



## Annual Report | 2015 - 2016





## Planning for a changing future...

Two hallmarks of the National Estuary Programs (NEPs) are their unique governance structures and commitment to collaborative decision-making processes, which enable their community partners to:

- (1) develop long-term plans and strategies to achieve a common, shared vision for the estuary,
- (2) participate and support sound, science-based management decisions, and
- (3) fund and implement actions to address local community priorities.

To keep partners engaged and working together, each NEP periodically reviews its shared vision, goals and objectives (known as its *Comprehensive Conservation and Management Plan* or CCMP) to make certain that the collective effort is focused on community priorities and responsive to the changing environment. Recently, the EPA asked us to review the [Barnegat Bay Partnership's 2002 CCMP](http://bbp.ocean.edu/pages/129.asp) (see <http://bbp.ocean.edu/pages/129.asp>), now almost 15 years old, to determine if our original goals and objectives are still relevant and appropriate today.

In looking back at our original CCMP, we have much to be proud of. We have completed more than half of the CCMP's 67 original priority actions since 2002, and have begun or made substantial progress on most remaining priority actions. Because of the scale of the effort needed to protect the bay, many of these ongoing actions are likely to continue for several years, decades, or in perpetuity (e.g., reduce stormwater runoff).

While we have made considerable progress since 2002, the challenges in protecting the bay have also increased. Since then, Ocean County's population has grown by over 10% to more than 586,000 residents (not counting tourists, which roughly double the population during most summers). Some parts of the county are experiencing unparalleled growth. For example, Lakewood's population alone has increased by more than 50% since 2000, and with the median age in the 20s, it is expected to continue growing rapidly. The county's population growth will remain a tremendous challenge to protecting the bay in the future.

The challenges of a growing population will be compounded by the increasingly recognized impacts of climate change and sea-level rise, including extreme weather events and increased



coastal flooding. Superstorm Sandy opened many people's eyes to the challenges we face, and Winter Storm Jonas has reminded us that life along the coast will require us to face more risks and threats, both to coastal communities and coastal economies, in the future.

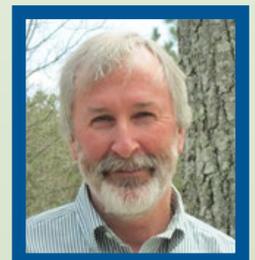
Addressing these challenges is everyone's responsibility. After all, the bay is important to all of us in Ocean, Monmouth and neighboring counties. The health of the Barnegat Bay ecosystem and its contributing watershed directly affect the vitality of our economy and the lives of many people in the watershed. A healthy Barnegat Bay, along with its coastal habitats, provides many invaluable services, such as flood and storm protection, nutrient cycling, water filtration, recreation, carbon sequestration, and other functions. The bay also directly supports the production of fish and wildlife, which have supported commercial and recreational fishing industries for decades.

Investing in Barnegat Bay can improve the quality of our life and the economy of the county and the region—beaches for summer fun, bays for boating and fishing, increased areas for shellfish culture and harvesting, rivers open for ocean-going fish to return

to spawn, and wetlands and eelgrass that nurse living resources and protect coastal communities from storms.

The Barnegat Bay Partnership and its many partners have made great progress in the past 15 years, but as we review our priorities and focus on new efforts, we need your help! In the coming year, we will be reaching out formally and informally to engage communities and get public input as we rewrite our *Comprehensive Conservation and Management Plan*. Please join us at a meeting or send us an email and share your thoughts and concerns about the bay and its watershed. We all have a stake in the future of the Barnegat Bay, so please join together with us and learn how you can help!

Stan Hales  
Director





## Adapting to a Changing Climate

Working with local partners on diverse climate-related adaptation efforts, the Barnegat Bay Partnership continues to educate the public about the impacts of a changing climate and sea-level rise on the Barnegat Bay estuary and watershed.

### Blue Carbon Storage in Natural Estuarine Wetlands and Living Shorelines

Coastal habitats store carbon in live vegetation and in soils; these carbon reserves are known as “blue carbon.” When habitat conversions and other land uses disturb these reserves, carbon is released to the atmosphere or water column, increasing carbon dioxide emissions, a major component of climate-warming “greenhouse gases.” Restoration of coastal wetlands can reverse these losses by restoring carbon-storing habitats.

With funding support provided by the EPA, the Partnership is collaborating with two other National Estuary Programs, the Center for Delaware Inland Bays and the Partnership for the Delaware Estuary (PDE), along with the Academy of Natural Sciences of Drexel University, to evaluate the carbon dioxide mitigation benefits provided by natural and restored (living shoreline) coastal wetlands in Delaware and New Jersey.

