It’s hard to believe that 2014 is my last year on the Board at the Partnership for the Delaware Estuary (PDE). I’m proud of all we’ve accomplished during my six year tenure on the Board.

During that time, many inspiring moments come to mind, but the one I’m most proud of is the rededication of the agreement between the three states that lay geographic claim to the Delaware Estuary – Delaware, New Jersey, and Pennsylvania. The agreement renews commitments, across state lines and jurisdictions, to cleaner water in the tidal Delaware River and Bay.

Among the signees are the Environmental Protect Agency (EPA) Regions 2 and 3, the Delaware River Basin Commission, the New Jersey Department of Environmental Protection, the Pennsylvania Department of Environmental Protection, the Delaware Department of Natural Resources and Environmental Control, and the Philadelphia Water Department.

I was at both the original signing in 1996 and the one in December 2014. From then till now, PDE has changed immensely, but the goal has remained the same. Protect and improve the estuary. This single objective is helping to safeguard the future and is providing focus for the work PDE does each day.

Speaking of the future, it is now time that I passed the torch of board chair into the very capable hands of Joni Powell. Joni has been my vice-chair for the past two years, and I am excited to see what the future brings for her, our energized Board, and the talented and hardworking PDE staff.

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New Board Members in 2015
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Danielle Bower – Philadelphia International Airport
Carol Collier – Academy of Natural Sciences of Drexel University
Brenda Gotanda – Manko, Gold, Katcher & Fox, LLP
Gus Mergenthaler – Tetra Tech, Inc.
Rose Schilling – Day & Zimmermann
When I think about the fondest memories from my childhood, almost all of them take place outside. Roasting marshmallows at family barbecues, swimming in the local pond, and exploring the woods and streams around our neighborhood – these memories stick with me the most.

As 2014 draws to a close, I can’t help but reflect upon the memories and stories from the past 12 months at the Partnership for the Delaware Estuary (PDE). From the farming family in the Schuylkill making their land more eco-friendly, to teenagers from the city having new experiences in nature, and volunteers building living shorelines to save bayshore marshes, these amazing outdoor stories share one thing in common.

What is bringing all these stories together, weaving them into one, is the Delaware Estuary. This estuary is a beautiful, diverse, 6,000 square mile stretch of land (and water). For too long we’ve heard only one story about it – a story of industry and pollution that is rooted in the past. It’s an important story, and the estuary still faces many threats. But it’s time we hear others – stories like mine (and yours!) of recovery, resilience, and opportunities for the future.

In our 18th year as an organization, I am proud of how our story continues to evolve. As we look toward a new year, and a new chapter, I want to thank you for your interest, dedication, and support for our work. I also encourage you to tell your story. Each time you make a new outdoor memory, it’s an opportunity to tell a new story about the Delaware Estuary, and to realize the important role you play as a supporter of PDE!
For this year’s report, we’re focusing on four projects and the people who have benefitted or been involved with them. We hope you enjoy their stories, and visit our website, www.DelawareEstuary.org, to learn about others who have been involved in our work this year.

“Farm land accounts for a huge portion of the estuary. This spring the Partnership for the Delaware Estuary (PDE) worked with farmers and partners in the Schuylkill Action Network (SAN) to create a “Farmer’s Guide for Healthy Communities.” This guide contains actions farmers can take to reduce pollution. Many of the suggestions to reduce stormwater runoff and manage harmful nutrients were highlighted in a bus tour of agricultural restoration projects last August. One of the stops was the Davis dairy farm in Berks County, PA. The Davis’ family recently updated their manure storage, installed stream bank fencing and a cattle crossing, and placed downspouts around buildings.

“This project ignited us to think outside the boundaries of our farmland and to consider how our farming practices can affect the water quality of those downstream. Thank you, to everyone who contributed to helping this become possible!”

