



# Annual Report | 2013





## Looking Forward

Ever since October 29, 2012, that historic day when Superstorm Sandy swept ashore and washed over the landscape and our lives, the daily efforts to rebuild and recover our lives – and a return to the way things were – has challenged us.

With Herculean efforts by first responders, the kindness of civic-minded neighbors and strangers, and the dedication of government employees taking on unimaginable problems, the recovery is well underway. For all who did so much to help so many, we say thanks!

However, much work remains, and a return to normality has been elusive. Simply rebuilding the way things were may help us temporarily – but that approach will just put us back in harm's way at great public expense when the next storm hits. We must find a better way.

We are committed to helping everyone understand and plan for our changing bay and a new life along the Jersey Shore. First, whether or not your house flooded during Sandy, check out Rutgers' *NJ Flood Mapper* website (<http://njfloodmapper.org>) to see if your neighborhood is vulnerable to sea-level rise over the next 20 to 40 years. Is your home or business built on a former wetland that was filled? Imagine the next storm's 6- to 9-foot surge on top of any predicted sea level rise. Think ahead...

Next, ask your community leaders what they are doing to plan for a changing world. Ask them if they are familiar with the *Getting to Resilience* website ([www.prepareyourcommunitynj.org](http://www.prepareyourcommunitynj.org)). Ask what steps they are taking to make your neighborhood and your town resilient for future storms. Is your neighborhood protected by green infrastructure, such as dunes or wetlands, which provide some protection from waves and flood waters? Are evacuation routes likely to flood? Are your utilities and their power supplies designed to withstand storms? And don't forget about fire preparedness. Increased drought and fire frequency are likely a part of our changing world here in New Jersey. Think ahead...

Lastly, check out Ocean County's Multi-Jurisdictional All Hazards Mitigation Plan ([www.co.ocean.nj.us/EMMgmt/Main.aspx](http://www.co.ocean.nj.us/EMMgmt/Main.aspx)), which captures in a long-term plan what should be done to reduce **both your risks and your costs** (yes, they really do go hand-in-hand!) for future local disasters. Think ahead....

Once you've taken these simple steps, we're confident you'll be much more knowledgeable about climate change and flooding risks and much better prepared for the storms ahead.

Stan Hales  
Director



## A Change in Location



In January of 2013, the Barnegat Bay Partnership (BBP) moved from the campus of Ocean County College to a new location on more than forty acres of preserved land in Toms River Township. The Township had partnered with the New Jersey Department of Environmental Protection's Green Acres Program to protect the property, known locally as Brown's Woods, and had been looking for an environmental organization to occupy the building on-site. Ocean County College, the local host for our program, worked with the Township to facilitate our move there. The physical location of the new office is 117 Haines Road, Toms River, New Jersey 08753. Since we are still a department of the College, our mailing address remains the same – Barnegat Bay Partnership, Ocean County College, College Drive, P.O. Box 2001, Toms River, New Jersey 08754.

As a result of our relocation, we not only have more much-needed office space, but also the opportunity to expand our educational programs and initiate other Partnership activities, including restoration projects. The property's varied habitats, including a sandy beach and marsh on the Toms River, freshwater wetlands along Long Swamp Creek, and an upland forest, are ideal both for outdoor classroom activities and demonstration projects.

This past year we began offering outdoor educational experiences at the Brown's Woods Preserve, including an invasive species training and programs for local elementary and Ocean County College students. We also formed a committee tasked with developing a public use plan for this special property.

We welcome you to visit our new office and enjoy the trails and wildlife of the Brown's Woods Preserve.





## Climate Change Initiatives

Working with local partners on diverse climate change efforts, we continue to lead efforts to: (1) identify vulnerable communities and groups, (2) promote sound strategies to become more resilient, and (3) improve our collective understanding of climate change and sea-level rise. These activities have become critically important in the wake of rebuilding after Superstorm Sandy.

### ***Economic Vulnerability and Adaptation to Climate Hazards and Climate Change: Building Resilience in the Barnegat Bay Region*** (<http://bbp.ocean.edu/pages/184.asp>)

This 2013 BBP-funded study conducted by Fulbright scholar Robin Leichenko of Rutgers University identified the elderly and others on fixed income, small business owners and employees, and the tourism and fishing industries as being especially vulnerable to climate change. Also, the report emphasized the importance of green infrastructure, wetlands restoration, better land use planning, and diversification of the local economy as ways to reduce economic impacts and costs of climate change.

