

SPECIAL EDITION:

2017 Annual Report



Newsletter of the Partnership for the Delaware Estuary: A National Estuary Program

ESTUARY NEWS

The Partnership for the Delaware Estuary

Connecting people, science, and nature for a healthy Delaware River and Bay

WINTER 2018

VOL. 28 | NO. 2

Message from the Board Chair

What a year! To say that 2017 brought about momentous changes would be an understatement.

Nationally, all eyes focused on Washington as politics took center stage. Locally, many organizations, including the Partnership for the Delaware Estuary (PDE), faced uncertainty due to the changing political climate. Personally, I took on a new role, one that now seems destined.

My relationship with the Delaware Estuary began decades ago. As a graduate student at Rutgers, I trudged through marshes, knee-deep in mud, logging data. In the 1990s, I witnessed the founding of a new organization for the Delaware Estuary. Today, I'm proud to be the board chair of that organization.

My first year as board chair brought many challenges. Federal funding cuts threatened the National Estuary Program but thankfully its value was recognized and was spared. Climate change science was attacked and hard-earned environmental progress was rolled back. Changes in the tax code led nonprofits across the nation to face the stark reality that donations in 2018 will likely decrease. Yet among all the challenges, there were many successes, including a game-changing, multi-million dollar investment which will shape PDE's future. This funding from the State of Pennsylvania's Pennvest program will enable us to build a freshwater mussel hatchery and rearing program over the next eight years.

For me, supporting PDE has always been personal and has been about the future. We live in a challenging time, but I am here to tell you that the future is bright. Big things are coming, and now more than ever, we need your support. ♦



Roy E. Denmark, Jr.
2017-18 Board Chair



2017 Board of Directors

EXECUTIVE COMMITTEE

CHAIR: Roy E. Denmark, Jr. -
URBAN ENGINEERS, INC.

VICE CHAIR: Douglas Janiec -
SOVEREIGN CONSULTING, INC.

TREASURER: Thomas J. O'Connor -
URBAN OUTFITTERS, INC.

SECRETARY: David J. Athey - AECOM
Victor J. Giudice - MANNINGTON MILLS, INC.

BOARD MEMBERS

Colleen M. Arnold - AQUA AMERICA

Danielle A. Buehler -
PHILADELPHIA INTERNATIONAL AIRPORT

David Bushek -
RUTGERS UNIVERSITY HASKIN SHELLFISH RESEARCH LABORATORY

Carol R. Collier -
ACADEMY OF NATURAL SCIENCES OF DREXEL UNIVERSITY

Laura Copeland - PHILADELPHIA WATER DEPARTMENT

Michael Dillon - MANKO, GOLD, KATCHER AND FOX LLP

Robert K. Dobbs, Jr. -
CURRIER, DOBBS & GRISWOLD, LLC

Tom Ei - DUPONT CORPORATE REMEDIATION GROUP

Alison Kraus - PSEG NUCLEAR, LLC

Lisa Lindsey - PBF ENERGY COMPANY LLC

Kimberly Long - EXELON CORPORATION

Gus Mergenthaler - TETRA TECH, INC.

Christie Patel - BROWN AND CALDWELL

Joseph M. Tarsavage - KLEINFELDER

NEW BOARD MEMBERS IN 2018

Shahjabin Alam - GREENMAN-PEDERSEN, INC.

Francis Faunt - FAUNT ENVIRONMENTAL CONCERNS

Helen Gregory - PSEG

Roxanne E. Jayne
LAW OFFICE OF ROXANNE E. JAYNE

Lawrence D. Malizzi - OBG INC.

Jill E. Voorhees - MONROE ENERGY

Excerpt from April 19, 2017 Press Release by Governor Wolf

HARRISBURG, PA – Governor Tom Wolf today announced the investment of \$39 million for 12 drinking water, wastewater, storm water, and non-point source projects across nine counties through the Pennsylvania Infrastructure Investment Authority (PENNVEST).

"Today marked another special day for the PENNVEST program and for the citizens of Pennsylvania. By approving almost \$40 million in funding for clean water projects across the commonwealth, the PENNVEST Board continued its commitment to improve the quality of our rivers and streams, the health of our families and the economic prosperity of our state", said Governor Wolf. "Together we will further the achievement of these goals and make Pennsylvania an even more desirable place to live and work for this and future generations."

Of the \$39 million, \$18.2 million is allocated for low-interest loans and \$20.8 million is awarded through grants.

The funding comes from a combination of state funds approved by voters, federal grants to PENNVEST from the Environmental Protection Agency and recycled loan repayments from previous PENNVEST funding awards. Funds for the projects are disbursed after bills for work are paid and receipts are submitted to PENNVEST.

Philadelphia County

The **Partnership for the Delaware Estuary** was approved to receive \$7,934,000 in funding to construct a freshwater mussel hatchery that will produce hundreds of thousands of mussels annually, which will be used to restore mussel beds in both the Susquehanna and Delaware estuaries. These mussels will, in turn, contribute to the improvement of water quality in both the Chesapeake Bay and the Delaware Estuary by filtering out nutrients, particularly nitrogen, that run off the land in these and into hundreds of streams in both watersheds.

Message from the Director

2017 has been a challenging, yet rewarding year.

The revision of the *Comprehensive Conservation and Management Plan* (CCMP) for the Delaware Estuary continues with more than 900 people and 160 agencies that have contributed their ideas and energy to this critical document so far.

Thanks to their efforts, we're confident that the revised CCMP will be completed by the beginning of next year, launching an exciting new phase of discovery and recovery for the Delaware Estuary.

Our work on the CCMP has already had a positive impact, helping shape the regional strategies of the Delaware River Watershed Initiative and the Delaware River Basin Restoration Program. We have also been working with partners across the region to release a new *Technical Report for the Estuary and Basin*, which you can read more about on page 3. These efforts are helping to drive funding for science and restoration, and are keeping the Delaware Estuary a priority.

Throughout 2017, we also worked to ensure support for the Estuary in other ways. Through the Association of National Estuary Programs, we helped to stave off massive cuts (for now) in federal funding, and provided information and guidance to a new Congressional Estuaries Caucus. In Delaware, we worked with local partners to find and promote new ways to fund water quality improvements.

