

THE NATURE CONSERVANCY IN NEW JERSEY Land, Water & Communities

Annual Report for Fiscal Year 2015



A Message from the State Director



State Director Barbara Brummer
and Board Chair Mark DeAngelis.

© SCOTT WHITTLE

What a year! We planted thousands of trees, made rapid progress toward removing a dam, rebuilt salt marshes with clean dredge material, initiated a program with partners to map future acquisition targets across New Jersey and got a running start on big goals for the next five years.

We have incorporated new thinking into our work with economics and social science to address the needs of people in our conservation projects. Our social scientist has been talking to people about their hopes and concerns about forest restoration, land protection and dam removal. And

our environmental economist has been measuring the impact of our work and conducting a study in Cumberland County to support eco-tourism investments, a win-win for conservation and the economy.

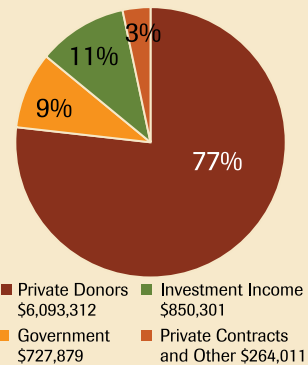
We have been helping design green infrastructure projects to capture stormwater while beautifying neighborhoods in Camden; exploring ways to finance stormwater management in Newark; and helping community farmers in New Brunswick use cisterns to catch rainwater to irrigate their crops.

How do we do it? With a talented and dedicated staff and board and the help of people like you! Thank you!

Yours in conservation,

Dr. Barbara Brummer

Sources of Operating and Capital Revenue



Financial Overview

The Nature Conservancy in New Jersey ended FY 2015 in a solid financial position. Operating revenue was \$6,111,469; private contributions made up \$4,597,489, with the balance from investment income, private and government contracts and other sources. Operating expenses stood at \$5,668,296. The pie chart shows primary sources of revenue for both operating and capital. For more information, please contact Erin Daly at 908-879-7262.

LAND

Since 1955, the Conservancy has worked to conserve New Jersey's natural lands—including the forests of northwestern New Jersey, the Pine Barrens wilderness and the rich coastal habitats of the Delaware Bayshore. We have helped protect more than 55,000 acres, and we manage a network of preserves across the state. During the past year, Conservancy staff restored lands at six preserves to establish native forests, warm summer grasses, woodcock habitat and wildflowers to attract pollinator insects. Today, our commitment to land is as strong as ever, and our work is centered on a collaborative long-term strategy to protect the state's highest priority natural lands before it is too late.

Land Acquisition

The Conservancy protected two properties in the Cape May Forest, which runs down the center of the Cape May peninsula, adding forested wetlands to our Lizard Tail Swamp and Indian Trail Swamp preserves. We also advanced land acquisitions that will protect more than 500 acres over the year ahead.

Protecting What's Left

Even with 30% of New Jersey's land protected, there is a pressing need to safeguard unprotected drinking water sources, intact headwaters, floodplains, wildlife cores and corridors, and areas for agriculture and recreation. With an estimated 30 years before all NJ land is either developed or preserved, The Nature Conservancy and New Jersey Conservation Foundation have teamed up to bring the conservation community together around land protection. We engaged partners, formed key committees, and began initial discussions toward a long-term land protection blueprint focused on mutual priorities. Rowan University has fine-tuned its existing NJ MAP web platform, which will ultimately host the blueprint. The William Penn Foundation is supporting this blueprint within the Delaware River Basin; funding from additional donors is helping us expand the project statewide.

A Legacy of Conservation

Four generations of the Garrett family gathered for the October 2014 dedication of the Garrett Family Preserve at Cape Island Creek. The family once spent summers in Cape May at a cottage across Cape Island Creek from what is now the preserve.

A generous bequest from James J. Garrett is helping transform the preserve with new trails, interpretive signage, a bird blind, a wildflower meadow and adjustable easels, honoring the donor's profession as an educator and his passion as an artist.