### ***Getting to Resilience – A Community Planning and Evaluation Tool*** ([www.prepareyourcommunitynj.org](http://www.prepareyourcommunitynj.org))

Working with the Jacques Cousteau National Estuarine Research Reserve (JCNERR), we launched the *Getting to Resilience* website to assist local planners to help communities reduce their vulnerability and increase their preparedness. A companion mapping tool developed by JCNERR and Rutgers University, *NJ Flood*

*Mapper* ([www.NJFloodMapper.org](http://www.NJFloodMapper.org)) enables users to visualize different flooding scenarios and their potential impacts. Together, these two websites can help communities assess and reduce their future risks with existing municipal planning tools.

### ***Ocean County Multi-Jurisdictional All Hazards Mitigation Plan***

We provided technical expertise to the Ocean County Office of Emergency Management during development of this plan to help governments and citizens reduce hazard risks and disaster-related costs to communities. When approved in January 2014 by the Federal Emergency Management Agency (FEMA), this plan will be the first in New Jersey to include climate change risks.

### ***Mid-Atlantic Coastal Wetlands Assessment (MACWA)***

Coastal wetlands provide critical services, including flood protection against rising seas, maintenance of water quality, carbon and nutrient sequestration, and fish and wildlife habitat. As the sea level continues to rise, the future of our critical coastal wetlands will require increasingly costly management actions. With funding provided by the US Environmental Protection Agency and New Jersey Department of Environmental Protection, the BBP and key regional partners are monitoring and assessing the condition and trends in marshes to help ensure their future. Ongoing comprehensive monitoring and assessments are essential to assess impacts of Superstorm Sandy and understand wetland responses and recovery.



## Science And Research

This year we continued to conduct and support research that increases understanding of the ecological processes and resources within the Barnegat Bay and its watershed. In the aftermath of Superstorm Sandy, there has been considerable interest and concern regarding the storm's impacts, many of which are modified by post-storm summer and winter conditions and may not be known for some time. Besides giving us a better understanding of the bay's condition, sound science is used to guide management actions and restoration efforts and evaluate their effectiveness.

In addition to our own research activities, we funded projects by several partners through our Science and Technical Advisory Committee grants program. All projects addressed one or more of our Strategic Plan priorities (<http://bbp.ocean.edu/pages/131.asp>).

### Barnegat Bay Partnership Staff Research

#### *Ambient Water Quality Monitoring*

Since the spring of 2011, we have been a partner in a New Jersey Department of Environmental Protection (NJDEP) effort to monitor water quality at 25+ locations throughout the Barnegat Bay watershed on a regular basis. This past year, we collected water quality data and samples for further analysis at sites on Mill Creek and Westecunk Creek. The data collected by the water monitoring network partners is being used to establish the baseline conditions of the bay and assess these conditions against water quality standards. This information will then direct actions needed to restore the bay, including the possible establishment of a Total Maximum Daily Load (TMDL) for pollutants. More information about the monitoring program, including the data, can be found on the NJDEP's webpage at [www.nj.gov/dep/barnegatbay/plan-wqstandards.htm](http://www.nj.gov/dep/barnegatbay/plan-wqstandards.htm).

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

This past year, we continued our long-term monitoring project to assess variations in the abundance and distribution of juvenile fish species and jellyfish in the central and northern portion of Barnegat Bay. Understanding the long-term variability in these species is important for managing not only the species themselves, but also the habitat upon which they rely. A long-term dataset, consistently collected over a number of years, will contribute to an understanding of the long-term effects of eutrophication, sea nettle blooms, and other ecosystem changes. The data will be useful in assessing impacts related to climate change, such as shifts in fish species ranges, and will also shed light on both the immediate and long-term effects of severe weather events like Sandy on the bay's animal species and their habitats.



### Sea Nettle Histology

This joint BBP-Rutgers University project aims to use histological techniques to determine whether sea nettles (*Chrysaora quinquecirrha*) in the Barnegat Bay are reproducing sexually or asexually. This information helps us understand what is contributing to the reported increase in the population of sea nettles in the bay in the past decade, and may help us devise ways of addressing these blooms. Sex in sea nettles has previously been determined by visual assessment of gonad color – this study will be the first in this region to use histological methods to verify the older visual methods. The project has three goals: (1) compare visual assessment and histological analysis as methods for determining the sex of sea nettles, (2) determine the sex ratio of sea nettles in the bay using histological rather than visual techniques, and (3) determine if sexual reproduction has occurred in sea nettles collected in the Barnegat Bay. Sea nettles were collected in the summer of 2013, and histological slides were prepared in the fall. The analysis is being conducted over the winter, with the results to be ready in late spring of 2014.