Through all the challenges, we've continued to advance the science and outreach programs that make our waters cleaner, our communities stronger, and habitats healthier. As you read about our activities in the following pages, please keep in mind that they wouldn't be possible without your support.

Thank you! ♦

Jennifer A. Adkins
Executive Director
Partnership for the Delaware Estuary



Credit: Jim White at Delaware Nature Society

Front Cover Photo Credit: Roger L. Thomas/The Academy of Natural Sciences of Drexel University

Pushing for Cleaner Water in Delaware

The 'Clean Water: Delaware's Clear Choice' campaign is a statewide education and outreach effort focused on securing additional funding for clean water in Delaware. This funding would support necessary improvements in the state such as wastewater system upgrades, flood reduction initiatives, and investments in the safety of our drinking water.

The Delaware-centric campaign has developed with a diverse group of stakeholders called the Clean Water Alliance. The Alliance is composed of non-profit organizations, academic institutions, and businesses from all sectors. Although this campaign is in good hands, we still need people like you (and your friends) to get involved.

If you like clean water, consider becoming a Water Warrior! Water Warriors are passionate

citizen volunteers and advocates that care about clean water for everyone, including future generations. Even if you do not consider yourself an advocate we can provide you with free training and other volunteer options. Our staff at PDE will give you the tools to effectively influence change and make your voice heard. ♡

FOR INFORMATION:

<http://www.cleanwaterdelaware.org/>
<https://www.facebook.com/cleanwaterdelaware/>
 or contact Jeff Long at [jlong@delawareestuary.org](mailto: jlong@delawareestuary.org)



15 Years of the Schuylkill Action Network

The Schuylkill Action Network (SAN), coordinated by the Partnership for the Delaware Estuary (PDE), is celebrating its 15th anniversary in 2018! This network of partners in the Schuylkill River Watershed has grown from just two founding partners to over 100 partners.

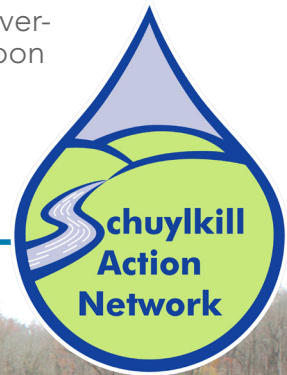
The Schuylkill River Watershed provides drinking water to over 2 million people in the region, and is the largest tributary to the Delaware River. That's why PDE and SAN partners are invested in protecting this valuable resource.

Since its inception, the SAN has protected clean water in the Schuylkill River and its tributaries by:

- Working with farmers to reduce pollution while improving farm productivity.
- Preserving forests and other natural lands for clean water and recreation.
- Implementing treatment practices that remove acid mine drainage, a contributor of heavy metal water pollution.
- Installing green infrastructure practices to reduce stormwater runoff and flooding.

- Educating residents about how they can protect the environment.

Celebrate the SAN's 15th anniversary with us! We'll be launching a new website shortly at schuylkillwaters.org, and on it will be a series of special anniversary events. Coming up soon is the Schuylkill Scrub, a watershed-wide cleanup initiative running from March through May. ♡



Stories from the TREB

A major accomplishment in 2017 was completion of the “TREB” – the *Technical Report for the Estuary and Basin*. Pouring over a 375+ page technical report with over 50 indicators of environmental health may not be for everyone. But beyond the science and data – which was contributed by over 50 author partners – there are some remarkable stories to find. Here are a few favorites.

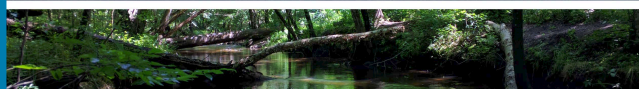
So you think all of those **blue crabs** you’re eating are from Maryland? Delaware Bay is a major exporter of these beautiful swimmers, with over 6 million pounds harvested and a dockside value of \$12 million in 2015. Fortunately, the blue crab fishery is in good shape, so keep enjoying these tasty crustaceans. Chances are, some of those blue crabs on your plate are from Delaware Bay, even if you don’t see that on the menu.

American Eel landings in the Delaware Estuary dropped after restrictions on using horseshoe crabs for bait went into effect in 2014. Why are American Eels on the decline on the East Coast? The TREB discusses several potential culprits, including an introduced Asian parasite. Or maybe there is something else going on between here and the Sargassas Sea where they spawn. One take-home message from the TREB is that determining



Credit: Stephen Salpukas

Technical Report for the Delaware Estuary and Basin



2017

A publication of the Partnership for the Delaware Estuary—A National Estuary Program

the cause of changes in the Estuary can be complicated and must consider factors across broader areas.

Striped bass, or “stripers” are popular with fishers as one of the few inshore fish that reaches “big game size” of 50 pounds or more. The 2008 State of the Estuary report paired the story of their remarkable recovery with the story of the decline of weakfish, proposing (as scientists did) that the two might be related. After all, stripers are voracious feeders, and weakfish some of their favorite prey.

One advantage of our region’s long history of using and studying natural resources is **long-term data**. The Delaware River and Bay has some of the best data sets in the country. These include “Boat Run” data on water quality collected

continuously in the main stem Delaware River since the 1960s; an extraordinary data set from the 1950s for benthic organisms living in the Delaware Bay; and data on shad catch per haul collected by the Lewes Haul Seine fishery

continued on page 4

Stories from the TREB *cont'd from pg 3*

for over 91 years! See how these historic data are critical to assessing change over time in the TREB.

Increased precipitation from **climate change** is already happening and is anticipated to accelerate in the Delaware River watershed. Scientists are already seeing evidence of that in *overall* rainfall data for the region. More pronounced is a 50% increase in the number of days of *heavy* precipitation in the watershed! Another interesting change is a significant decline in windspeed over the last 50 years, possibly related to changes in land use.

others, to develop new strategies and actions for the revised CCMP to combat these losses.

Other indicators, like **water consumption**, show mixed results. Over 90% of all the water used in the Delaware River Basin is from surface waters, so most people in our region get their water from rivers and streams. The TREB shows that public water consumption has been decreasing, while industrial water consumption has been increasing. Providing education and technical assistance to people and businesses for conserving and protecting water resources is another focus of strategies being developed for the revised CCMP.