### Mid-Atlantic Coastal Wetlands Assessment

Coastal wetlands are vital for clean water, bountiful fisheries and wildlife, protection of our homes from storm surge and coastal flooding, and open space for education and recreation vital to our overall quality of life. As founding members of MACWA in New Jersey, the Barnegat Bay Partnership and our key partners continue to monitor and assess wetland conditions within estuarine systems. Ongoing monitoring is critical since it enables us to detect changes and characterize trends over time so steps can be taken to protect these valuable wetland systems.

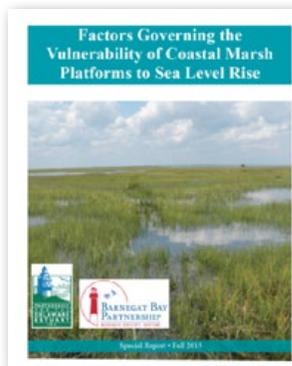
Data collected at our three long-term monitoring locations (Reedy Creek, Island Beach State Park, and West Creek) and systematic field observations of wetlands throughout the bay reveal the following clear signs of losses to sea-level rise: rapid exterior

and interior shoreline erosion, an increase in ponding on the marsh surface, and an expansion of mudflats across the system.

The BBP has received funding to provide monitoring and technical support to the New Jersey Department of Environmental Protection for their National Fish and Wildlife Post-Sandy funded *Building Ecological Solutions to Coastal Community Hazards* initiative. The BBP and the PDE recently released a wetlands health assessment guidance document entitled *Factors Governing the Vulnerability of Coastal Marsh Platforms to Sea Level Rise* to help resource managers understand the complexities of our coastal wetlands and potential responses to the impacts of climate change.



New Jersey, the Barnegat Bay Partnership and our key partners continue to monitor and assess wetland





## Science And Research

Research increases our knowledge of the Barnegat Bay ecosystem and provides a scientific basis for management and restoration decisions. In 2015, the Barnegat Bay Partnership expanded its research capability by increasing the number of BBP Field Technicians, which enabled us to add several new projects. All Barnegat Bay Partnership research projects, whether conducted by our staff or supported through our Science and Technical Advisory Committee (STAC) grants program, address one or more of our 2012-2016 Strategic Plan priorities (water quality, water supply, habitat, fisheries and wildlife, and land use).

### Water Quality Research

#### *Ambient Water-Quality Monitoring*

In 2015, BBP staff continued supporting the New Jersey Department of Environmental Protection's (NJDEP's) Barnegat Bay water-quality monitoring effort by collecting water-quality data and samples at sites on Mill Creek and Westecunk Creek. Information about the monitoring program, including the data, can be found on the [NJDEP's website](#).

#### *Ocean and Coastal Acidification Monitoring*

The BBP received a grant from the EPA to install and maintain high-precision monitoring equipment to evaluate acidity and carbon dioxide (CO<sub>2</sub>) levels in the Barnegat Bay. Ocean and coastal waters absorb CO<sub>2</sub> from the atmosphere, and as atmospheric levels of CO<sub>2</sub> increase, so do the levels in the water, resulting in an increase in acidity. This increase in acidity of the earth's oceans and coastal waters can adversely affect the ability of shellfish, larval fish, and other aquatic creatures to utilize calcium carbonate (CaCO<sub>3</sub>) to build shells or other important body structures. We are concerned that acidification of the Barnegat Bay could negatively impact the already depleted wild hard clam and oyster populations and threaten the continuing development of a promising shellfish aquaculture industry and the recovery of natural populations. The monitoring equipment is scheduled to be deployed in spring 2016 and will become part of the BBP's water monitoring network within the bay.

### Fisheries and Wildlife Research

#### *Long-Term Juvenile Fish and Nekton Seining*

Four years ago, BBP staff initiated a long-term monitoring project to assess variations in the abundance and distribution of juvenile fish species and jellyfish in the central and northern portions of the bay. In 2015, we seined bi-weekly from May through October at eight locations. The data collected by this project will be used to help identify trends in the populations of many recreationally and commercially important species, and allow us to ask questions about the effects of changing water quality, habitat alteration, and climate change on the bay's fauna. The data will also contribute to our next *State of the Bay Report*, slated for release in the spring of 2016.