### Sea Nettle Polyp Settlement Pilot Study

Anecdotal evidence suggests that the abundance of sea nettle medusa has increased in the Barnegat Bay throughout the past two decades. While BBP and other researchers have been surveying for sea nettle medusa in the bay over the past three years, little is known about the distribution and abundance of sea nettle polyps throughout the bay. Polyps, which reproduce

asexually, develop on hard surfaces. The main objective of this 2013 study was to assess the feasibility of using photography to determine whether sea nettle polyps are settling on artificial surfaces, such as bulkheads and docks. While we identified polyps at a small number of sites, poor water clarity throughout the summer hindered identification. Recommendations for future work include beginning the photograph time series in late spring and continuing into the fall, when polyps would still be identifiable and water clarity should be better. The full report is available on our website in the Studies and Reports section (<http://bbp.ocean.edu/pages/184.asp>).

### Juvenile Eel Monitoring

In 2013, we continued monitoring the ingress of juvenile American eels (*Anguilla rostrata*) into the estuary at select locations on rivers in the Barnegat Bay watershed. A candidate for federal listing as a threatened species, American eels are catadromous, meaning they spawn in the ocean and then migrate into rivers and streams to grow and live through their adult lives. In New Jersey, juvenile American eels (elvers) enter the estuary in late winter and proceed to migrate up rivers, which is when they are traditionally counted as part of a juvenile index.

### Lake Shenandoah Fish Ladder

Mid-Atlantic populations of river herring (alewife, *Alosa pseudoharengus*, and blueback, *A. aestivalis*) have declined precipitously in recent years throughout the mid-Atlantic region. River herring



are now listed as a “Species of Special Concern” by the National Marine Fisheries Service. With over 1,700 dams in New Jersey, barriers to spawning migration are one of the most important impediments to restoration of river herring populations in this state. With fish passage structures already installed at many of these dams, the overall goal of this project is to assess the effectiveness of the structures in reducing impediments to river herring spawning

migrations. In 2013, we constructed a tracking array at the Lake Shenandoah dam, captured river herring, and implanted them with small Passive Integrated Transponder (PIT) tags. Preliminary results from the first year of the study suggest that attraction to and passage through the ladder may be low. A second year of data collection is underway.

## Research Supported by Barnegat Bay Partnership Grants

Through the BBP’s Science and Technical Advisory Committee grant program, we fund research projects that address one or more of the BBP’s five Strategic Plan priorities (water quality and eutrophication, water supplies, habitat and restoration, fisheries and wildlife, and land use). The objectives of the grant program are to increase understanding of the ecological processes and resources within the estuary and to use research data to help inform restoration actions.

### **Role of Plant and Soil Community Structure in Riparian Soil Nutrient Retention**

Riparian corridors (areas along streams, creeks, and rivers) serve as critical buffer zones in urban and suburban habitats, supporting wildlife and providing essential ecosystem services (e.g., flood protection, erosion control, filtering of nutrients). An ongoing project by Montclair State University and Rutgers University researchers is investigating the impact of a riparian buffer’s plant and soil communities on their ability to retain nutrients, with the goal of assessing the interplay between these communities and non-point source pollution. Ultimately, understanding these interactions will help us make recommendations for restoration that will improve water quality throughout the watershed. This

past year researchers collected field data and samples for lab analysis; the final report and recommendations will be available in the fall of 2014.

### **SHiP – Soil Health Improvement Project**

The Soil Health Improvement Project (SHiP) is a joint endeavor of the Ocean County Soil Conservation District (OCSCD), Jacques Cousteau National Estuarine Research Reserve, Rutgers Agricultural Experiment Station, the American Littoral Society, Ocean County Parks and Recreation, and Montclair State University. In 2013, scientists used different combinations of physical manipulation (till, no till) and organic matter additions (compost, fertilizer, etc.) on soil research plots at Jakes Branch County Park, then



tracked the response of the turf to the different treatments. Additional sampling and analysis is scheduled to continue in the spring of 2014, with a final report due in the fall. The ultimate goal of this project is to develop simple, low-cost and practical soil restoration techniques and procedures that are transferable to the homeowner. Additional information about the project can be found at the OCSCD website at [www.soildistrict.org/healthy-yards/jakes-branch-ship-project](http://www.soildistrict.org/healthy-yards/jakes-branch-ship-project).