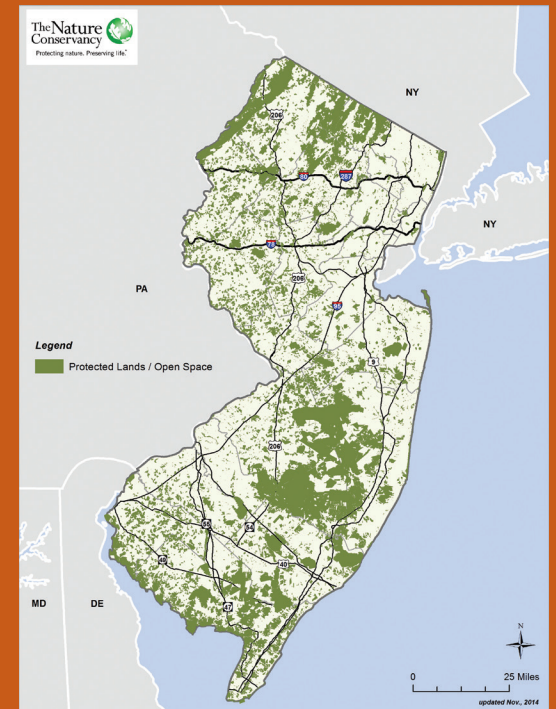
Garrett family members at October 2014 preserve dedication.
© TNC/PATTY DOERR



© PAIM CANNELL

“ Seeing generations of the family come together around this project has been an amazing experience. Leaving this legacy to nature and the people who will enjoy it is a gift to us all. ”

—Ashley Garrett, family member



Protected land in New Jersey as of November 2014. © TNC

State Funding for Conservation

In November 2014, New Jersey voters cast their ballots for conservation, with 65 percent approval to constitutionally dedicate and ultimately expand funds from the Corporate Business Tax for preservation and stewardship of open space, farmland and historic sites, as well as water quality improvement and cleanup of polluted areas. It was a big win for the New Jersey Keep It Green coalition, in which The Nature Conservancy plays a leading role. The coalition has since worked with the state legislature to ensure fair distribution of these funds.

RIVERS and STREAMS

Every one of us—each person, animal and plant—depends on freshwater. Yet here in New Jersey, more than 85% of rivers and streams are impaired, largely due to erosion and stormwater runoff, which carries pollutants into our water supply. The Conservancy is particularly focused on improving the health of the Delaware River and Bay, which provides drinking water for 17 million people in and around its four-state watershed. Our work in such distinct places as the Paulins Kill watershed in rural northwestern New Jersey and the Cooper River in the city of Camden demonstrates that freshwater conservation must be addressed throughout the whole of New Jersey and beyond.

Stone bridge over the Paulins Kill. © TNC/AL LEBARLOW

“ The projects in the Paulins Kill and Camden echo and support the Conservancy’s ambitious vision for conservation around the world. This commitment to work at an unprecedented scale will require an unprecedented number of people who are willing to act both locally and globally to make this happen. ”

—Martin Elling, New Jersey Trustee



Photo courtesy of Martin Elling



Student volunteers from Blair Academy in Blairstown. © TNC/ALLEN BARLOW

Restoring a Watershed

The Paulins Kill watershed is an important component of our Delaware River and Bay conservation efforts. The third-largest Delaware River tributary in New Jersey, the Paulins Kill spans 40 miles in Warren and Sussex counties. It provides clean water and recreational opportunities, among other benefits, to the 41,000 people living in the watershed and thousands of visitors. An ongoing project to reforest the river's floodplains took a major leap forward thanks to an anonymous individual gift. Over the fiscal year, Conservancy staff, partners and volunteers planted 6,500 trees and shrubs, bringing our total to date to over 12,000. As they mature, these plantings will reconnect 14 miles of forested habitat along four sections of the river, stabilize eroding streambanks, and re-create a tree canopy over the river to support cold-water-loving native fish populations. Along with dam removal (upper right), floodplain restoration offers the best opportunity to improve the health of the Paulins Kill and its watershed.