If the Delaware Estuary were a patient and we were her doctor, our overall prognosis would be "fair". Considering this patient was in terrible shape not so long ago, with parts of the river literally unable to sustain life, "fair" is a reason to celebrate. It's also a reason to continue and accelerate what's been accomplished so far, with new strategies and actions in a revised CCMP for the future.

You'll find all of these stories and more in the TREB, available online at www.DelawareEstuary.org/data-and-reports/state-of-the-estuary-report. ♦



MATURE SILVER EEL

Like any good story, there are ups and downs. Good news from the TREB includes evidence that levels of some **legacy contaminants** in the Delaware Estuary's waters and sediment continue to slowly decrease. As a result, birds of prey like **osprey** are on the rebound. Also, for the first time, one of the many advisories that tell people how much fish is safe to eat from a given waterway was relaxed.

Bad news includes the continued loss of **tidal wetlands, forests**, and many types of **shellfish**. These trends are disturbing and motivating. The Partnership for the Delaware Estuary is working harder than ever, with many



Credit: DE State News

2018 Events



Schuylkill Scrub Watershed

Cleanup | March through May 2018

LINK ► www.schuylkillscrub.org/learn-more.html

Christina River Cleanup

April 14, 2018

LINK ► www.christinaconservancy.org/take-action/christina-river-watershed-cleanup/

34th Annual Darby-Cobbs Creek

Clean-Up | April 14, 2018

LINK ► www.dcva.org/event-2662054

Wilmington Earth Day

| April 20, 2018

LINK ► delawareestuary.org/calendar-of-events-and-workshops/wilmington-earth-day-celebration/

South Jersey Scrub

| May, 19, 2018

LINK ► www.delawareestuary.org/calendar-of-events-and-workshops/

Highmark Walk for a Healthy Community

| June 9, 2018

LINK ► hcf.convio.net/PDE

Delaware Estuary Teacher's Watershed Workshops

| July – August 2018

LINK ► delawareestuary.org/kids-and-teachers/teacher-workshops/

Pennsylvania Coast Day

| September 15, 2018

LINK ► www.delawareestuary.org/calendar-of-events-and-workshops/pennsylvania-coast-day/

Experience the Estuary Celebration

| September 27, 2018

LINK ► www.delawareestuary.org/events/experience-estuary-celebration/

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:

Estuary Implementation Committee

Jennifer Adkins,
Executive Director (Chair)
(800) 445-4935, ext. 102
jadkins@DelawareEstuary.org

Monitoring Advisory & Coordination Committee

John Yagecic, P.E., Manager, Water
Quality Assessment
Delaware River Basin Commission
(609) 883-9500, ext. 271
john.yagecic@drbc.nj.gov

Toxics Advisory Committee

Dr. Thomas Fikslin, Director, Science
& Water Quality Management
Delaware River Basin Commission
(609) 477-7253
thomas.fikslin@drbc.nj.gov

Science and Technical Advisory Committee

Dr. Danielle Kreeger, Science
Director
(800) 445-4935, ext. 104
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

Map of the De



Mussel Bed - Camden, NJ

We launched a new study to determine how to build a freshwater mussel bed as part of an urban living shoreline.



Oyster Shell Bagging - Wilmington, DE

40 tons of oyster shell were recycled from restaurants. Instead of going to the landfill, these shells will go back into Delaware Bay for new baby oysters to attach to.



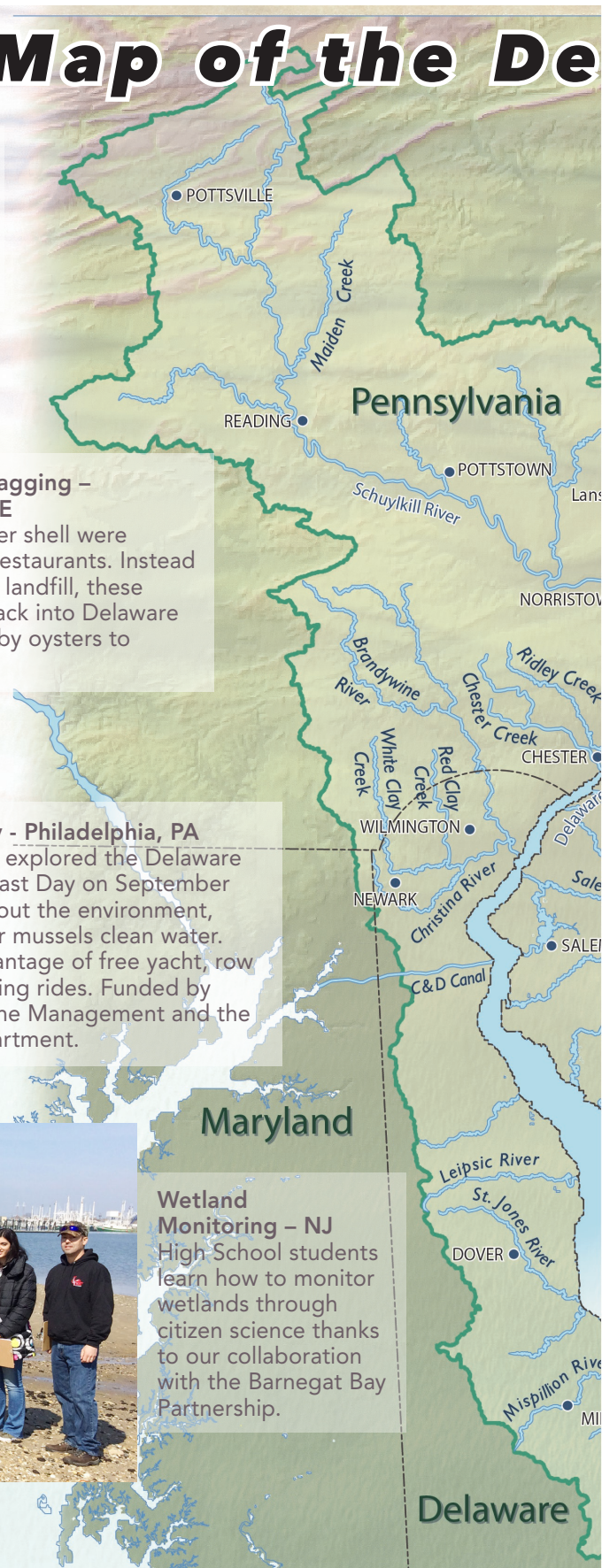
Pennsylvania Coast Day - Philadelphia, PA

More than 3,000 people explored the Delaware River at Pennsylvania Coast Day on September 9. Attendees learned about the environment, including how freshwater mussels clean water. Hundreds also took advantage of free yacht, row boating, and pedal boating rides. Funded by Pennsylvania Coastal Zone Management and the Philadelphia Water Department.