### **Derelict Crab Trap Removal**

Blue crabs are the largest commercial and recreational fishery within the Barnegat Bay. When lost, the derelict or “ghost” pots can continue to fish, accumulating blue crabs or other species that become trapped in them, and can also become a navigational hazard in the shallow waters of the bay. Completed in 2013, this joint project by The Richard Stockton College of New Jersey and JCNERR identified accumulations of derelict gear, removed gear from areas of concern, and developed materials to educate commercial and recreational fishermen and boaters about best practices to reduce the problem. The full report is available in the Studies and Reports section of our website (<http://bbp.ocean.edu/pages/184.asp>).

### **Modeling Eelgrass Restoration Potential in Barnegat Bay**

In the Barnegat Bay, eelgrass (*Zostera marina*) populations have declined significantly since 2004, with record low biomass

recorded in 2010. The goal of this Stockton College project is to increase our understanding of eelgrass bed resiliency to disturbances, as well as loss and recovery processes within established beds, by refining and applying an existing ecological model developed for the Chesapeake Bay. With increasing interest in restoring eelgrass beds in the Barnegat Bay, the ultimate goal is to develop a model that can help increase restoration efficiency, effectiveness, and success. This past year, the researchers collected both physical data about the water and bay soils and biological data about the eelgrass, and began the process of refining and calibrating the model to local conditions. Once calibrated, the model can be applied to the Barnegat Bay, as well as other New Jersey back bays.

### **Status and Trends of Shellfish Populations**

In this project completed in 2013, Rutgers University researchers used prior stock assessments conducted by the NJDEP and published studies to examine past levels of abundance of hard clams (*Mercenaria mercenaria*) in the Barnegat Bay in relation to past environmental conditions. One of their goals was to evaluate the potential for hard clam restoration under present environmental conditions. Suitable locations and strategies for restoration, critical gaps of information, and other mitigation measures required to ensure that the estuary can sustain clam populations were all identified. The full report is available on our website in the Studies and Reports section.



## Education and Outreach

Despite the special challenges after Superstorm Sandy, the BBP staff and partners interacted with more than 25,000 individuals via its annual festival, educational presentations and workshops, exhibits at events, newsletters, website and social media.

### The Barnegat Bay Festival

At our annual festival, we educate both residents and visitors about the wonders of the Barnegat Bay. This year's festival theme, *Barnegat Bay: Yours to Restore and Explore*, reflected the ongoing recovery from Superstorm Sandy. More than 65 environmental organizations provided information to the public, with an emphasis on storm impacts, recovery efforts, and planning for the future. Storm-related exhibits included the Liberty Science Center's interactive storm flood model, the New Jersey Department of Environmental Protection display about storm debris removal, and a native plant sale featuring selections for storm-sturdy yards. Some 40 eco-friendly craftsmen and food vendors were also on hand for the more than 3,000 festival-goers – our best attendance yet!

### The Barnegat Bay Beat

This past year we published three issues of our newsletter, distributed in print to 4,700 people and electronically to 3,000 people. All three issues focused on Superstorm Sandy – storm debris removal, wetlands monitoring, storm-tide monitoring, boating impacts, restoring yards, and climate change adaptation were some of the topics that were addressed. Issues are available on our website (<http://bbp.ocean.edu/pages/201.asp>).

In the coming year, the *Beat* is changing to a shorter format and electronic-only distribution to reduce the cost of production.

### Educational Videos

In 2013, we released a series of new educational videos on our YouTube channel ([www.youtube.com/user/BarnegatBayP](http://www.youtube.com/user/BarnegatBayP)). Two of the videos inform viewers about vital habitats impacted by Superstorm Sandy. *Dunes* educates viewers about how dunes form and why they are critical in protecting coastal communities from flooding during coastal storms. *Barnegat Bay Wetlands* discusses the value of wetlands for flood protection, wildlife habitat, water quality, and nutrient cycling and the impacts of sea-level rise, development, and other threats.

