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# ESTUARY NEWS

NEWSLETTER OF THE PARTNERSHIP FOR THE DELAWARE ESTUARY – HOST OF THE DELAWARE ESTUARY PROGRAM



## Bipartisan Infrastructure Law Enables DELEP and PDE to Further its Mission with Projects and Outreach

Thanks to the Bipartisan infrastructure Law (BIL), the Delaware Estuary Program (DELEP) and PDE have an unprecedented opportunity to expand projects and programs for the next few years through financial and technical support.

Through the BIL, each of the 28 National Estuary Programs will receive \$909,800 yearly for the next five years. One of the core priorities of this funding is to accelerate environmental and community restoration goals within DELEP's Comprehensive Conservation and Management Plan (CCMP). This funding falls under the Justice40 Initiative, a national program that aims to ensure that at least 40 percent of the benefits from federal funding benefit disadvantaged communities.

A significant project that the BIL will support is the construction of a large-scale freshwater mussel hatchery at Bartram's Garden in Philadelphia. Once the hatchery is up and running, PDE will be able to grow 500,000 freshwater mussels per year. The mussels will then go into rivers, streams, and other locations where they can filter water and keep it cleaner.

BIL funds will also help prevent the loss of vital wetlands in the Delaware River Watershed. PDE will expand living shorelines in places such as Matt's Landing, New Jersey, and continue to monitor coastal wetlands. Additionally, PDE will identify how people use tidal wetlands and where they can access them to address barriers.💧

**CLEAN WATERS • ALL GOALS // HEALTHY HABITATS • ALL GOALS // STRONG COMMUNITIES • ALL GOALS**

## COMMITTEES CONTACT LIST

Meetings conducted by the Delaware Estuary Program'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:

### Estuary Implementation Committee

**Kathy Klein**

Partnership for the Delaware Estuary  
Executive Director (Chair)

- ▶ (800) 445-4935, ext. 102
- ▶ [kklein@DelawareEstuary.org](mailto:kklein@DelawareEstuary.org)

### Monitoring Advisory & Coordination Committee

**Elaine Panuccio**

Water Restoration  
Scientist, Water Quality Assessment

- Delaware River Basin Commission
- ▶ (609) 883-9500, ext. 307
- ▶ [elaine.panuccio@drbc.gov](mailto:elaine.panuccio@drbc.gov)

### Toxics Advisory Committee

**Jeremy Conkle**

Senior Toxicologist  
Delaware River Basin Commission

- ▶ (609) 883-9500
- ▶ [Jeremy.Conkle@drbc.gov](mailto:Jeremy.Conkle@drbc.gov)

### Science and Technical Advisory Committee

**Danielle Kreeger, Ph.D.**

Partnership for the Delaware Estuary  
Senior Science Director

- ▶ (800) 445-4935, ext. 104
- ▶ [dkreeger@DelawareEstuary.org](mailto:dkreeger@DelawareEstuary.org)

### Water Quality Advisory Committee

**John Yagecic, P.E.**

Manager, Water Quality Assessment  
Delaware River Basin Commission

- ▶ (609) 883-9500, ext. 271
- ▶ [john.yagecic@drbc.nj.gov](mailto:john.yagecic@drbc.nj.gov)

### ON THE COVER

A fishing boat goes on a resupply launch in Slaughter Beach, Delaware. Slaughter Beach is part of an area that received funding from the Waterways Infrastructure and Investment Network (WIIN) grant to create a stakeholder-led investment strategy to benefit it and the city of Milford's economies and coastal resilience. More on Page 9.