Wetland Monitoring - NJ

High School students learn how to monitor wetlands through citizen science thanks to our collaboration with the Barnegat Bay Partnership.

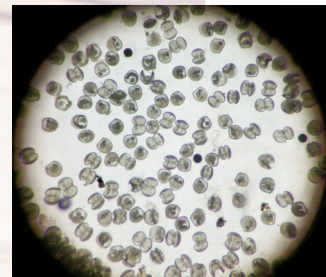


Map Graphic Credit: Frank McShane

Delaware Estuary

The Delaware Estuary 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 saltwater mix.

Mussel Exhibit and Baby Mussels – Philadelphia, PA
In the spring we spawned baby freshwater mussels at the new, family friendly Freshwater Mussel Exhibit at the Fairmount Water Works.



Rain Gardens - Newark, DE and Pottsgrove, PA
Students and volunteers weeded, pruned, and installed educational signs at rain gardens on their school campuses.



Teacher Workshops - Wilmington, DE
More than two dozen educators gained new skills at four workshops in July. In Delaware, teachers searched for freshwater mussels in Brandywine Creek.



Living Shorelines - Maurice River Township, NJ
With colleagues from Rutgers University, we enhanced the 10-year old living shoreline with oyster shell bags and natural-fiber logs.



Oysters – Mispillion, DE and Nantuxent, NJ
Oysters are thriving on our hybrid living shorelines at Mispillion, DE and Nantuxent, NJ



THANK YOU! 2017 Funders, Sponsors

Below you will find the names of thousands of people and organizations who have supported our work over the past year. We send you all our sincere gratitude for the contributions, grants, events sponsorships, cooperative agreements and donations that are critical to our ability to restore a healthy Delaware River and Bay.

We make every effort to ensure the accuracy of these listings. If you find an omission or a misspelling, please excuse our error and contact us at 302-655-4990 x114 so that we may update our records.

Grants, Contracts & Project Funding

3Mgives
Academy of Natural Sciences of Drexel University
Barnegat Bay Partnership
Camden County Municipal Utilities Authority
City of Philadelphia - Fairmount Water Works
City of Wilmington
CRMfusion
Delaware Department of Natural Resources and Environmental Control
Delaware Department of Transportation
Delaware Nature Society
Delaware Recycling Public Advisory Council
Delaware Water Infrastructure Advisory Council
DuPont Clear into the Future
EDiS
Esri
Google Analytics
GreenWatch Institute
Highmark, Inc.
Longwood Gardens
National Fish and Wildlife Foundation
National Oceanic and Atmospheric Administration
New Jersey Department of Environmental Protection
Pennsylvania Coastal Zone Management Program
Pennsylvania Department of Environmental Protection
Pennsylvania Department of Environmental Protection - Growing Greener
Philadelphia Water Department
Pinelands Nursery
PSEG Foundation
Rutgers, The State University of New Jersey
Salesforce Foundation
Schuylkill River National & State Heritage Area

Stantec Consulting Services, Inc.
SUEZ
Sunoco Foundation
The Geraldine R. Dodge Foundation
The Nature Conservancy - New Jersey Chapter
The Pennsylvania State University
U.S. Department of Commerce
U.S. Environmental Protection Agency
U.S. Fish and Wildlife Services
Wakefern Food Corporation/Shoprite
Welfare Foundation
William Penn Foundation
Winterthur

2017 Sponsors - Science & Environmental Summit

Academy of Natural Sciences of Drexel University
Anchor QEA, LLC
Barnegat Bay Partnership - Ocean County College
Cape Atlantic Conservation District
Delaware Coastal Program
Delaware Department of Natural Resources and Environmental Control
Delaware Sea Grant
Dewberry
EA Engineering, Science, and Technology, Inc. PBC
Geraldine R. Dodge Foundation
New Jersey Department of Environmental Protection
OBG
Pennsylvania Department of Environmental Protection
Pennsylvania Sea Grant
Philadelphia Water Department
Pinelands Nursery
PSEG Nuclear, LLC



Rutgers University
Sovereign Consulting, Inc.
University of Pennsylvania
William Penn Foundation
Additional funding support provided by the U.S. Environmental Protection Agency

2017 Sponsors - Experience the Estuary Celebration

PLATINUM
DuPont - Clear into the Future
GOLD
Exelon Generation
PSEG Nuclear
Sunoco Pipeline
SILVER
Brown and Caldwell
Exelon Corporation
Philadelphia Energy Solutions
RT Environmental Services
SUEZ
BRONZE
AECOM
Aqua America
CH2M
Delaware City Refining Co.
HDR
Kleinfelder

Manko, Gold, Katcher & Fox
Monroe Energy
Pilots Association of the Bay & River Delaware
RK & K
Sovereign Consulting Inc.
Tetra Tech
Urban Engineers
Veolia North America

TABLE SPONSORS

Academy of Natural Sciences of Drexel University
Atlantic City Electric
Delmarva Power
DNREC
Kathy Klein & David Paul
Logan Generating
New Castle Conservation District
Philadelphia International Airport
Philadelphia Regional Port Authority
Philadelphia Water Department
Rutgers Marine & Coastal Sciences
Rutgers Haskin Shellfish Research Lab

and Donors

ADDITIONAL SPONSORS:

Artesian Water Company
Atlantic Cape Fisheries
BATA Environmental
Bivalve Packing Company
Chesapeake Utilities
Coventry Corporate Printing
Delaware River Basin Commission
Duffield Associates
Environmental Standards
Gross Graphics Services
Laura Bishop Communications
Frank McShane
Mott MacDonald
OBG
Proud Pour
Sweet Amalia Oyster Farm
Your Part-Time Controller

Corporate & Community Environmental Stewardship Program

Logan Generating
Mannington Mills
New Castle County
Pepco Holdings, Inc.