Other educational videos produced by the BBP in 2013 include the following:

***Bay-Friendly Lawns*** gives an overview of the requirements of the New Jersey Fertilizer Law and tips for growing a healthy lawn while saving money and protecting the bay;

***Barnegat Bay Partnership: Research, Educate, Restore*** features BBP staff and partners in action as they work to protect and restore the bay; and

***Protect Our Bay, Protect Our Future*** showcases summer recreation program campers learning about the bay and sharing its importance to them and their future.



## Development of a New Website

This past year the BBP was awarded a 319(h) grant from the New Jersey Department of Environmental Protection in the amount of \$100,000 for a new project, entitled *NJ Bay Friendly Yards and Stormwater Practices: Promoting Best Practices through an Interactive Information Portal and Pilot Communities Demonstration Projects*. The grant is funding development of an interactive, web-based portal to provide New Jersey landowners with a “one-stop” resource for information about how to improve their property to reduce the impacts of stormwater runoff into our waterways. The new website will go “live” in 2014 and will include an interactive yard component to teach basic concepts about environmentally friendly landscaping practices, a searchable plant database, tutorials and fact sheets, and resources for landscape professionals.

## Programs at Brown’s Woods Preserve

BBP staff members are already busy educating students of all ages and promoting stewardship of the Brown’s Woods Preserve to the public.

### Great Backyard Bird Count

A joint project of Cornell University and the National Audubon Society, the Great Backyard Bird Count is an annual February event that engages bird watchers of all ages in counting birds in their communities to create a real-time snapshot of winter bird populations. Through the efforts of citizen scientists joining our count, we reported a total of 38 bird species and 350 individual birds.

### Brown’s Woods BioBlitz

This event, part scientific endeavor and part outdoor classroom, brought professional scientists together with participants of all

ages in an effort to identify as many species of plants, animals, and other wildlife as possible in a 24-hour period. We identified over 135 species, as people joined in nature hikes, seining, bird walks, and other activities, all focused on learning about the ecosystem thriving in the Brown’s Woods Preserve.

### New Jersey Invasive Species Strike Team Training

We hosted a free training program to educate the public about invasive species, why they are a threat to the environment and the economy, and how to prevent them from spreading. As part of the training, we toured the Brown’s Woods Preserve to learn about species of local and regional concern.

### Visiting Students from Ocean County College

We provided 150 ecology and environmental science students with classroom presentations and tours of the different habitats of the Brown’s Woods Preserve. They learned about the impacts of land use practices on the water quality and living resources of the Barnegat Bay and about ways they can help protect and preserve the bay’s ecosystem.

## Elementary School Programs

We partnered with the Washington Street Elementary School, located within walking distance of the Brown’s Woods Preserve, for on-site educational programs. More than 120 fourth- and fifth-grade students enjoyed a seining demonstration, blue crab interactive activity, and tree identification walk during a visit to the property. Additional programming both at the school and on-site are planned for the coming year.



## Education and Outreach Retreat

We host an annual retreat as an opportunity for Barnegat Bay environmental educators to exchange information and ideas, avoid duplication, and work together on education and outreach. Fifty-five educators attended the 2013 retreat, entitled *Communicating Science in the Barnegat Bay Watershed*, during which three scientists shared their research findings and ideas for communicating them to the public.

## Communication and Education Plan

During the past year, our Communication and Education Committee, comprised of education and outreach professionals, completed a revision of the BBP's Communication and Education Plan. The plan now incorporates the five priorities of our most recent Strategic Plan (2012-2016): water quality and eutrophication, water supplies, habitat and restoration, fisheries and wildlife, and land use. Most importantly, climate change is integrated across all of our latest Strategic Plan and Communication Plan objectives.

## Communication and Education Grants

This past year we awarded five grants for education projects to increase public understanding of the bay's ecology and how humans impact it, promote stewardship of the bay's valuable resources, and encourage public participation in protecting and restoring the bay. Based on priorities established in our Communication and Outreach Plan, the 2013 grant program identified climate change and sea-level rise, fisheries and fisheries decline, and soil health as top priority topics and Spanish-speaking residents, commercial fishermen, and the business community

as top priority audiences for the grant projects. The following five funded projects address one or more of these priorities.

**Island Beach State Park's *Harvest the Bay***, a series of interactive programs in both English and Spanish, educates park visitors about the fisheries of Barnegat Bay.