#### *Juvenile Eel Monitoring*

Despite the frigid winter temperatures that kicked off 2015, BBP researchers were in the field at five locations in the watershed, monitoring for the winter ingress of juvenile American eels into the Barnegat Bay watershed. Catches in the winter of 2015 were lower compared to previous years, with peak ingress occurring in early April. [US Fish and Wildlife Service](#) decided not to list the American eel as a threatened species, but their low population numbers remain of concern coast-wide; thus, we will continue with our monitoring program to provide much needed data on trends in their abundance to our state and federal partners.

*continued, next page*



### River Herring Spawning Runs

Thanks to a grant from the Atlantic States Marine Fisheries Commission, we were able to survey 16 sites in the Barnegat Bay watershed during the 2015 spring river herring spawning run. Spanning the length of the watershed, these sites had documented spawning runs of blueback herring (*Alosa aestivalis*) and alewife (*Alosa pseudoharengus*) in the mid-1970s. We identified river herring at only 2 of the 16 locations in 2015, and these were in low abundance. Fin clips were collected from these individuals, as well as from an established run on the South Branch of the Metedeconk River, and sent to the University of California Santa Cruz for inclusion in a population genetics study.

### Westecunk Creek Community Study

As part of a larger study on the Westecunk Creek with the US Fish and Wildlife Service, BBP field technicians deployed a pair of fyke nets in the spring of 2015 to identify the fish communities located above and below a barrier to fish passage on the creek. It was the first year of a two-year study, which will be repeated in the spring of 2016.

## Habitat Research

### Seagrass Monitoring

In a joint project with Stockton University, BBP and Stockton researchers surveyed 8 seagrass beds during June and October of 2015 to assess the condition of eelgrass (*Zostera marina*) and widgeon grass (*Ruppia maritima*) communities within the Barnegat Bay. The results of this survey will be compared to previously collected data to define the current status and trend of seagrass in the *2016 State of the Bay Report*.

### Oyster Spat Settlement

Working with Stockton University and volunteers from ReClam the Bay, BBP field techs deployed suspended bags of oyster shells (which serve as substrate for larval oysters to settle on and begin their life cycle) along the western side of the bay at 33 locations. The sites selected historically supported oyster seed beds or were in proximity to suspected oyster production areas. Researchers examined the shells for oyster spat settlement. Data from the study are still being analyzed, with results expected in 2016. The data will be used to support future oyster restoration projects funded by the BBP and others.



### Modeling Eelgrass Restoration Potential in Barnegat Bay

Stockton University researchers applied an ecological model to assess the resiliency of eelgrass (*Zostera marina*) to disturbances, as well as loss and recovery processes within established beds in the Barnegat Bay. The model was able to generally reproduce the trends in seagrass biomass for 2012 and 2013, which allowed the researchers to run simulations in which they evaluated the effects of reduced nutrients on eelgrass beds. Reducing the nutrient concentrations by up to 30% below current conditions did not result in increased eelgrass biomass. These results are consistent with the idea that the seagrass loss seen over the past decades is not due to direct negative effects of excess nutrient concentrations, but likely due to indirect negative effects from greater benthic macroalgal or phytoplankton biomass, which limits the amount of available light for eelgrass growth and survival. The model was also used to predict the potential success of eelgrass restoration at specific sites in the bay based on the site's water quality, physical parameters, and initial restoration technique. The [full report](#) is available in the Studies and Reports section of the BBP's website, and the model is available to the public via a link on our website.

### Oyster Reef Restoration

Stockton University, American Littoral Society, and Parsons Mariculture LLC are partnering on an oyster reef research and restoration project, which was selected for funding through our STAC grant program. The goal of this pilot project is to implement and assess experimentally-designed restoration efforts at two sites in the Barnegat Bay system and to increase public awareness on the ecological and economic role of oyster beds. The project will compare the biological and economic metrics of disease-resistant oyster spat remotely set on whelk shell versus Mullica River seed oysters and will monitor oyster growth, survivability, and disease prevalence at a northern and southern bay location. Site selection for the reefs has been completed, and field work will commence during the spring of 2016, continuing through 2017.

#### FY2016 Grant Funding

The Barnegat Bay Partnership has awarded a \$51,965 grant to Rutgers University for a shellfish research project entitled "Restoration Planning for Hard Clams (*Mercenaria mercenaria*) in Barnegat Bay: Identifying Population Sources and Sinks." Field work for the project will begin in 2016.



## Education and Outreach

Education and public participation are critical for the protection and restoration of the Barnegat Bay. Guided by the Barnegat Bay Partnership's *Communication and Outreach Plan*, our staff and partners continue to reach out to watershed residents and visitors to increase their knowledge of the estuary and encourage positive actions to reduce non-point source pollution and other human impacts on the Barnegat Bay and its tributaries.