2017 Gifts in Support of the Annual Fund

\$1,000 and Above

Anonymous
Jen Adkins & Andy Cloud
All Saint's Parish Thrift Shop
Colleen Arnold, PE
Curtis W. McGraw Foundation
Delaware State Employees Charitable Campaign
Susan S. Kilham
Alison Kraus & Dean Pantellere
William M. Lafferty
Gus Mergenthaler
Christine Neely
NJ Keep It Green
Austin F. Okie
George F. Phelps
PSEG Power of Giving Campaign

\$500 to \$999

Anonymous (2)
Ashland, Inc.
Roy Denmark & Judy Hykel
Kevin Donnelly
EarthShare

Tom & Melina Ei
Edwin B. Erickson
Gross Graphics
Kathy Klein & David Paul
Shawn McGlinchey
Monroe Energy
Joni Powel
Thomas C. Roberts
Joseph Tarsavage
Tracey Whitesell & Terrance Huettl

\$250 to \$499

Anonymous (2)
3Degrees Group, Inc.
Aquaterra Technologies, Inc.
David Athey
Bela Fleck Productions Inc.
Danielle Buehler
David Bushek
Carol Collier
Michael Dillon
Robert K. Dobbs
Victor J. Giudice
Integrity Staffing Solution
Kimberly Long
Daniel J. Martin
Michael & Maria McCabe
Frank McShane & Vanessa Fenton
Andrew & Kathleen Moody
Hiram H. Munger
The O'Connor Family
Octoraro Native Plant Nursery
Christie Patel
Leah Gaffney & Mike Pickel
Allen Reese, Joseph M. Hengel, Thai Reese-Hengel, Robert Reese-Hengel
Stephen Thompson
Alice Vandever
William J. Wilson, Jr.

\$150 to \$249

Buzz & Kathy Adkins
Ronald G. Ashley
Rochele Barham
Chris Bason & Archer Larned
Bernie Bittner
Don & Becky Brill
Leon K. Chain
Thomas Chegwiddden & Julie Varner
Edward W. Christoffers
Delaware Valley Regional Planning Commission
Robert Goldman

Vincent J. & Jeanette M. Gorman
Duncan & Mary Grove
Dave & Bonnie Kitts
Paul Kozlak
Lisa J. Lindsey
Andrew T. Manus
McCraw Management LLC
Medford Leas
Kerri & Joe Morris
Lawrence Lindsay & Carla Puppin
Mary Ellen & Robert Scott
Richard & Susan Taylor
Robert J. Valihura, Jr.
John L. Williams
Wilmington Tug, Inc.
Lisa Wool

\$75 to \$149

Anonymous (3)
Michael Alonzo
Michael & Barbara Alushin
Charles App
Kellie Augustine
Charles Beaverson
Boyd J. Benjamin
Jim Bonavita
Andy & Hilde Burger
Senator Tom Carper
Mike Castle
Steven & Margaret Castorani
Marianne B. Cinaglia
Mhairi Craig
Gerald & Laura Darling
Nancy Descano
Charles Day Dilks
Jeanne & Burt Doremus
Dennis & Janet Dougherty
Craig Durand
James & Eileen Fallers
Jeff & Karen Fleming
French & Pickering Creeks Conservation Trust
Russ Furnari
Marc & Sharon Gold
Michael & Nancy Griffin
Courtney Richmond & Michael Grove
Debra Harris
Bruce M. Hashinger III

Michael Hogan
Robert J. Holliday
James & Elizabeth Holt
Andrew Homsey & Beth Moore
Robert W. Horsey
George Horvath
Martha G. Hudson
Richard Huffman
Larry Irelan
Douglas Janiec
Charles Karl
Kenneth Koch
Richard Laird Jr.
Luisa Lassova
Mary A. Leck
Donald MacBride
Magic Hat Brewing Company
Hans & Linda Medlarz
Pamela Nelson
Howard Neukrug
Henry Opoku
David Othmer
The Oyster House
Jon W. Peeples
Bill & Lorie Reichert
Ann Faulds & Christopher Robinson
Michael Rondinelli
Richard Ruhl
Patricia Saybolt

continued on page 10



2017 Gifts in Support of the Annual Fund *cont'd from pg 9*

Ann Saydlowski
Schuylkill County Conservation
District
Jonathan & Gwyneth Sharp
Wade Sjögren
Julie Slavet
Frank C. Snope
Louisa Hill Spottswood
Eric Sprengle & Diane Pierce
Kash Srinivasan
William E. Toffey
Robert G. Traver
Robert Tudor
Jerome W. Virden
Abbi Voegelé, Living Lands &
Waters
Marianne Walch
Weeds, Inc.
Gus Wolfe & Laura Classen

Up to \$75

Anonymous (10)
AmazonSmile Foundation
Eunice Alexander
Ambler Borough

Atlantic County Utilities
Authority
Donald Azuma
Bob Bachand
Theodore & Ruth Barnett
Christopher F. Baum
Donald F. Bowman
Andrew Buchey
Dorothy Cebula
Jill Clark
Stephen Clark
Kimberly C. Cloud
Paul Cohen
Dorothy Colburn
Laura Copeland
David Cuff
Katie Eberhart
James Eisenhardt
Patricia L. Elkins
Thomas B. Evans Jr.
Richard & Lorraine Fleming
Mr. and Mrs. Robert Fonash
Carl B. Ford
Karen and Kyle Forst

Lou Gallo
Anton Getz
Kevin Grooms
Nancy Grosso
Gary Grubb
Elizabeth A. Hartung
Drew Hodgins
Hoe N' Hope Garden Club
Jeff Hoeltzel
James Hook & Wen Chyi Shyu
Maryann D. Hooker
Joanne L. Horn
Peter & Su Horty
John A. Jones
Robert P. Kahley
Eugene Kasperowicz
Eleanor M. Kelly
Sue Kofoet
Carol & John Kraeuter
Ginny Kreidler & Robert Croop
Robert J. LaRouche
Robert G. Locke & Sarah
Thorne-Locke
Timothy Preston Long
Lisa Magee
Suzanne S. Marinell
Bill Matulewicz
Anneliese McCann
Richard McCorkle
Walter Mugdan
Daphne Munroe
Cynthia Murdough
Anne & Gary Murphy
Joe Nattress
D.R. & Lee Taylor Nolan
Harry W. Otto
Paul Overbeck
Jeffrey J. Pantazes
Steven Poitras
Lynn & Joseph Pokrifka
Anthony & Regina Radocaj
Al Readinger
Brian J. Reidy
Roger & Valerie Rider
Jonathan & Carla Rinde
Pauline Rosenberg
Barbara T. Ross
Dee & Scott Ross
Sari Rothrock & Kel Elkins
Ronald B. Rulon
William Saley & Marcia Hanson
Charles W. & Nancy M. Sapp
Jennifer Sauselein
Jeanette Scanlon
Trisha Schade
Eric & Linda Schrading