Removing a Dam

Just a quarter-mile from where the Paulins Kill meets the Delaware River lies the Columbia Lake Dam, which disrupts the river's flow and impedes fish migration. The Conservancy is leading a coalition to remove the dam, allowing fish to return to their historic spawning grounds. Preliminary studies required to take out the dam are underway. This will be the largest dam removal project in New Jersey to date; our goal is to take down the dam in 2017.



Columbia Lake Dam © TNC/ERIC OLSEN



Staff monitoring water quality in the Paulins Kill. © TNC/ALLEN BARLOW

Measuring and Monitoring

Since our floodplain restoration and dam removal efforts on the Paulins Kill are long-term investments, it's crucial to measure their impact over time and apply the lessons learned to all of our watershed restoration work. In the spring, we launched a 10-year, watershed-wide effort to monitor water quality and species like freshwater mussels, dragonflies and damselflies, which are strong indicators of a river's health. By documenting the positive impact of our work, we hope to promote other watershed restoration efforts.

Using Nature

Utilizing nature to manage stormwater has driven our work in places as diverse as the Paulins Kill valley and the city of Camden. Developing a new methodology based on EPA hydrological models and applying it to an often-flooded Camden neighborhood, staff identified brownfield sites to convert to a strategic network of rain gardens to reduce flooding, and partners have allocated funding for installation. The goal is to determine how well green infrastructure projects work to minimize flooding and sewage overflow into the Cooper River.

COASTS

Faced with the accelerating loss and degradation of coastal marshes and beaches, the Conservancy and partners are pioneering innovative techniques that use nature to strengthen our coastlines against erosion, flooding, and sea level rise. Our efforts along Delaware Bay and New Jersey's southern Atlantic Coast will help promote wider use of these techniques to reduce risks to people living in these coastal communities, while also enriching habitat for wildlife, including the world's largest population of horseshoe crabs and the hundreds of thousands of shorebirds that depend on them for food.

“Rising temperatures alone are not as great a threat to New Jersey as the issues of freshwater supply and rising sea level. So I am especially glad that the Conservancy is focused on demonstrating that natural defenses like healthy dunes, wetlands and forests can help offset these challenges.”

—Dr. David A. Robinson, New Jersey State Climatologist and New Jersey Chapter Trustee



Photo courtesy of David A. Robinson



Marsh monitoring in Avalon © TNC/SCOTT HARDAGE

Restoring Marshes

The devastation caused by Superstorm Sandy was a harsh reminder of the vulnerability of New Jersey's coasts and the critical role that marshes play in protecting our shoreline. The Conservancy joined with the New Jersey Department of Environmental Protection and other partners to test an experimental technique to restore two marshes along the southern Atlantic Coast and one on Delaware Bay to better keep pace with sea level rise. Taking on monitoring, lessons learned and

future planning, the Conservancy team collected data at the Middle Township and Avalon sites, where clean dredge material was sprayed onto sinking areas of the marsh to help build up its elevation. We also worked with partners on engineering, design and permitting of larger future projects in Avalon as well as in Fortescue along the Bay.

Protecting Shoreline

Work continued on an oyster reef breakwater at our Gandy's Beach Preserve on Delaware Bay. The Conservancy and U.S. Fish and Wildlife Service submitted permit applications to the U.S. Army Corps of Engineers and NJ Department of Environmental Protection. Once permits are in hand, we will begin to install 'oyster castles' and bio-logs to stabilize the shoreline and reduce marsh erosion, as well as create habitat for oysters, blue crabs, weakfish and other species.