### Jersey-Friendly Yards Website



In 2015, the Barnegat Bay Partnership launched an exciting new website called *Jersey-Friendly Yards*, which was developed with a grant from the NJ Department of Environmental Protection. The website is a comprehensive source of information for New Jersey property owners about low-maintenance, environmentally friendly landscaping. Topics include planting native species, reducing use of fertilizers and pesticides, conserving water, attracting pollinators and other wildlife, and improving overall yard health. The website features a searchable Plant Database and an "Interactive Yard," a tool for teaching the basics about transforming a conventional yard into a Jersey-Friendly yard. The Jersey-Friendly Yards website is an important educational resource for improving water quality in the Barnegat Bay watershed and throughout New Jersey.

### The Barnegat Bay Festival

The festival is the Partnership's signature outreach event. Attendance continues to grow with nearly 4,000 people visiting the 2015 festival. The festival theme this past year was "Citizens and Science: Partners in Protection," and exhibitors showcased the ways people can get involved in citizen science and stewardship for the Barnegat Bay. Attendees enjoyed a wide range of educational programs from boat tours to hands-on children's activities like the aquatic touch tank and seining. The [Barnegat Bay Foundation](#) co-sponsors the festival, enabling us to continue offering these engaging activities for learning about the bay and its natural resources.

### Barnegat Bay Partnership Workshops and Conferences

#### *Education and Outreach Retreat*

The annual retreat fosters the exchange of information and ideas for collaborative Barnegat Bay education and outreach efforts. The theme of this year's retreat, attended by over 70 estuary educators, was *Citizens & Scientists: Partners in Protection*, a tie-in with the festival theme. Participants experienced a new outreach tool, the "Ignite Talk," during scientist/educator team presentations on three science topics. A panel discussion with the presenters continued the conversation about the connection between science, outreach, and citizen participation. Finally, attendees brainstormed ideas for a coordinated social media blitz around National Estuary Week.

#### *Barnegat Bay Science Symposium: Using Science to Guide Management, Build Awareness, and Improve Stewardship*

The Barnegat Bay Partnership hosted a public science symposium this past spring at Ocean County College, which was attended by over 130 individuals. Presentations by researchers were grouped into three categories: human responses to a changing environment, environmental indicators in Barnegat Bay, and the response of critical habitats to disturbances. During a lively panel session, attendees asked questions and participated in a discussion about how science can inform policy and management decisions for a changing Barnegat Bay. The symposium presentations are available on the [Partnership's website](#).

#### *Barnegat Bay Public Outreach Forum: What Lies Beneath*

The Partnership and NJ Department of Environmental Protection (NJDEP) co-sponsored this public forum at Ocean County College about the results of three years of Barnegat Bay science



research. More than 150 individuals attended the forum, which consisted of presentations by the researchers followed by facilitated discussions with questions from the audience. The NJDEP funded the studies to “fill in the gaps on research” as part of their Comprehensive Plan of Action to restore the Barnegat Bay. The research results are being used to assess the ecological health of the bay, identify stressors, and define new management strategies. The study reports are available on the [NJDEP website](#).

### *The Shore's Future: Living with Storms and Sea Level Rise*

This two-day climate change conference with a unique format was convened by the Institute on Science for Global Policy (ISGP) and co-sponsored by the BBP, Barnegat Bay Foundation, and Toms River Township, with funding support by the Jay and Linda Grunin Foundation. It brought together citizens, local leaders, scientists, policy makers, and nationally-recognized experts to discuss and debate the local challenges presented by storms and sea-level rise, with the goal of reaching consensus and developing action items. The ISGP's final report should be available in 2016, and other follow-up activities are under consideration.

## **Newsletter and Social Media**

In 2015, six electronic issues of *The Barnegat Bay Beat* kept more than 2,500 readers informed about the research, education, and stewardship efforts of the Partnership. News alerts, such as information about preparing for impending storms, are also shared through *Beat* updates. We continue to distribute information through our Facebook page, Twitter feed, and YouTube channel. In 2015, we also worked with other estuary programs and our partners on joint social media messaging for the “I Heart Estuaries” campaign in February and National Estuary Week in September and will continue to do so in 2016.