— Teresa and Luther Davis

Throughout his or her career, a single teacher will educate thousands of students. In 18 years, hundreds of teachers have learned about the environment at our annual Delaware Estuary Teacher’s Watershed Workshop. This August, 22 new teachers learned innovative ways to teach about the estuary and environment. They toured “green projects” in Philadelphia. In New Jersey they learned about an oyster shell recycling program their students can get involved with. A day was spent in Delaware streams looking for mussels and macroinvertebrates. Teachers also learned hands-on ways to teach about wetlands, watersheds, and water cycles, even if resources prevent taking their class outdoors. Anne Noble-Vetter was one of the teachers who participated in this year’s workshop.

“With what I learned and the materials I was given, I’ll be able to teach the 7th graders in my class about natural resources and focus on why water is so important.”

— Anne Noble-Vetter
Erosion and flooding are a constant threat to coastal communities around the Delaware Estuary. One method the Partnership for the Delaware Estuary (PDE) is using to combat these issues is living shorelines. In 2014, we installed four new living shorelines in Cumberland County, New Jersey and Sussex County, Delaware. At the Mispillion Harbor in Delaware, we used Lego-like structures called “oyster castles” to help break up waves and provide a place for baby oysters to grow. Dawn Webb works at the DuPont Nature Center and has seen work at the Mispillion evolve since Day 1.

Freshwater mussels are one of the most endangered species in North America, but PDE is working with citizen scientists to change that! This year we trained over 100 volunteers to search for freshwater mussels in local waterways. Data from these surveys are helping guide scientists to streams where mussels have been lost or need protection. One afternoon in July, a group of teenagers from the Green Jobs Program searched for mussels in the Brandywine Creek in Delaware. A main goal of the six-week program is to expose teens from Wilmington, Delaware and Camden, New Jersey to environmental careers. Brian is one of the teens who had a particularly good time that day in the stream.

“There is no better way to see the benefits of a Living Shoreline than from the deck of the DuPont Nature Center. Young oysters are growing on the castles, Diamondback terrapins are basking on the logs, and new marsh grass invites wading birds in search of their next meal. I cannot wait to watch this nursery come to life next spring!”

— Dawn Webb

“I just want to thank you for doing this for us. This is stuff I would never get to see and it means a lot to me. I really like this.”

— Brian, 16 years old
The Delaware Estuary portion of the Delaware River Basin spans 134 miles from the head of tide at Trenton, NJ to the mouth of the Delaware Bay. An estuary is a tidal waterway where fresh and salt water mix.

**Schuylkill Action Students Projects**
A 1,000 sq. ft rain garden was installed this spring by 30+ students at Christopher Dock High School. This Schuylkill Action Students project will help filter storm water on the school’s campus before it reaches the Perkiomen Creek.

**Schuylkill Scrub**
Over 1,700 people volunteered during the 2014 Schuylkill Scrub. This clean-up takes place over a three-month period in the Schuylkill watershed each spring.

**Wilmington Earth Day**
This year thousands celebrated Earth Day in Wilmington, DE’s Rodney Square. Kids and adults alike enjoyed eco-friendly crafts, raffles, and more!

**Living Shorelines**
Four new living shorelines sites were installed in 2014 in New Jersey and Delaware. Biodegradable coconut fiber logs and mats, shell bags, native grasses, oyster castles, and mussels are being used to naturally build-up eroding shorelines.
The Delaware Estuary portion of the Delaware River Basin spans 134 miles from the head of tide at Trenton, NJ to the mouth of the Delaware Bay. An estuary is a tidal waterway where fresh and salt water mix.

**Mid-Atlantic Coastal Wetlands Assessment**
In 2014 PDE collected data from 55+ sites about how climate change, pollution, and mud are affecting the health of coastal wetlands. In select NJ Bayshore sites, we are assessing “marsh futures” to help identify which restoration projects are most likely to succeed.

**Christina River Watershed Cleanup**
In April, PDE hosted a site at the 23rd Annual Christina River Watershed Cleanup. Over 20 tons of waste was removed from the river by volunteers!