Eroding shoreline and marshes at Gandy's Beach Preserve. © STEVE JACOBUS, NJ DEPARTMENT OF ENVIRONMENTAL PROTECTION

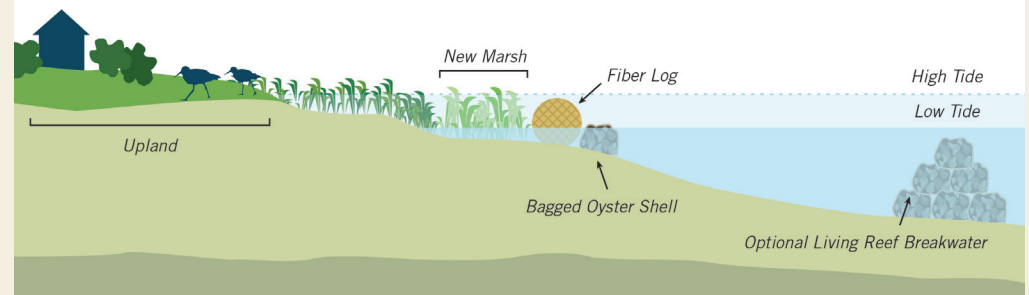


Identifying Future Projects

To help identify future coastal restoration and enhancement projects, the Conservancy and its partners completed development of a Restoration Explorer application for an online Coastal Resilience tool, part of an initiative funded by the National Oceanic and Atmospheric Administration. The Explorer tool will help communities identify which living shoreline techniques (beach restoration, oyster reef breakwaters, etc.) are best suited to specific shoreline areas.

Nature-Based Living Shoreline

Nature-based living shorelines are best in low-energy areas. "Biological enhancements," like biodegradable fiber logs (which also provide habitat for ribbed mussels) or Christmas trees, are placed along the tidal marsh edge to provide a contained area for sediment to accumulate and marsh vegetation to grow. In more moderate energy areas, it might be possible to use a hybrid approach that pairs nature-based living shorelines with living reef breakwaters.



Graphic from Restoration Explorer © JON FERLAND FOR THE NATURE CONSERVANCY

COMMUNITIES

Our efforts to protect land, safeguard clean water and strengthen New Jersey's coasts benefit both nature and people. But we want to do more than just benefit people; we also want to get them involved! Here are some of the ways the Conservancy is engaging the communities where we work.



A young volunteer ReTURNS the Favor. © KIRAT SINGH

Citizen Science on Delaware Bay

The Annual Horseshoe Crab Spawning Survey on Delaware Bay is our most popular community volunteer program. On May and June evenings, citizen scientists count spawning crabs at high tide under the new and full moon. In 2014, we joined forces with ReTURN the Favor, through which volunteers rescue stranded or overturned crabs and return them to the ocean. In this season, the shores of Delaware Bay host the world's largest population of spawning horseshoe crabs, as well as hundreds of thousands of migrating shorebirds, who stop along their 10,000-mile journey to feast on the crabs' eggs.

Eco-Tourism in Cumberland County

The Conservancy protects thousands of acres of rich wildlife habitat in Cumberland County along Delaware Bay. Recognizing that this area could become a mecca for eco-tourists, the New Jersey Chapter's Environmental Economist began a study surveying tourists to determine why they visit the area, where and how they're spending their money, and whether they would return. The analysis can be used to help the county better focus eco-tourism promotions and increase tourism that both brings economic benefits and encourages conservation.



Kayaking in Cumberland County. © TNC/DAMON NOE



Paulins Kill Community Workshop, January 2015. © TNC/SCOTT HARDAGE

Paulins Kill Community Workshop

From the outset, local landowners have played a vital role in our floodplain restoration in the Paulins Kill watershed. To involve local residents in expanding the scale and impact of this work, the Conservancy led a community workshop on watershed health in January. 140 local farmers, landowners, nonprofit and government partners came together to learn about restoration options and discuss topics that included conserving farmland, managing invasive species, and improving habitat for pollinators like bees and butterflies.

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