## **Citizen Representative to the Policy Committee**

The BBP's Citizen Representative to the Policy Committee represents the public's interest in efforts to protect and restore the Barnegat Bay and actively participates with the BBP's Communication

and Education Committee in education and outreach activities. John Leonard, our first Citizen Representative, completed a successful three-year term in early 2015. The BBP thanks John for his exemplary service. He set the standard for the new position by enthusiastically reaching out to both residents and visitors to get their perspective on the issues of importance to the Barnegat Bay watershed. Two Alternate Citizen Representatives, George Murnyak and John Zingis, had been assisting John Leonard with his duties. After his term, the Alternates stepped up to jointly fulfill the duties of the Citizen Representative.

## **Communication and Education Grant Program**

The goal of the Partnership's [Communication and Education Grant Program](#) is to increase public understanding of the bay's ecology and the impact of human activities, promote stewardship of the bay and its watershed, and encourage public participation in actions to protect and restore the estuary. In 2015, we awarded grants for the following five projects, which are scheduled to be completed by early 2017:

### *Streaming the Rivers and Creeks in the Barnegat Bay Watershed*

(Grant recipient: Birdsall Nature Photography and Cedar Hollow Consulting, Naturally!) The project goal is to increase awareness of the watershed and the impacts of land use choices on its natural and cultural resources by mapping and photographing points of interest on 19 Barnegat Bay tributaries to create a virtual tour of the watershed.

### *Everything Eventually Ends Up in the Water*

(Grant recipient: Boating Education and Rescue) The project goal is to educate diverse audiences about the causes and effects of nonpoint source pollution and marine debris and about stewardship actions to address these problems.

*continued, next page*



***Barnegat Bay Turtle Gardens: Supporting Living Shorelines to Safeguard Terrapins for Sea-Level Rise***  
 (Grant recipient: Conserve Wildlife Foundation of New Jersey)  
 The project goals are to promote terrapin nesting habitat enhancement, raise awareness of the benefits of living shorelines for terrapins and other coastal wildlife, and recruit citizen scientist volunteers to develop a demonstration “turtle garden” site.

***From Lawn to Garden – Going Green, Saving Green***  
 (Grant recipient: Ocean County Soil Conservation District)  
 The project goals are to demonstrate the value of best practices for low-maintenance landscaping at three branches of a local bank and educate community members about the importance of healthy soil restoration techniques and water conservation practices.

***The Beneficial Indigenous Plants Project***  
 (Grant recipient: Visitation Relief Center) The project goals are to educate Brick Township residents about the benefits of landscaping with native plants and encourage residents who are restoring landscapes damaged by coastal storms to plant native species adapted to local conditions, including continued periodic flooding.

## **Programs at Brown’s Woods Preserve**

Barnegat Bay Partnership staff members and volunteers offered educational programs at the Brown’s Woods Preserve, the location of our office. Brown Wood’s forty acres of diverse habitats, which include a sandy beach and marsh on the Toms River, freshwater wetlands along Long Swamp Creek, and an upland forest, are an ideal setting for community programs to educate people about the Barnegat Bay and its watershed.

***Great Backyard Bird Count***  
 The BBP continued to host a site for this annual citizen science event sponsored by Cornell University and the National Audubon Society. Scientists use information from the Great Backyard Bird Count to get the “big picture” about what is happening to bird

populations around the world. During a walk through Brown’s Woods, volunteers (led by experienced naturalists) counted individual birds for the 20 species observed, and the information was submitted to the count sponsors.

***Earth Day Celebration***  
 During the second year of this event, the Partnership again offered environmentally-themed family activities, including seining at the beach, free tree seedlings, and Earth Day crafts. Volunteers removed litter from the property during the event as part of Clean Ocean Action’s Beach Sweeps.

***YMCA Day Camp Programs***  
 On Mondays in August, day campers from the Toms River YMCA visited Brown’s Woods for a morning of educational activities. A total of 94 elementary and middle school campers explored both aquatic and upland habitats through seining, bird-watching, and other hands-on activities. They also received instruction in boating and water safety techniques and learned how to prevent litter and other non-point source pollution from entering our waterways.

***Programs for Ocean County College Students***  
 The Partnership provided a total of 90 students in six Ocean County College Ecology and Environmental Science course sections with a program and outdoor field session about the Barnegat Bay estuary and watershed. The students learned about the ecological and economic value of the bay’s resources, impacts of non-point source pollution, and ways to protect the estuary as watershed residents.

***Volunteer Master Naturalist Training Course***  
 Brown’s Woods Preserve is the location of the classroom sessions for the Barnegat Bay Volunteer Master Naturalist training course offered through the Ocean County College Department of Continuing Professional Education. Trainees learn how to be successful volunteers by educating others about the bay and good stewardship of its resources. A total of 16 individuals completed the 2015 training course, and a new class is forming for the 2016 course.