*Photo by Brad Dennehy*

### FOLLOW US ON:



By Erica J. Rossetti, PDE's Urban Waters Coordinator

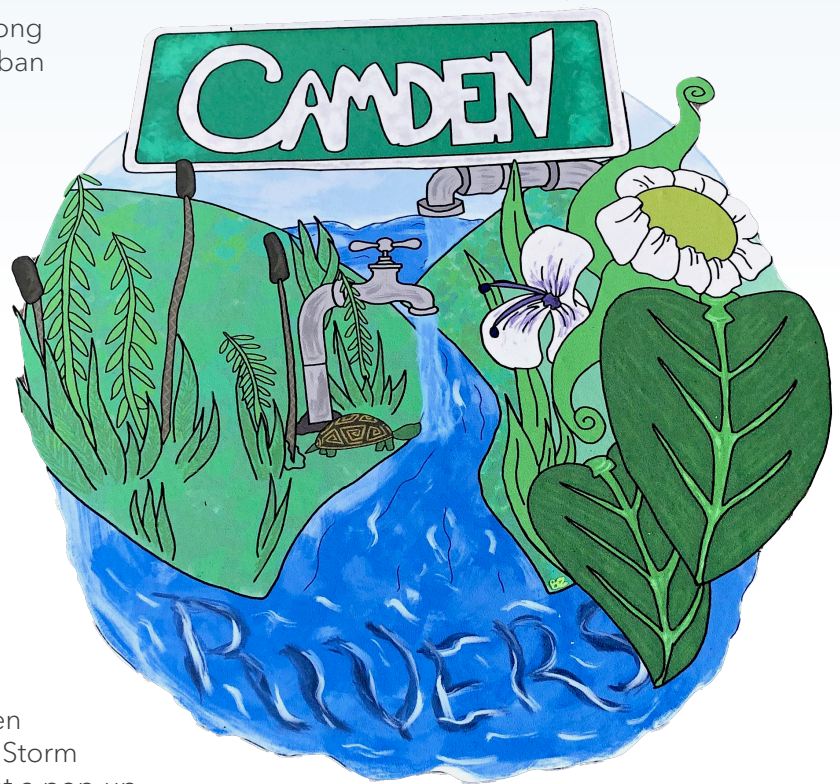
# CAMDEN

## WHERE WATER IS IN THE ART

Camden, New Jersey, is one of the many cities along the main stem of the Delaware River that faces urban challenges. In addition to a lack of green space and permeable surfaces due to development, there are generations of industrial pollution and increased flooding from climate change. To help address these challenges, the community is using the powerful medium of art to connect with residents and overcome environmental burdens together.

Camden Collaborative Initiative's "Adopt-A-Drain" program allows volunteers to clear local storm drains of litter and debris. Alongside this program is Camden's "Art for Change," a public art project that brings attention to issues such as flooding and climate change through sidewalk art around adopted storm drains. A collective of local young artists called the "We Live Here Artists" create the sidewalk murals. Their work focuses on environmental justice, civic engagement, and open space. The collective also created a free Camden Storm Drains coloring book for residents to take home at a pop-up event held on Oct. 7 in north Camden.

As an Urban Waters Federal Partnership location, PDE supports the Camden Collaborative Initiative and the "We Live Here Artists" via the Urban Waters Community Fund. With stipends and supplies, the artists and other residents will create murals surrounding rain gardens throughout Camden. By supporting Camden community members and art, PDE also supports essential educational and environmental justice work that will raise awareness about climate change and flooding reduction to empower residents to invest in our local waterways. 💧



Sidewalk art from Camden, New Jersey  
Photo from Quinton Law,  
Camden Community Partnership

STRONG COMMUNITIES • GOALS C2.7, C2.4

# Oh, What a Night!

## PDE AND SUPPORTERS CELEBRATE ACCOMPLISHMENTS AT EXPERIENCE THE ESTUARY DINNER

Nearly 350 friends and supporters of Partnership for the Delaware Estuary turned out in Philadelphia in October for the annual Experience the Estuary Celebration. This event is PDE's biggest fundraiser of the year and helps to support the organization's mission and projects. The evening included cocktails, dinner, and the ever-popular 90-minute oyster raw bar with oysters from the Delaware Bay.