**Pennsylvania Coast Day**
In September, PDE celebrated the 15th Annual Pennsylvania Coast Day on the banks of the Delaware River. Thousands came out for ferry rides, kayaking, fun crafts and more!

**“Green Cities Clean Water” Art Contest & Stickers**
Winners from this year’s art contest saw their art work on the streets of Philadelphia! Temporary stickers were installed around storm drains in several locations throughout the city.

**Freshwater Mussel Recovery Program**
This summer, PDE and EPA snorkeled and scuba dove in the Delaware River in search of rare freshwater mussels. Searching for, and finding them, on the bottom of the river is like discovering hidden treasure!
The Partnership for the Delaware Estuary thanks everyone who supported our work over the past year with contributions, grants, event sponsorship, cooperative agreements, and donations.

In 2014, PDE staff electrotagged 452 freshwater mussels. These tags will help us locate the mussels in the wild and track their health for years to come!
In August, PDE served as the local partner for a Budweiser America Made Better Delaware River Cleanup. Thanks to all the cleanup volunteers!

A boy discovers the wonders of our watershed at this year’s Pennsylvania Coast Day.
Carol Collier and Bob Tudor were awarded the Delaware Estuary Jonathan Sharp Lifetime Achievement Award at the 2014 Experience the Estuary Celebration.

Eileen & Jim Fallers
Tony Fernandes
Robert E. & Anita J. Fonash
French & Pickering Creeks
Conservation Trust
Robert J. Golden
David Goss
Dominick Granato
Ron Hamlon & Sue Fuhrmann
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Catherine Peek
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Ronald & Lisa Smith
Wendy Smith
Joe & Peggy Spline
Ralph Stahl
Linda & John Stapleford
Alfred Taylor
Sabina M. Thorn
Sharon Traver
Robert G. Traver
In Memory of James A. Trent by Christopher A. Huang & Ann M. Collins
Dr. Rosalind H. Troupin
Tom Truman
Andrew W. Urquhart
Pam & Howard Ventzi
Kathleen Walz
Mr. & Mrs. Carl Wehrer
Craig Wernell
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Lynn W. Williams
Veronica M. Wilson
Anne Witt
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Wheelabrator Gloucester Company, LP

Background photo by Mike Ponzik

Volunteers install a Living Shoreline at Gandy’s Beach, NJ.
Two new “spokes-dogs” were crowned at the Philly Water’s Best Friend competition. Look out for our winners, Gracie and Daisy Ann, who will work to end “poo-llution” in the city of brotherly love!

CONTINUOUS ARTIST SUNDAY, OCTOBER 28, 2018
10 AM – 4 PM

BUOY ARTWORK: BY ANN B. HORSEY
BUOY ARTWORK: BY TERRI SLACK

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Delaware River Basin Commission
Delaware Valley Regional Planning Commission
Maurice River Township
The Nature Conservancy
Pennsylvania Department of Environmental Protection
Pennsylvania Environmental Council
Pennsylvania Sea Grant
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Ann Faulds
Marc Gold
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Judith Jeffers
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Sly Fox Beer
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Kirsten Teal
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Marianne Walch
Yards Brewing Company

CONTRIBUTORS, VOLUNTEERS, & ARTISTS

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Otter Box

The Oyster House
Painted Stave Distilling
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Philadelphia Flyers
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Wilmingtong & Western Railroad
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Fred Wood
Lisa Wool

