. ■

Helping Partners

Partners across the region are collaborating with PDE scientists. Together they are developing new approaches for tracking the performance of restoration projects, such as living shorelines. In New Jersey, for example, PDE worked with The Nature Conservancy and U.S. Fish and Wildlife Service. Together they installed new oyster-reef breakwaters to help defend valuable coastal wetlands from destructive waves. They are also testing a new "monitoring framework" on this and many other projects. This is showing how data on shellfish and plant communities can be collected in a consistent fashion, ensuring that important lessons can be learned and shared. Read about this project now at tinyurl.com/h86h5fn. ■



Credit: Steve Jacobis

Our Top Priorities and Successes

By Shaun Bailey, Marketing and Communications Coordinator, Partnership for the Delaware Estuary

The Partnership for the Delaware Estuary (PDE) was established in 1996. It connects people, science, and nature for a healthy Delaware River and Bay. We are the only organization focusing on the tidal River, from the head of tide at Trenton to the mouth of the Bay at the Atlantic Ocean. We focus on science, encourage collaboration, and implement programs that help restore the natural vitality of the river and bay, benefiting the plants, wildlife, people, and businesses that rely on a healthy estuary.

What makes the Delaware Estuary special?

Many plants and animals – and almost 7 million people – rely on a healthy environment in the Delaware River and Bay. The Estuary provides a unique home for fishes, birds, crustaceans, shellfish, insects, and plants. People throughout southeastern Pennsylvania, southern New Jersey, and Delaware rely on the Estuary for clean drinking water, economic and business activity, and recreation. The Estuary’s wetlands help protect communities against storms and hurricanes, and remove carbon from the air. A healthy estuary environment is a foundation of our region’s quality of life.



Credit: Elizabeth Horsey of PDE

Priority Issues: Polluted Runoff

The Delaware River and Bay’s largest source of pollution is rain and snow runoff. This becomes contaminated while flowing downhill, across parking lots, roads, driveways, lawns and more. This happens as it collects pollutants like fertilizer, litter, and motor oil. These then drain into waterways or sewers, the latter of which can overflow into rivers. But PDE is combating this using education (see page 7), rain gardens, outreach, storm drain marking (pictured) and more.



Credit: Lisa Wool of PDE

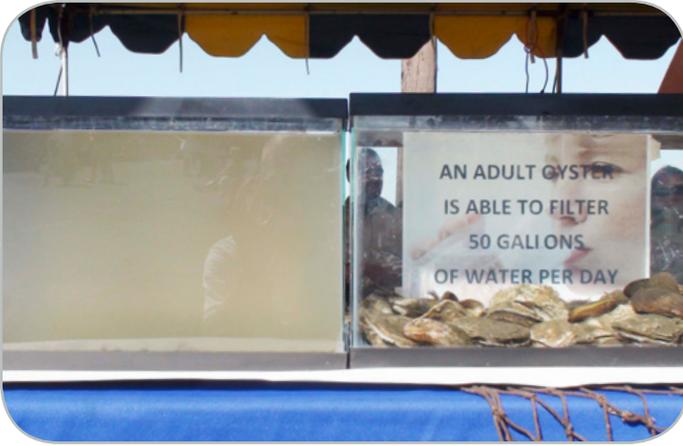
Priority Issues: Wetland Loss

The tidal Delaware River and Bay are losing an acre per day of coastal wetlands to “erosion”, or washing downstream. That is almost a football field every day! This has three main causes: rising sea levels, a lack of marsh expansion (i.e., accretion), and poor wetland health. This afflicts 95% of all local wetlands, putting every coastal community at risk. But help is on the way thanks to PDE’s long-term study and experimentation (see page 7).



Credit: Maddy Laura, courtesy of The Milford Beacon

Credit: Shaun Bailey of PDE



Priority Issues: Shellfish Scarcity

The Lower Delaware River Basin was once home to 12 or more species of freshwater mussels. The Delaware Bay was once known as the "oyster capital of the world." Yet today, all but one species of freshwater mussel is rare, and diseases have left our wild oyster beds depleted. This is bad news considering how each shellfish can filter 10 to 50 gallons of water every day. Fortunately PDE is replenishing both, thanks in large part to cleaner waters.

Success Story: Wetland Monitoring

PDE has studied more than 350 wetland sites since 2008, when it collaborated with partners in three states to launch the Mid-Atlantic Coastal Wetlands Assessment program. Together we are studying what causes wetland loss, and its solutions. Then, using the results, we are creating new tools like Marsh Futures that help land managers restore wetlands.