A video presented at the dinner focused on PDE's accomplishments and projects from the year in Pennsylvania, Delaware, and New Jersey and how they supported clean waters, healthy habitats, and strong communities – the main pillars of the Delaware Estuary Program's Comprehensive, Conservation and Management Plan (CCMP). The video highlighted the Philadelphia Water Department's Storm Drain Marking Program, the 2022 Christina River Watershed Cleanup, the opening of PDE's second oyster shell recycling area in Philadelphia, PDE's work on living shorelines, and plans for a new freshwater mussel hatchery at Bartram's Garden in Philadelphia. PDE sincerely thanks everyone who attended and sponsored this year's dinner.💧

### MORE TO SEE

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- 1 View more Experience the Estuary photos on our [Flickr page](#).
- 2 Click [here to view the video](#) shown at the dinner.
- 3 **\*BONUS\*** Ever wanted to learn how to shuck an oyster? PDE's Senior Science Director Danielle Kreeger, Ph.D., shows you how in this [video](#).



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1. PDE guests enjoy some pre-dinner cocktails, oysters, and conversation on the patio at the Experience the Estuary celebration event at Vie in Philadelphia. 2. Members of the Rutgers University Haskin Shellfish Research Laboratory, many of whom helped shuck oysters at the 90-minute oyster bar, have a great time at dinner. 3. Guests at the Manko, Gold, Katcher & Fox table. 4. PDE's Restoration Manager Joshua Moody, Ph.D., and PDE's Shellfish Programs Manager Kurt Cheng work at the 90-minute oyster bar. 5. Bea Vasquez and LaJuana Cobbs of Rutgers University's Haskin Shellfish Research Laboratory. 6. A guest makes a bid at the silent auction. 7. PDE's Executive Director Kathy Klein, and PDE Board Member and Event Chairperson Nicole Brown.

PDE SINCERELY THANKS EVERYONE WHO ATTENDED AND SPONSORED THIS YEAR'S DINNER.



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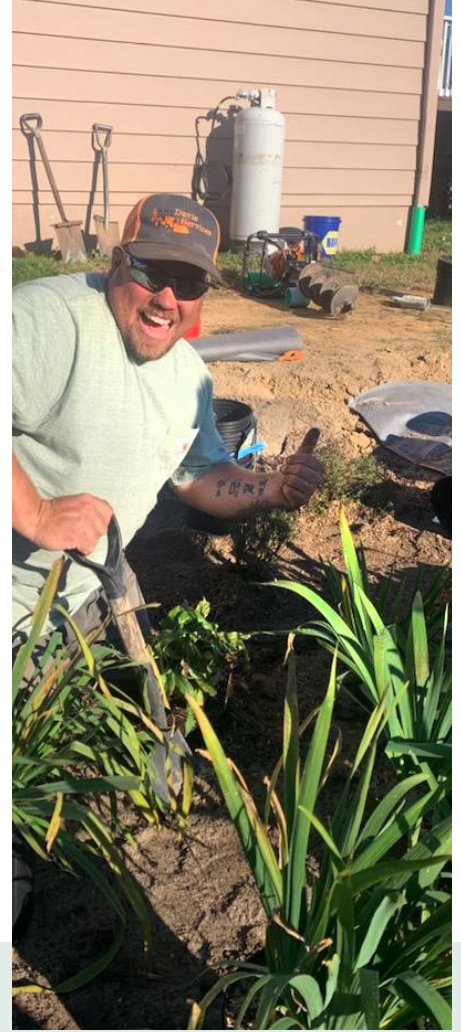
# Excavation Contractor Helps Lay the Groundwork for a Growing Green Infrastructure Industry

By Michelle Peal, NJLCV & Lucia Ruggiero, American Littoral Society  
This article originally appeared in South Jersey Water Savers