Silke Severmann
Jeffery P. Stewart
Stony Creek Anglers
Jan Tarpine & John Barton
Victoria Taylor
Virginia Thompson
Sabina M. Thorn
David Verna
Vincent Vizachero
Mr. & Mrs. Carl Weihrer
Stefanie Wittenberg

Gift in Celebration of Shawn Garvin

Laura Mohollen

Gift in Memory of Nancy and Jack Grey

Dr. David Mattern and
Ms. Charlotte Crystal

Gift in Memory of Bill Haaf

Howard & Gail Schaevitz

Gift in Memory of Allen Magnin

Ms. Marguerite McKay

Gifts in Memory of Steven Threefoot

CCAS Colleagues at DuPont
Alan Allgeier
Aryal Ames
Beverly Barnett
John & Doris Baron
Robert & Dela Bryan
Robert & Mary Burch
Warren Butt & Elaine
Schmerling
Bill Cotreau
Elaine Hickey
Sharon Kleban
James Lertola
Barbara Anne Macklem
Ronald & Rebecca Meick
Samuel & Ruth Panella
Raymond Seigfried & Mary
Murphy
Thalia Pappas
Barbara Perry
Cynthia Schmidt
Mark & Sylvia Wagman

Gift in Memory of George Van Rossum and Louise Wheeler

Upper Perkiomen Watershed
Coalition



Support for the Highmark Walk

Corporate Donors

Elsevier Foundation
Exelon Foundation
ICF International
NRG Energy

Individual Donors

Anonymous
Buzz & Kathy Adkins
Daniel Adkins & Andrea Rinehart
Jen Adkins & Andy Cloud
Greenman-Pedersen, Inc.
Juni & Shahreaj Alam & Marco Lapignola
June Alt
Tom Amidon
Brooke Armour
Colleen Arnold, PE
David Athey
Kellie Augustine
Cynthia Bainco
Susan Baker
Brooke Bartolo
Karen Baumbach
Jessie Benjamin
Lise Bernhard
Amy Bertsch
Noah Bierman
Annie Birney
Claire Birney
Jessica Bouboulis
Sarah Bouboulis
Robert Bower
Jammie Brownlee
Mary Brownlee
Danielle & Scott Buehler
Mary Buehler
Dee Burnett
Wendy Burnham
David Bushek
Tara Byra
Rae Campagnola
Bart Cassidy
Dana Catanese
Lynn Centonze
Kimberly Champagne
Carina Chavira
Caroline Chen
Cynthia Clark
Carol & Rick Collier
Kaitlin Collins
Denise Conner
James F. Cosgrove, Jr.
Suzanne Cunningham
David, Rachael, and Amelia DeCaro

Sandra Demberger
Sigrid Demberger
Anne DePaul
Tina Deptula
Nancy Descano
Michael & Silvana Dillon
William Dillon
William Dillon
Thomas Duncan
Jenna Eagle
Tom & Melina Ei Alexander
Eschborn
Amanda Falco
Colin Ferguson
Gregory Filar
Rachel Ford
Richard Fox
Janice Gardner
Joseph Gawarzewski
Maria Giles
Andrew Gillan
Victor J. Giudice
JoAnne & Jen Gius
Brenda Gotanda
Rich & Deb Grohs
Alissa Harrison
Thomas Harrison
Megan Hartsel
Laura Hegarty
Jennifer Heine
Jeanne Heinke
Michael Hennessy
Bette Herrera
Chelsea Herrity
Charles Hertz
Bryan & Amy Herz
Teresa Hiatt
Pamela Hjelle
Carol Holland
J. Elizabeth Horsey
Revell Horsey & Katherine Ballard
Jeffrey Hosterman
Kate Hutelmyer
Curtis Iorio
Margaret Janney
Wes Jeon
Bruce Katcher
Christopher Kelly
Katherine Kelly
Dave & Bonnie Kitts
Michelle Knoll
Matthew Kozak
Debra Krautwald
Danielle & Karen Kreeger
Joseph Laird



Binh Le
Laurie Leone
Eric Lienhard & Heidi Splane
Penn Medicine
Jeffrey Long
Mr. & Mrs. Scott Long
Robert Lorusso
Cameron Lucas
Kathleen Lynskey
Mike Lynskey
Matthew Lyons
Karen Magee Sauer
Mary Marino
Gillian Mayne
Andy Mazzeo
Patricia McAndrew
Bernard & Carol McCabe
Shawn McClenaghan
Meghan McDevitt
Lindsay McNamara
Gus & Shawn Mergenthaler
Linda Miller
Nancy Miller
Megan Mondelli
Joshua Moody
Brendan Moran
Evelyn Mose
Daphne Munroe
Geraldine Murray
Tricia Nagel
The O'Connor Family
Henry Opoku

Bill Orsinger
Harry Orth
Angela Padeletti
Tori Palomares
Stephanie Patterson
Eric Poe
Florian & Gerda Pop
Gregory Posey
Mitchell Poster
Suzan Preiksats
Casey Przywara
Marian Quinn
Ricky Rapp
Gary & Sherrie Robinson
Linda Rosewall
Clare Rutkowski
El Miller
Daphany Sanchez
Katherine Savage
Bernie Saydlowski
William Schnitzerling
Giuliana Sciuto
Ron Shoop
Carly Sickles
Diana Silva
Daniel Smith
Morgan Smith
Lisa & Jason Solinsky
Moriah Soon
Barbara Spector
Terry Styles
Joseph Tarsavage

continued on page 12

Support for the Highmark Walk *cont'd from pg 11*

Andy Thomas
Roger Thomas
Steve Thompson
Roy Tucker
Andrée Tyagi
Katherine Vaccaro
Carrie Valenzano
Laura VanArsdale
Carol Vassalotti
Jack Vassalotti
Virginia Vassalotti
Barbara Waldrip
Katherine Walsh
Terrence Walsh
Mark Warchol
Deb Watkins
Eric Watt
Dina White
Patricia Woodruff
Jie Xu
Mike Yankovich
Maryann Yarram
Heidi Zanecosky