## Citizen Science and Stewardship Activities

Three years have gone by since Hurricane Sandy wreaked its havoc on our coastal communities. Fortunately, residents and visitors have not forgotten the importance of their commitment to the beautiful Barnegat Bay and its watershed through volunteerism and stewardship of its resources. The inevitability of extreme storms and climate change impacts to our area requires us all to be thoughtful and plan ahead for our communities to continue to thrive – and the citizens of the Barnegat Bay watershed are certainly up to the task!

### *Paddle for the Edge – Citizen Science Event*

In 2015, the BBP launched *Paddle for the Edge*, our new volunteer citizen-science survey of Barnegat Bay shorelines. Volunteer kayakers, canoeists, and stand-up paddle boarders were trained as citizen scientists and helped the BBP collect critical information from the bay’s many miles of shorelines, contributing 196 hours of research to the program. The data collected will help us monitor these critical bay shorelines and assist planners and resource managers in many ways – providing information about flooding and storm impacts, predicting how shorelines may react to sea-level rise, identifying restoration areas, and determining the recreational, habitat, and commercial value of our estuaries. The BBP will be continuing *Paddle for the Edge* surveys in 2016.

### *Field Work*

The hard-working BBP Field Technicians got a big boost in productivity this year from the many volunteers who wanted to get down-and-dirty to help with our eel research (February-May), herring study (March to May), lab work on biomass assessment (January), oyster larvae research (June-September), seining population study of the Bay (June-August), and *Paddle for the Edge* project (June). We even had a volunteer put in 200 hours creating a great new database for entering all the data collected over the year. All-in-all that adds up to over 1,000 hours of volunteer time contributed toward a better understanding of the Barnegat Bay.

### *Watershed Cleanups*

The Barnegat Bay Partnership office at the Brown’s Woods continues to be a site for *Clean Ocean Action’s Beach Sweeps*, and we hosted April and October cleanup events this year, attracting over 60 volunteers to “sweep” through the woods ridding the area of litter and keeping this Toms River treasure pristine. The volunteers utilized a new trail map created by one of the Barnegat Bay Volunteer Master Naturalists. This year Clean Ocean Action focused specifically on the very important issue

of reducing our use of plastic materials, which end up as litter in our waterways, injuring wildlife, and degrading the health of our entire ecosystem.

### *Barnegat Bay Volunteer Master Naturalist Program*

We now have 50 alumni of the *Barnegat Bay Volunteer Master Naturalist program*. These volunteers have devoted over 2,089 hours this year to maintaining their certification by volunteering for not only the Barnegat Bay Partnership, but its many partners. They post their activities on the *BBP Master Naturalist Course Facebook page*, which they invite all to join for continuous information about happenings around (and in) the Barnegat Bay.

### *Jersey Shore Chapter of the Native Plant Society of New Jersey*

Entering its third year, the Barnegat Bay Partnership provides leadership to the Jersey Shore Chapter of the *Native Plant Society of New Jersey* and coordinates monthly meetings and/or field trips to educate its members and other interested individuals about the important role native plants play in the Barnegat Bay ecosystem. Its members have volunteered their time maintaining demonstration gardens at Jakes Branch County Park, and have spread the word via presentations to a variety of garden clubs and environmental organizations. Chapter membership and interested parties increased in 2015; there are 82 full members and over 500 contacts on the chapter email list.

In addition to all of the above work, our volunteers have contributed their time writing articles, staffing the BBP table at environmental festivals, creating oyster spat bags, completing stream assessments, planting dune grass, helping with a summer YMCA camp event, and making presentations to outside groups. We thank all of our dedicated volunteers and look forward to working with you again in 2016!



## Barnegat Bay Foundation

The Barnegat Bay Foundation generously provides financial support to the BBP and others for activities that promote the protection and restoration of the estuary. The Foundation was a co-sponsor of the 2015 Barnegat Bay Festival, donating \$10,000 in festival funding. Thanks to a grant from the Ocean County Department of Business Development and Tourism, the Foundation was able to donate an additional \$900 for festival advertising. The Foundation also raised funds to support *The Shore's Future: Living with Storms and Sea Level Rise* conference, and sponsored the BBP's volunteer appreciation event, which was held during a week-long evaluation of our estuary program in August of 2015. In 2016, the Foundation will continue to move forward with its fundraising efforts in support of Barnegat Bay projects.