Credit: Will Whidon

Success Story: Biennial Summit

The land affecting the Delaware River and Bay is divided into four states. This makes collaboration difficult, so PDE came up with a solution: the Delaware Estuary Science & Environmental Summit. This summit allows experts from all over to meet, discover each other's work, and partner for greater impact.

Credit: Sari Rothrock



Success Story: Annual Art Contest

Since 2000, PDE has used an art contest to teach over 18,000 children how to prevent water pollution. In 2014, it started installing winning drawings as street art. This, together with an advertising campaign, educates millions annually. And it's all thanks to collaboration between PDE and Philadelphia Water. ■



Credit: Shaun Bailey of PDE

Love Your Park

November 12 | Philadelphia, PA

Philadelphians will show their brotherly love when they spruce up their shared open space this fall. Please join them by visiting LoveYourPark.org. There you can choose from over 100 parks in need of volunteers. We recommend those bordering the Delaware and Schuylkill rivers, among others. Volunteering there will prevent litter from flowing downstream and polluting the Delaware River Estuary.



Credit: Virginia Vassalotti of PDE

Super Ships Workshop

November 13, from 9 a.m. to 5 p.m. | Camden, NJ

Visitors to the Camden Shipyard & Maritime Museum can build "Super Ships" made of LEGOs. In the process, they'll learn about science, technology, engineering, math, and the environment. They can also marvel at the TEACH FLEET, a traveling exhibit of LEGO model boats. They may even recognize some from the Delaware River, the largest freshwater port system in the world. Please visit tinyurl.com/hozzs5d for details, or call (856) 541-7447. Admission is just \$5 per person.

Credit: Courtesy of Wilber McKinley



Oyster Happy Hour

November 14, from 5 to 7 p.m. | Philadelphia, PA

Join us at the Oyster House as we toast fresh Delaware Bay oysters. Proceeds from this fundraiser will help support the Partnership for the Delaware Estuary's efforts to protect local rivers and the Delaware Bay. This includes programs like oyster shell recycling (see page 4). Tickets are \$40 per person and you can purchase them at OysterHouse2016.eventbrite.com. Questions? Call Elizabeth Horsey at (302) 655-4990, extension 114.



Credit: Elizabeth Horsey of PDE

Hoopes Reservoir Hike

November 17, from 12:30 to 4:30 p.m. | Hockessin, DE

Join Delaware Nature Society staff on a unique nature and history hike along the private and picturesque Hoopes Reservoir, which has been closed to the public since 1971. The cost to participate is \$30 (\$20 for members). This gets you in to possibly see bald eagles, waterfowl, and beautiful woodlands along the lakeshore at Delaware's biggest drinking-water reservoir, but be prepared. This four-mile hike is somewhat strenuous, with some bushwhacking, stream crossing, and hill-climbing required. There are no maintained trails. Please visit www.DelNature.org to register, or call (302) 239-2334.

Credit: Delaware Nature Society



Marsh Cleanup

November 19, from 9 a.m. to noon | Hamilton, NJ

Please help the Friends for the Abbott Marshlands by volunteering for their litter cleanup. This will protect the fish and migrating birds of these rare freshwater tidal marshes. Volunteers should wear long sleeves and pants. If you have them, please also wear gloves and boots for wet areas. Register today by calling AmeriCorps Ambassador, Katie Harrison at (609) 712-3579. Directions are available at AbbottMarshlands.org.

Credit: Shaun Bailey of PDE



SAVE THE DATE: **Science & Environmental Summit** **January 22-25 | Cape May, NJ**

More than 300 people will discover and share environmental projects, programs, and research during our summit. The Delaware Estuary Science & Environmental Summit will feature intriguing presentations, lively discussions, and cutting-edge science in Delaware, New Jersey, and Pennsylvania. Visit DelawareEstuary.org/summit to register at early-bird rates, which go up on December 2. Please call Lisa Wool at (800) 445-4935, extension 105, to ask questions and Debbie Heaton at extension 120 to become a sponsor. ■

MEETINGS CONTACT LIST

Meetings conducted by the Partnership for the Delaware Estuary's implementation and advisory committees occur on a regular basis and are open to the public. For meeting dates and times, please contact the individuals listed below:

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The Partnership for the Delaware Estuary: Connecting people, science, and nature for a healthy Delaware River and Bay

The Partnership for the Delaware Estuary, Inc. (PDE), is a private, nonprofit organization established in 1996. The PDE, a National Estuary Program, leads science-based and collaborative efforts to improve the tidal Delaware River and Bay, which spans Delaware, New Jersey, and Pennsylvania. To find out how you can become one of our partners, call the PDE at (800) 445-4935 or visit our website at www.DelawareEstuary.org.

Partnership for the Delaware Estuary, Inc.

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