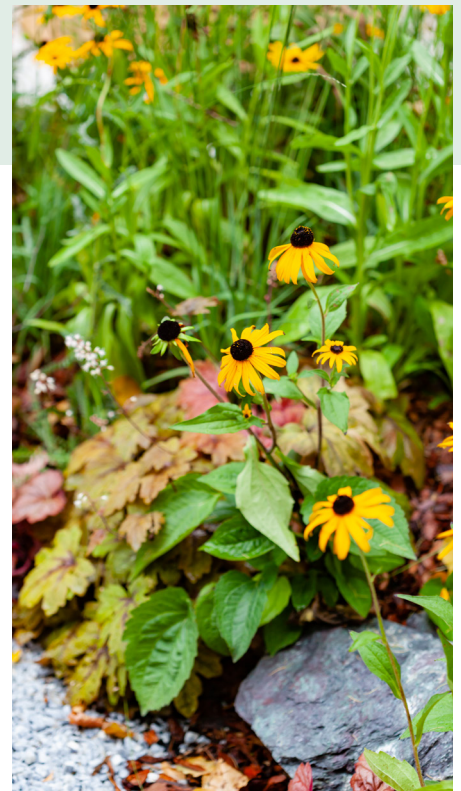
ERNIE DAVIS, A THIRD-GENERATION OWNER OF DAVIS LAWN AND LANDSCAPES, IS AT THE FOREFRONT OF A NEW GREEN INFRASTRUCTURE MOVEMENT IN LANDSCAPING, A FACET OF THE INDUSTRY THAT, BY HIS OWN ACCOUNT, HAS BEEN ON THE RISE IN RECENT YEARS.

"I see an industry forming; a lot of people want to turn a blind eye," Davis said, noting, "green infrastructure is going to be important." Unlike traditional, gray infrastructure that works by piping excess rainwater into the nearest river or stream, green infrastructure mimics nature by capturing water and slowly releasing it into the soil. It filters out pollutants, creates habitat, and protects communities from flooding during heavy rain events. Davis sees the current climate as an opportunity to do something good while growing the family business.

He's been constructing and installing green infrastructure projects such as rain gardens and bioswales for the past two and a half years and says the process has been a learning experience and is much more involved than "just digging a hole." These projects generally consist of native plants typically found in wetlands or near bodies of water with deep root structures, facilitating the uptake and infiltration of rainwater back into



Ernie Davis, a third generation owner of Davis Lawns and Landscapes, has found new ground working with green infrastructure such as rain gardens. Photo courtesy of the American Littoral Society.



the soil. Davis has also worked on bioswales, a similar type of green infrastructure, which are more focused on redirecting rainwater, usually to a rain garden or storm drain.

Green infrastructure is important because installations such as rain gardens are extremely effective at taking up large amounts of water and filtering it. They help remove pollutants from runoff before it reenters the water table and mitigates flooding during heavy rainfall.

Since Davis' first green infrastructure project, a rain garden at Salem High School that Partnership for the Delaware Estuary (PDE) contracted in 2019, he has garnered a good deal of experience in the field. His work with the South Jersey Landscape Makeover Project includes 11 projects in 2021, equating to 100,790 square feet of combined total drainage and an 829,069-gallon reduction in stormwater volume per year.

The South Jersey Landscape Makeover program employs contractors like Davis to construct green infrastructure and landscaping projects at businesses, homes, and municipalities within the Kirkwood Cohansey Aquifer in southern New Jersey. Design professionals from Rutgers University act as consultants, and the program also offers financial incentives and free educational webinars for installing rain gardens and other projects.

These types of projects (green infrastructure) have had noticeable impacts on Davis' business, which reported a 30 percent increase in sales over the past two years. To meet the demand, Davis has hired a new employee and currently plans to hire another. It's not just the money that drives him to work on projects like this.

"Green infrastructure has opened doors for my family and business, and I enjoy being part of something new and good for the environment," Davis adds.

Davis isn't the only one picking up on the rising demand. Christopher C. Obropta, Ph.D., P.E., Extension Specialist in Water Resources at the Rutgers Cooperative Extension Water Resources Program (RCE Water Resources Program), says, "The demand has increased year after year as these systems are becoming more popular. Demand has also dramatically increased because of new stormwater regulations being implemented."