2017 Experience the Estuary Celebration Contributors

1812 Productions
Jennifer Adkins
David Athey
Bayshore Center at Bivalve
Claire Birney

Danielle Bower
Brandywine Conservancy
Dave Bushek
Cabela's
Cape May-Lewes Ferry
Carol Collier
Laura B. Copeland
The Corinthian Yacht Club
The Daily Show with
Trevor Noah
Dave & Busters
Delaware Museum of
Natural History
Roy E. Denmark, Jr.
Michael Dillon
Robert K. Dobbs, Jr.
DNREC, Division of Watershed
Stewardship
Dogfish Head Brewery
Kevin Donnelly
Dover International Speedway
Eastern State Penitentiary
Everything but the
Kitchen Sink
Exelon Generation
Company, LLC
Robert D. Goldman, P.G.
The Grand Opera House
Debbie & Clay Heaton
Doug Janiec
Judi Jeffers
Kathy Klein

Alison Kraus
Kimberly Long
Congressman Frank A.
LoBiondo
Longwood Gardens
Rhonda Manning
Dan Martin
Gus Mergenthaler
Moore Brothers Wine
Company
New Castle Sailing Club
NHL Enterprises, L.P.
Northbrook Canoe
OPERA Delaware
Painted Stave Distilling
Jenny Paterno
Philadelphia Eagles
Philadelphia Museum of Art
Philadelphia Phillies
Philadelphia Wooden Boat
Factory
Nick Plianthos
Joni L. Powell
Victoria A. Prizzia
Proud Pour
Red Frog Events
Dee Ross
Rutgers University,
Oyster Shuckers
Renee Searfoss
Leo Sewell
Julie Varner

Virginia Vassalotti
Zhenwei Wang
Michael Whiteside
Patty Woodruff
West Chester Golf &
Country Club
Whitewater Farm Bed &
Breakfast
Wilmington Blue Rocks

2017 Volunteers

The gifts of time and talent are vital contributions and we thank over 350 volunteers who contributed over 1,000 hours to help advance our mission. Here are some highlights:

- ♦ 125 hours devoted to bagging cured oyster shell that is then returned to the Estuary to grow more oysters and secure shorelines.
- ♦ 120+ hours served on PDE Board Committees
- ♦ 26 hours donated by one volunteer to help with monitoring efforts at the Money Island and Mispillion River living shoreline sites.
- ♦ 110 hours donated by students and teachers for Storm Drain Marking. ♦

2017 Statement of Activities

For the year ended December 31, 2017

Support and Revenue:

■ Government Grants.....	\$ 1,721,035
■ Contributions and Grants.....	\$ 1,083,755
■ Other Revenue	\$ 67,720

TOTAL SUPPORT AND REVENUE..... \$2,872,510

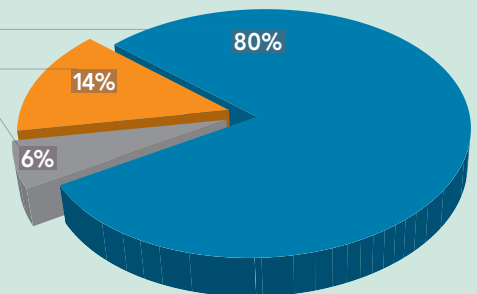
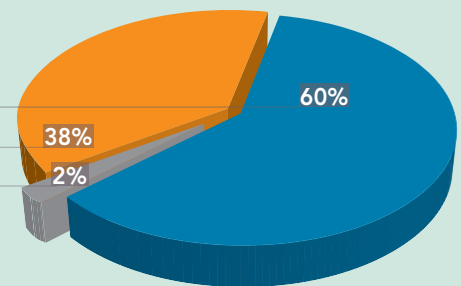
Expenses:

■ Program.....	\$ 2,425,265
■ Management and General	\$ 420,812
■ Fundraising	\$ 186,248

TOTAL EXPENSES \$3,032,325

Change in Net Assets	\$ (159,815)
Net Assets at December 31, 2016	\$ 1,993,384
Net Assets at December 31, 2017	\$ 1,833,569*

*Audit not complete at time of printing. Audited financial statements can be found at www.delawareestuary.org



Partnership for the Delaware Estuary Staff & Committees



PDE STAFF

Executive Team

Jennifer A. Adkins, Executive Director
Nancy Descano, Deputy Executive Director
Andrée Tyagi, Office Manager

Education & Outreach Team

Renée Brecht, Director of Outreach
Kaitlin Collins, Watershed Planning Coordinator
Kate Hutelmyer, Watersheds Program Manager
Jeffrey Long, Watershed Outreach Specialist
Brittany Musolino, Outreach Program Specialist
Virginia Vassalotti, Schuylkill Action Network Coordinator
Outreach Interns: Laura Culp, Sarah Morales

Science & Restoration Team

Dr. Danielle Kreeger, Senior Science Director
Emily Baumbach, Science Planning Specialist
Sarah Bouboulis, Habitat Project Specialist
Kurt Cheng, Shellfish Coordinator
LeeAnn Haaf, Wetland Coordinator
Dr. Joshua Moody, Senior Restoration Coordinator
Angela Padeletti, Science Programs Manager
Spencer Roberts, Science Fellow
Sandra Demberger, Monitoring Fellow
Science Interns: Ashley Chong, Matt Dunn, Ryan Flannery

Development Team:

Claire Birney, Director of Development
Elizabeth Horsey, Coordinator of Individual Giving
Loreline Pittman, Coordinator of Grants

PDE wishes to thank long-term employees, Shaun Bailey and Lisa Wool, for their service to PDE. We wish them well in their new positions in Michigan and Maryland!