**Long Beach Island Foundation of the Arts and Sciences' *Extending Environmental Education to a Non-English-Speaking Population: Discovery Fridays in Spanish***, expands an existing summer Barnegat Bay educational program to include the Spanish-speaking population of Long Beach Island and the surrounding communities.

**Conserve Wildlife Foundation of New Jersey's *Businesses for a Healthier Bay***, an outreach program for businesses and corporations, increases awareness of the ecological and economic importance of the bay and encourages involvement in restoration efforts.

**ReClam the Bay's *Shellfish in the Classroom*** expands a successful educational program to bring lessons about water quality in the bay and a hands-on experience growing shellfish to more classrooms.

**Meadows of Lake Ridge Home Owners Association's *A Pathway to Possibilities*** demonstrates the benefits of low-impact landscaping to residents of a senior community by improving soil conditions and installing native plants along a sidewalk and common pathway within the community.



## Watershed Stewardship

The protection and restoration of the Barnegat Bay would not be possible without the participation of the watershed's citizens. The outpouring of volunteers eager to help after Superstorm Sandy was both inspiring and critical to the storm recovery process. This past year we continued efforts to engage people in stewardship projects throughout the watershed. Volunteers logged a total of 1800 hours as they helped us with research, education, and restoration activities.

### Post-Sandy Cleanups

After the storm, the BBP served as a conduit for a variety of cleanup efforts by local and out-of-state groups. In support of a Clean Ocean Action "Waves of Action" work day organized by the BBP, 160 Morgan Stanley corporate volunteers restored a Superstorm Sandy-inundated native planting along the boardwalk in Island Heights.

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

Many homeowners contacted us for advice and resources on the proper way to replant their Sandy-damaged lawns and landscapes. The demand for information led the BBP to help form the Jersey Shore Chapter of the Native Plant Society of New Jersey (NPSNJ), a statewide, non-profit organization dedicated to the appreciation, protection, and study of New Jersey's native plants. Over 150 individuals have joined the new chapter. The BBP and the Jersey Shore Chapter hosted the NPSNJ's fall conference at Ocean County College. *Native Plants and Sandy: A Hurricane's Impact on Plant Communities and What to Plant in the Aftermath* was attended by over 100 people.

### Rutgers T.E.E.M. Gateway Project for At-Risk Youth

This past year we continued working with the Rutgers T.E.E.M. Gateway project, providing work stations for about 30 at-risk youth summer employees. We taught students about local environmental issues, Barnegat Bay's history and culture, and also provided information about green-industry employment opportunities.

### Ocean County College and Kean University Student Stewardship

We provided environmental programming and stewardship opportunities to the Ocean County College Environmental Club. In addition, we organized a service work day for a group of 125 Kean University students from the Wenzhou, China campus. The students, who were visiting the United States this summer, removed an invasive plant species (Japanese knotweed), picked up litter at Brown's Woods Preserve, and enjoyed an informative presentation about water quality by ReClam the Bay.

### Barnegat Bay Volunteer Master Naturalist Program

Through OCC's Continuing Professional Education Department, we offered our third annual Barnegat Bay Volunteer Master Naturalist (BBVMN) course, which trains volunteers to educate others about good stewardship of the bay's natural resources. Course graduates volunteer for education, research, and stewardship activities at state, local, and national parks and refuges within the Barnegat Bay watershed as they earn and maintain their certification as BBVMNs.

# Finances

As a National Estuary Program established pursuant to the Clean Water Act (33 U.S.C. 1330; PL 100-4, *et seq.*), the BBP 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 2013, the total amount leveraged was \$4.9 million, which resulted in a 9-to-1 total return on investment.

## GRANT FUNDING FOR FISCAL YEAR 2013

(July 1, 2012 – June 30, 2013)

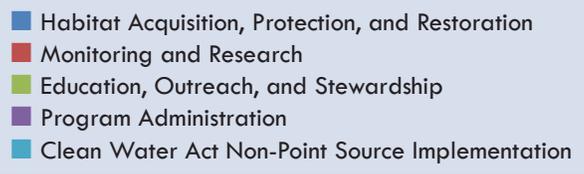
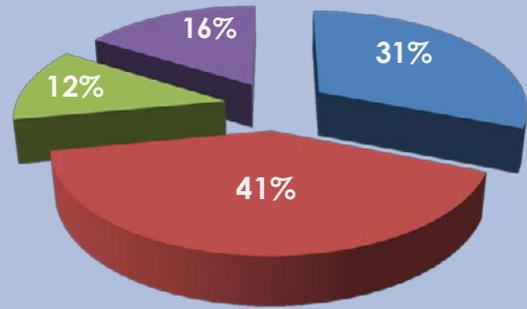
<b>USEPA Section 320 Grant</b> .....	\$597,000
<b>Ocean County Natural Lands Trust:</b>	
<b>USEPA Program Match</b> .....	\$557,200
<b>Ocean County College USEPA Program Match</b> .....	\$140,000
<b>US EPA Region 2:</b>	
<b>Wetlands Program Development Grant</b> .....	\$429,331
<b>Rutgers University: Multi-trophic Level Ecosystem Modeling in Barnegat Bay</b> .....	\$ 48,340