Two new “spokes-dogs” were crowned at the Philly Water’s Best Friend competition. Look out for our winners, Gracie and Daisy Ann, who will work to end “poo-llution” in the city of brotherly love!
2014 STEERING COMMITTEE
Chair: Kelly Jean Heffner, Deputy Secretary for Water Management – Pennsylvania Department of Environmental Protection
Kevin Donnelly – Partnership for the Delaware Estuary Board of Directors
Judith A. Erck, Regional Administrator – U.S. Environmental Protection Agency, Region 2
Sharen M. Garin, Regional Administrator – U.S. Environmental Protection Agency, Region 3
Dania Kennedy, Assistant Commissioner for Water Resource Management – New Jersey Department of Environmental Protection
Howard Neukrug, Water Commissioner – Philadelphia Water Department
David Small, Secretary – Delaware Department of Natural Resources and Environmental Control
Steve Tambori, Executive Director – Delaware River Basin Commission

2014 ESTUARY IMPLEMENTATION COMMITTEE (EIC)
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U.S. Environmental Protection Agency, Region 2 – Janice Rollsagen, Alyssa Arias, Irene Y. Pundy
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National Park Service – Joe O’Donnell
New Jersey Department of Environmental Protection – Jay Springer, Dorina Fitzer
Pennsylvania Department of Environmental Protection – Lori Mohr, Andy Zima, Gary Olshefski, Leslie Savits
Philadelphia Water Department – Stephanie Choiream, Amy Liu
U.S. Fish and Wildlife Service – Gregory Breese

2014 STAFF
Executive Team: Led by Jennifer A. Adkins, Executive Director
Beth Haas, Office Manager
Gus Wolfe, Director of Finance and Operations
Education & Outreach Team: Led by Lisa Wool, Program Director
Shawn Bailey, Marketing & Communications Coordinator
Melissa Bittner, Program Specialist
Tom Dabeido, Senior Coordinator, Schuylkill Action Network
Dee Ross, Watershed Program Coordinator
Philadelphia Water Department – Stephanie Choiream, Amy Liu
National Park Service – Joe O’Donnell
New Jersey Department of Environmental Protection – Jay Springer
Pennsylvania Department of Environmental Protection – Lori Mohr
Philadelphia Water Department – Stephanie Choiream, Amy Liu
U.S. Fish and Wildlife Service – Gregory Breese

Science & Restoration Team: Led by Dr. Danielle Krueger, Science Director
Jessie Butzler, Science Intern
Kurt Cheng, Drexel University Fellow
Priscilla Cole, Data & Information Specialist II
LewAnn Haefl, Wetland Specialist
Patrick Miller, Science Intern
Joshua Mowry, Restoration Coordinator
Angela Padalecki, Senior Science Coordinator
Joselyn Robinson, Science Intern
Development Team: Led by Debbie Haxton, Director of Development
Dee Durham, Coordinator of Grants
Karen Foltz, Director of Institutional Giving / Grant Writing Consultant
Elizabeth Horsey, Coordinator of Individual Giving

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Chairperson: Susan Kilham, Ph.D. – Drexel University; Department of Bioscience and Biotechnology
Science Advisor: Danielle Krueger, Ph.D. – Partnership for the Delaware Estuary
Ex Officio Representative: Jennifer A. Adkins – Partnership for the Delaware Estuary, EIC Chair
David Burke – Pennsylvania Department of Environmental Protection (J. Everett, alternate)
Lance Butler – Philadelphia Water Department
Thomas Filipin, Ph.D. – Delaware River Basin Commission

Elected Representatives
Gregory Breese – U.S. Fish & Wildlife Service
David Bashak, Ph.D. – Rutgers University, Haskin Shellfish Laboratory
Laura Craig, Ph.D. – American Rivers
William Ellsbridge, Ph.D. – Stroud Water Research Center
Jeff Fischer, Ph.D. – U.S. Geological Survey
Heather Jensen – U.S. Army Corps of Engineers
Desmond Kahn, Ph.D. – Delaware Department of Natural Resources and Environmental Control
Moses Kilinski – The Nature Conservancy
Gerald J. Kaufman, Ph.D. – University of Delaware, Water Resources Agency
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Tracy Quirk, Ph.D. – University of Delaware; College of Earth, Ocean, and Environment

2014 ACTIVITY REPORT