The question remains whether or not the landscaping industry can keep up with this demand and whether

**“Green infrastructure has opened doors for my family and business, and I enjoy being part of something new and good for the environment.”**

**ERNIE DAVIS**

*Owner of Davis Lawns and Landscapes*

or not the contemporaries of Ernie Davis can help. "While many traditional landscapers and contractors have the skills to do this work, a lot of them don't have the experience," added Obropta. He notes that many of the green infrastructure projects undertaken by the RCE Water Resources Program require their staff to be on-site to educate and guide contractors on the scope, design, and purpose of installations such as rain gardens.

Christine Nolan of South Jersey Land and Water Trust has worked with Davis on nearly every project in the past two years and says she wants to see more contractors like him in the field.

"Ernie has the right attitude," Nolan said, describing how he takes the time to partner with engineers and designers to make sure every project is a success. Nolan hopes there will be a certification body to train more contractors to do the work Davis has learned.

"Not just rain gardens, but the entire industry, naturalizing detention basins, rain barrels, and bioswales," she said.

For now, it seems that the green infrastructure industry has the potential to grow, with the help of both experienced contractors like Ernie Davis and guidance from institutions like the South Jersey Landscape Makeover Project and the RCE Water Resources Program. These partnerships bring the necessary skills, experience, and knowledge together for the sake of a greener built environment.💧

For more information about the South Jersey Landscape Makeover Program, visit the website at: <https://www.sjwatersavers.org/makeover/>

**CLEAN WATERS • STRATEGY W2.1 //  
STRONG COMMUNITIES • STRATEGY C2.2**



# LIVING SHORELINES

## CLASSROOM RESOURCES



*By Haley Burns, PDE's DELEP Program Specialist*

Hey teachers, if you're looking for science lesson resources for your classes, Partnership for the Delaware Estuary (PDE) has the goods. For the second year in a row, PDE has developed a free web-based resource guide that compiles Estuary-related educational materials, lessons, and other resources. These resources aim to engage teachers in the issues and activities of the Delaware Estuary while providing background information, examples, and materials to incorporate into their classroom lessons. Last year's page looked at horseshoe crabs, while this year's focus is on living shorelines. The Living Shorelines Classroom Resources page went live on PDE's website at the end of August and features a virtual field trip complete with a 360-degree view of a local living shoreline and an activity sheet exploring living shoreline vocabulary. All you have to do is go online to start using this impactful tool.💧

### RESOURCES

See this year's Living Shorelines Resources here:

<https://delawareestuary.org/kids-and-teachers/living-shorelines-classroom-resources/>

See last year's Horseshoe Crab Resources here:

<https://delawareestuary.org/kids-and-teachers/classroom-materials/>

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**STRONG COMMUNITIES • C2.3**



# RASCL Program Explores the Value of Mispillion River Watershed Towns

By *Danielle Swallow*, Coastal Hazards Specialist; Delaware Sea Grant; RASCL Steering Committee member

Above, a heron fishes among the phragmites in the Mispillion river. Photo by Tony Pratt.

At one end of Delaware's Mispillion River lies the city of Milford, a diverse community of 12,000 people undergoing exponential economic growth. The city wants to continue its economic expansion while fostering a stronger connection to the Mispillion River.

At the other end of the Mispillion is the town of Slaughter Beach. With fewer than 300 year-round residents, this beach town is a certified wildlife habitat and home to one of the world's largest horseshoe crab spawning areas. Slaughter Beach wants to attract more funding to preserve its natural environment and small-town way of life to help it adapt to rising tides that periodically inundate its roads and residences.

The Resilient and Sustainable Communities League (RASCL) bridged the urban-rural-natural divide by recognizing that both Milford and Slaughter Beach needed to invest in their natural resources to sustain their communities. A coalition of RASCL partners and stakeholders known as the Waterways Infrastructure and Investment Network (WIIN) received grant funding to create a stakeholder-led investment strategy to benefit Slaughter Beach and Milford's economies and coastal resilience. WIIN and its partners first characterized the value of the Mispillion watersheds' ecosystem services and the maximum potential value. They determined that recreational and leisure activities involving the region's natural resources contribute millions of dollars in economic value to the state. Then the partners assessed the risks of flooding, sea level rise, and land use changes.