# Finances

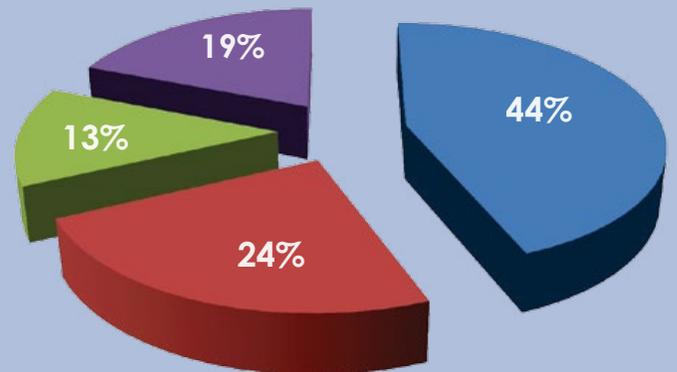
As a National Estuary Program established pursuant to the Clean Water Act (33 U.S.C. 1330; PL 100-4, *et seq.*), the Barnegat Bay Partnership receives section 320 grant funding from United States Environmental Protection Agency (USEPA). The County of Ocean, through the Ocean County Natural Lands Trust and Ocean County College, provides the annual matching funds required for the grant. Through the BBP work plan and related activities, the BBP and its partners are able to leverage other investments to protect and restore the watershed. During the federal fiscal year 2014, the total amount leveraged was \$13.6 million, which resulted in a 13-to-1 total return on investment. We thank Ocean County College and all of our partners for their increasing support of our efforts to protect the bay.

## FUNDING FOR FISCAL YEAR 2015

(July 1, 2014 – June 30, 2015)

<b>USEPA: Section 320 Grant</b> .....	<b>\$562,711</b>
Ocean County Natural Lands Trust: Program Match.....	<b>\$482,847</b>
Ocean County College: Program Match.....	<b>\$79,864</b>
<b>The Nature Conservancy/National Oceanic and Atmospheric Administration (NOAA) Subaward: NJ Resilient Coastline Initiatives</b> .....	<b>\$9,957</b>
<b>Rutgers University/NOAA Coastal and Ocean Climate Applications Subaward: Decision-making for Coastal Adaptation: Sustaining Coastal Salt Marshes for Ecosystem Services along the Jersey Shore</b> .....	<b>\$18,060</b>
<b>Atlantic States Marine Fisheries Commission: Herring Survey</b> .....	<b>\$78,061</b>
<b>US Fish and Wildlife Service/NJDEP: Cedar Creek Dam Removal</b> .....	<b>\$24,000</b>
<b>US Fish and Wildlife Service: Westecunk Creek Dam Removal Assessment</b> .....	<b>\$39,960</b>
<b>Rutgers University Subaward: Multi-trophic Level Ecosystem Modeling in Barnegat Bay</b> .....	<b>\$35,272</b>
<b>Total</b>	<b>\$1,330,732</b>

## FISCAL YEAR 2015



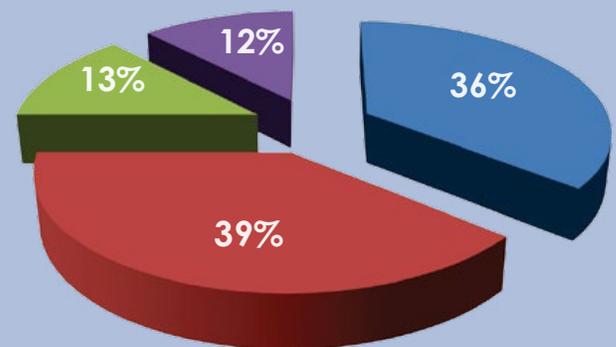
- Habitat Acquisition, Protection, and Restoration
- Monitoring and Research
- Education, Outreach, and Stewardship
- Program Administration

## FUNDING FOR FISCAL YEAR 2016

(July 1, 2015 – June 30, 2016)

<b>US Environmental Protection Agency (USEPA): Section 320 Grant</b> .....	<b>\$736,000</b>
Ocean County Natural Lands Trust: 320 Grant Program Match.....	<b>\$656,035</b>
Ocean County College: 320 Grant Program Match.....	<b>\$79,965</b>
<b>USEPA Region 2: FY16 Wetlands Program Development Grant</b> .....	<b>\$184,547</b>
<b>USEPA Region 2: FY16 Wetlands Program Development Grant Match</b> .....	<b>\$62,365</b>
<b>National Fish and Wildlife Foundation/ NJ Department of Environmental Protection Subaward: Building Ecological Solutions to Coastal Community Hazards</b> .....	<b>\$160,000</b>
<b>NJ Coastal Wetlands Restoration Partnership</b> .....	<b>\$25,526</b>
<b>Barnegat Bay Festival: Barnegat Bay Foundation Sponsorship and Vendor fees</b> .....	<b>\$15,889</b>
<b>Total</b>	<b>\$1,920,327</b>