STEERING COMMITTEE

Roy E. Denmark, Chair – Partnership for the Delaware Estuary Board of Directors
Javier Laureano Ph.D., Director, Clean Water Division – U.S. Environmental Protection Agency, Region 2
Cosmo Servidio, Regional Administrator – U.S. Environmental Protection Agency, Region 3
Jennifer Orr, Director, Compacts and Commissions Office – Pennsylvania Department of Environmental Protection
Michele Putnam, Acting Assistant Commissioner for Water Resource Management – New Jersey Department of Environmental Protection
Debra McCarty, Water Commissioner – Philadelphia Water Department
Shawn Garvin, Secretary – Delaware Department of Natural Resources and Environmental Control
Steve Tambini, Executive Director – Delaware River Basin Commission

ESTUARY IMPLEMENTATION COMMITTEE (EIC)

Chair: Jennifer A. Adkins – Partnership for the Delaware Estuary

U.S. Environmental Protection Agency, Region 3 – Michelle Price-Fay, Megan Mackey
U.S. Environmental Protection Agency, Region 2 – Nesmarie Negron, Irene Y. Purdy
Delaware Department of Natural Resources and Environmental Control – Kimberly Cole, John Kennel
Delaware River Basin Commission – Kenneth Najjar, Thomas Fikslin
Drexel University – Susan S. Kilham, Ph.D., STAC Chair
National Park Service – Joe Dibello
New Jersey Department of Environmental Protection – Jay Springer
Pennsylvania Department of Environmental Protection – Rhonda Manning
Philadelphia Water Department – Kelly Anderson
U.S. Fish and Wildlife Service – Gregory Breese

SCIENCE AND TECHNICAL ADVISORY COMMITTEE (STAC)

STANDING REPRESENTATIVES

Chairperson: Susan Kilham, Ph.D. – Drexel University; Department of Bioscience and Biotechnology
Science Advisor: Danielle Kreeger, Ph.D. – Partnership for the Delaware Estuary
Ex Officio Representative: Jennifer A. Adkins – Partnership for the Delaware Estuary, EIC Chair
Lance Butler – Philadelphia Water Department
Thomas Fikslin, Ph.D. – Delaware River Basin Commission (J. Yagecic, alternate)
Metthea Yepsen – New Jersey

Department of Environmental Protection
Kristin Regan & Kelly Somers – U.S. Environmental Protection Agency, Region III
Donald F. Knorr – Pennsylvania Department of Environmental Protection
David Wolanski – Delaware Department of Natural Resources and Environmental Control

ELECTED REPRESENTATIVES

Gregory Breese – U.S. Fish & Wildlife Service
David Bushek, Ph.D. – Rutgers University, Haskin Shellfish Laboratory
Laura Craig, Ph.D. – American Rivers
Jeff Fischer, Ph.D. – U.S. Geological Survey: N.J. Water Science Center
Dorina Frizzera – Getting to Resilience, LLC
Desmond Kahn, Ph.D. – Scientist, Retired
Gerald J. Kauffman, Ph.D. – University of Delaware, Water Resources Agency
Susan Kilham, Ph.D. – Drexel University, Department of Bioscience & Biotechnology
Daphne Munroe, Ph.D. – Rutgers University, Haskin Shellfish Laboratory
Alison Rogerson – Delaware Department of Natural Resources and Environmental Control
Pete Rowe – New Jersey Sea Grant Consortium
Kari St. Laurent, Ph.D. – Delaware Department of Natural Resources and Environmental Control
Kenneth A. Strait – PSEG
Elizabeth Watson – The Academy of Natural Sciences of Drexel University



110 South Poplar Street, Suite 202
Wilmington, DE 19801

ADDRESS SERVICE REQUESTED

US POSTAGE
Non-Profit Org
PAID
Wilmington, DE
Permit #1885

DONATE NOW www.delawareestuary.org/donate/

Your tax-deductible donation to the Partnership for the Delaware Estuary will help ensure a beautiful, healthy and thriving Delaware River and Bay. Working together, we can achieve real change now—and for generations to come.

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

Follow us on



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.

Jennifer Adkins, Executive Director
Tel: (800) 445-4935 / Fax: (302) 655-4991
E-mail: jadkins@DelawareEstuary.org

Environmental Protection Agency

Irene Purdy, EPA Region II
Tel: (212) 637-3794 / Fax: (212) 637-3889
E-mail: purdy.irene@epa.gov
Megan Mackey, EPA Region III
Tel: (215) 814-5534 / Fax: (215) 814-2301
E-mail: mackey.megan@epa.gov

Pennsylvania

Rhonda Manning
Department of Environmental Protection
Tel: (717) 772-4472 / Fax: (717) 783-4690
Email: rmanning@pa.gov

Delaware

John Kennel
Department of Natural Resources and
Environmental Control
Tel: (302) 739-9255 / Fax: (302) 739-2048
E-mail: john.kennel@state.de.us

New Jersey

Jay Springer
Department of Environmental Protection
Tel: (609) 341-3122 / Fax: (609) 984-6505
E-mail: jay.springer@dep.state.nj.us

Delaware River Basin Commission

Kenneth Najjar
Tel: (609) 883-9500 ext 256
Fax: (609) 883-9522
E-mail: kenneth.najjar@drbc.state.nj.us

Philadelphia Water Department

Kelly Anderson
Tel: (215) 685-6245 / Fax: (215) 685-6043
Email: kelly.anderson@phila.gov

Co-Editors

Claire Birney, CFRE
Director of Development
Email: cbirney@delawareestuary.org
Elizabeth Horsey
Coordinator of Individual Giving
Email: ehorsey@delawareestuary.org

UNLESS OTHERWISE
NOTED, ALL PHOTOS
ARE PROPERTY
OF THE PARTNERSHIP
FOR THE DELAWARE
ESTUARY.

Estuary News encourages reprinting of its articles in other publications. *Estuary News* is produced four times annually by the Partnership for the Delaware Estuary, Inc. (PDE), under an assistance agreement (CE-99398513-2) with the U.S. Environmental Protection Agency (EPA). The purpose of this newsletter is to provide an open, informative dialogue on issues related to PDE. The viewpoints expressed here do not necessarily represent the views of the PDE or EPA, nor does mention of names, commercial products or causes constitute endorsement or recommendation for use. For information about the PDE, call 1-800-445-4935.