As a result of stakeholder feedback and an innovative market and branding analysis, the team is developing an investment strategy that prioritizes equitable access to the Mispillion River, ecotourism, educational tourism, habitat conservation, and flood mitigation projects. The resulting investment strategy will balance economic development with coastal resilience to produce lasting benefits for Milford, Slaughter Beach, and the Mispillion River.

To learn more about this project, visit <https://www.derascl.org/wiin>.💧

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**STRONG COMMUNITIES • C1, C1.2**

## Summit Registration is Open! DELAWARE ESTUARY SCIENCE & ENVIRONMENTAL SUMMIT

January 30 to February 1

### HARRAH'S RESORT, ATLANTIC CITY

Register for the 10th biennial Delaware Estuary Science & Environmental Summit. Registration is \$450 for the entire Summit, and single-day and student prices also are available. This conference is a chance for people who work in various fields of estuary science to meet, gather, and network to learn and talk about the latest projects. It is a great opportunity to cultivate new ideas, and forge friendships and partnerships between agencies.

Day two of the Summit will feature the second biennial Forum on Climate Change and the Delaware River Basin brought to you by the Delaware River Basin Commission's Advisory Committee on Climate Change. The Forum will feature a conversation between government leaders to share climate planning and adaptation strategies throughout the Basin. Featured speakers include Raymond Najjar of Penn State University, Philippe Hensel from the National Oceanic and Atmospheric Association, and New York Times biodiversity reporter Catrin Einhorn.

Registration costs increase after Jan. 2, and closes altogether on Jan. 9, so don't wait until the last minute. Sign up today by clicking [here](#). For additional information, visit PDE's Summit [website](#).



**STRONG COMMUNITIES • GOAL C2.5**

## 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 nonprofit organization established in 1996. PDE is the host of the Delaware Estuary Program and 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 PDE at (800) 445-4935 or visit our website at [www.DelawareEstuary.org](http://www.DelawareEstuary.org).

#### Partnership for the Delaware Estuary, Inc.

Kathy Klein  
▶ (800) 445-4935, ext. 102  
▶ [kklein@DelawareEstuary.org](mailto:kklein@DelawareEstuary.org)

#### Environmental Protection Agency

Irene Purdy, EPA Region II  
▶ (212) 637-3794  
▶ [purdy.irene@epa.gov](mailto:purdy.irene@epa.gov)  
Megan Mackey, EPA Region III  
▶ (215) 814-5534  
▶ [mackey.megan@epa.gov](mailto:mackey.megan@epa.gov)

#### Pennsylvania

Sue Weaver  
Department of Environmental Protection  
▶ (717) 783-8055  
▶ [suweaver@pa.gov](mailto:suweaver@pa.gov)

#### Delaware

Rachael Phillos  
Department of Natural Resources and Environmental Control  
▶ (302) 735-3411  
▶ [Rachael.Phillios@delaware.gov](mailto:Rachael.Phillios@delaware.gov)

#### New Jersey

Lynette Lurig  
Department of Environmental Protection  
▶ (609) 633-1314  
▶ [lynette.lurig@dep.nj.gov](mailto:lynette.lurig@dep.nj.gov)

#### Delaware River Basin Commission

Chad Pindar  
▶ (609) 883-9500, ext. 268  
▶ [chad.pindar@drbc.gov](mailto:chad.pindar@drbc.gov)

#### Philadelphia Water Department

Will Whalon  
▶ (267) 207-0937  
▶ [william.whalon@phila.gov](mailto:william.whalon@phila.gov)

#### Editor

Kate Layton  
▶ (800) 445-4935, ext. 113  
▶ [klayton@DelawareEstuary.org](mailto:klayton@DelawareEstuary.org)

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