## FISCAL YEAR 2016



## Our Staff

### Director

L. Stanton Hales, Jr., Ph.D.

### Project Coordinator

Martha Maxwell-Doyle

### Program Assistant

Mary Judge

### Program Scientist

James Vasslides

### Public Outreach Coordinator

Karen Walzer

### Special Events Coordinator

Betsy Hyle

### Field and Lab Coordinator

Erin Reilly

### Field and Lab Technicians

Tina Barreiro

Ceili Pestalozzi

Nicole Petersen

Talia Stillman

GraceAnne Taylor

Gerald Wilders

### USEPA Region 2 Coordinator

Barbara Spinweber

### Physical Location

117 Haines Road, Toms River, NJ 08753

### Mailing Address

Ocean County College, P.O. Box 2001

Toms River, NJ 08754

### Website

<http://bbp.ocean.edu>

### Email

[bbp@ocean.edu](mailto:bbp@ocean.edu)

### Phone

(732) 914-8102

© 2015 Barnegat Bay Partnership • [bbp.ocean.edu](http://bbp.ocean.edu)



**OCEAN**  
COUNTY COLLEGE

Dr. Jon H. Larson,  
President



**The Ocean County Board of  
Chosen Freeholders**

Freeholder Liaison, Joseph H. Vicari



This document has been funded by the USEPA under a Clean Water Act grant agreement to Ocean County College; information herein has not undergone USEPA review and may not necessarily reflect the agency's official views.

## Our Partners

American Littoral Society

Barnegat Bay Foundation

Brick Township Municipal Utilities Authority

Clean Ocean Action

Conserve Wildlife Foundation of New Jersey

Georgian Court University

Jersey Coast Anglers Association

Long Beach Island Foundation of the Arts and Sciences

Marine Trades Association of New Jersey

Monmouth University

National Oceanic and Atmospheric Administration, National Marine Fisheries Service

NJ Department of Environmental Protection

NJ Pinelands Commission

NJ Sea Grant Consortium

Ocean County Board of Chosen Freeholders

Ocean County College

Ocean County Department of Parks and Recreation

Ocean County Health Department

Ocean County Mayors Association

Ocean County Planning Department

Ocean County Soil Conservation District

Ocean County Utilities Authority

Ocean County Vocational Technical School

Pinelands Preservation Alliance

ReClam the Bay

Rutgers Cooperative Extension of Ocean County

Rutgers University: Jacques Cousteau National Estuarine Research Reserve

Save Barnegat Bay

Trust for Public Land

US Army Corp of Engineers

US Department of Agriculture, Natural Resources Conservation Service

US Environmental Protection Agency

US Fish and Wildlife Service

US Geological Survey

# Partners In Action



**Americal Littoral Society**



**Rutgers Cooperative Extension of Ocean County**



**Conserve Wildlife Foundation of NJ**



**Jacques Cousteau National Estuarine Research Reserve**



**NJ Department of Environmental Protection**



**NJ Pinelands Commission**



**NJ Sea Grant Consortium**



**Ocean County Department of Parks and Recreation**



**Ocean County Soil Conservation District**



**ReClam the Bay**



**US Fish and Wildlife Service**



**USDA Natural Resources Conservation Service**

## Photo credits

All photos by BBP Staff unless otherwise noted, with the exception of the following:

Page 2: Photos by Carole Bradshaw. Page 3: Large photo by Bob Birdsall. Page 8: Large photo by John Bendel.

Page 9: Inset photo courtesy of Bob Birdsall and Terry O'Leary. Page 12: Large photo, middle inset, right inset by John Bendel.

Page 15: Photos courtesy of partner organizations. Page 16: Photo by Clint Lehman.

**BARNEGAT BAY PARTNERSHIP**

Ocean County College  
College Drive | PO Box 2001  
Toms River, NJ 08754-2001

ADDRESS SERVICE REQUESTED

NONPROFIT ORG  
U.S. POSTAGE  
**PAID**  
Permit No. 27  
Toms River, NJ 08754



# Annual Report | 2015 - 2016

*One of 28 National Estuary Programs, the Barnegat Bay Partnership comprises federal, state, county, municipal, academic, business, and private stakeholders working together to help restore, maintain, protect, and enhance the water quality and natural resources of the Barnegat Bay estuary and its contributing watershed.*