## GRANT FUNDING FOR FISCAL YEAR 2014

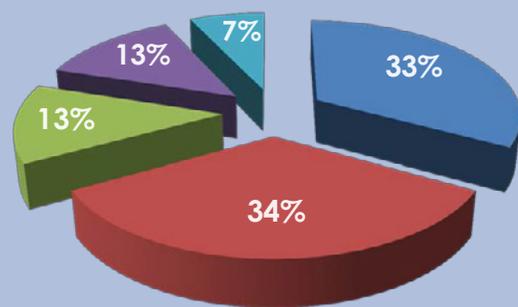
(July 1, 2013 – June 30, 2014)

<b>USEPA: Section 320 Grant</b> .....	\$512,000
<b>Ocean County Natural Lands Trust:</b>	
<b>USEPA Program Match</b> .....	\$462,000
<b>Ocean County College: USEPA Program Match</b> .....	\$ 50,000
<b>US EPA Region 2:</b>	
<b>Wetlands Program Development Grant</b> .....	\$257,714
<b>NJ Department of Environmental Protection:</b>	
<b>Clean Water Act 319(h) Grant</b> .....	\$100,000
<b>Rutgers University: Multi-trophic Level Ecosystem Modeling in Barnegat Bay</b> .....	\$33,710

### FISCAL YEAR 2013



### FISCAL YEAR 2014



# Barnegat Bay Foundation



Recently revitalized under new leadership in 2012 as a 501(c)(3) organization, the Barnegat Bay Foundation (BBF) now provides financial support to the BBP and others for activities to protect and restore the Barnegat Bay estuary. In 2013, the BBF provided some financial assistance to OCC during its extensive renovation of our new office in the Brown's Woods Preserve. The BBF also distributed grants totaling \$7,500 in support of restoration projects in Long Beach Township, Cattus Island County Park, and Island Beach State Park. The BBF also distributed \$14,000, donated by the Delaware Coastal Aid Group, to 14 college-bound high school seniors who were significantly impacted by the storm. For additional information, see the BBF website ([www.bbweef.org](http://www.bbweef.org)).

## 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

### Special Projects Consultant

Mahealani Kaneshiro-Pineiro, Ph.D.

### Field and Lab Technicians

Tina Barreiro

Jenna Gatto

Nina Sassano

### 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

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**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

Pinelands Preservation Alliance

ReClam the Bay

Rutgers Cooperative Extension of Ocean County

Rutgers University: Institute of Marine and Coastal Sciences, 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



**Brick Township Municipal Utilities Authority** (photo by Glenn Hamelink)



**Conserve Wildlife Foundation of NJ** (photo by Ben Wurst)



**Georgian Court University** (photo by Louise Wootton)



**Jacques Cousteau National Estuarine Research Reserve**



**NJ Department of Environmental Protection** (photo by Lynette Lurig)



**NJ Sea Grant Consortium** (photo by NJ Natural Gas)



**Ocean County Parks and Recreation**



**Ocean County Soil Conservation District**



**ReClam the Bay**



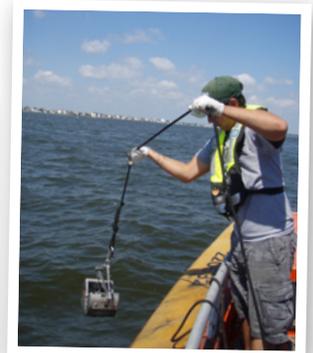
**American Littoral Society**



**USDA Natural Resources Conservation Service**



**US Fish and Wildlife Service**



**US Geological Survey**

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**BARNEGAT BAY PARTNERSHIP**

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

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## Annual Report | 2013

*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.*