



# MARYLAND/DC

## 2018 Annual Impact Report

# The Nature Conservancy in Maryland and DC

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Tim joined the Maryland/DC chapter as executive director in 2017. Previously, he worked in Boston as founding director of the Massachusetts Department of Fish and Game's Division of Ecological Restoration (DER), a division he co-created in 2009.

Steve is the founding director of the Georgetown University Law Center Business Law Scholars Program. Prior to that, Steve served as president and general manager of The Washington Post for 13 years. Under Steve's leadership, the Post was named "Most Innovative Media Company in the World" for 2015 by Fast Company.

## A CONVERSATION BETWEEN TIM AND STEVE Executive Director and Board Chair of the Maryland/DC Chapter

**Tim Purinton:** As the chairman of our chapter's board of trustees, you have made a major commitment to supporting TNC. What is it about The Nature Conservancy that inspires such dedication?

**Steve Hills:** We are at a pivotal time in human history. Our technological advancements over the past hundred years have been extraordinary, but now we have to apply that same ingenuity and resourcefulness to solving the problems that our success has created. The challenges to our environment are manifested daily: record hurricanes, wildfires, temperature increases, rising seas. These are daunting challenges and we must find solutions *at a scale that matches the scale of the challenges we face*. The Conservancy is uniquely suited to address these challenges.

**Tim:** What sets TNC apart? In other words, what's our secret sauce?

**Steve:** In my view, two things make TNC successful: First, TNC is the largest environmental organization in the world, so we have the resources to create solutions at scale; and second, TNC is extraordinarily *practical*. We work with a wide variety of partners including big businesses and government in a non-partisan, science-based way. As a result, in an era dominated by partisan dysfunction, TNC is able to get things done by working on both sides of the aisle with all groups to develop solutions that actually work.

**Tim:** What has been your favorite or most inspiring experience in your time as a volunteer leader?

**Steve:** I love seeing the extraordinary success we have had in helping create an economic marketplace for stormwater credits in D.C. This is an idea that uses market forces to create a large-scale system for incentivizing organizations to do the right thing for the environment—and it is working! D.C. is the only city in the world with a stormwater market, so now it's up to us to take this solution to scale. After all, that's what sets TNC apart! Stay tuned.

**COVER** At the top of the Chesapeake Bay's food chain soars one of North America's largest birds of prey: the osprey. © Kate Griswold

**THIS PAGE, LEFT** Tim Purinton © Severn Smith/TNC; **RIGHT** Chairman Stephen Hills (left) and fellow trustee Esko Korhonen learn about marsh migration at Blackwater National Wildlife Refuge. © Severn Smith/TNC

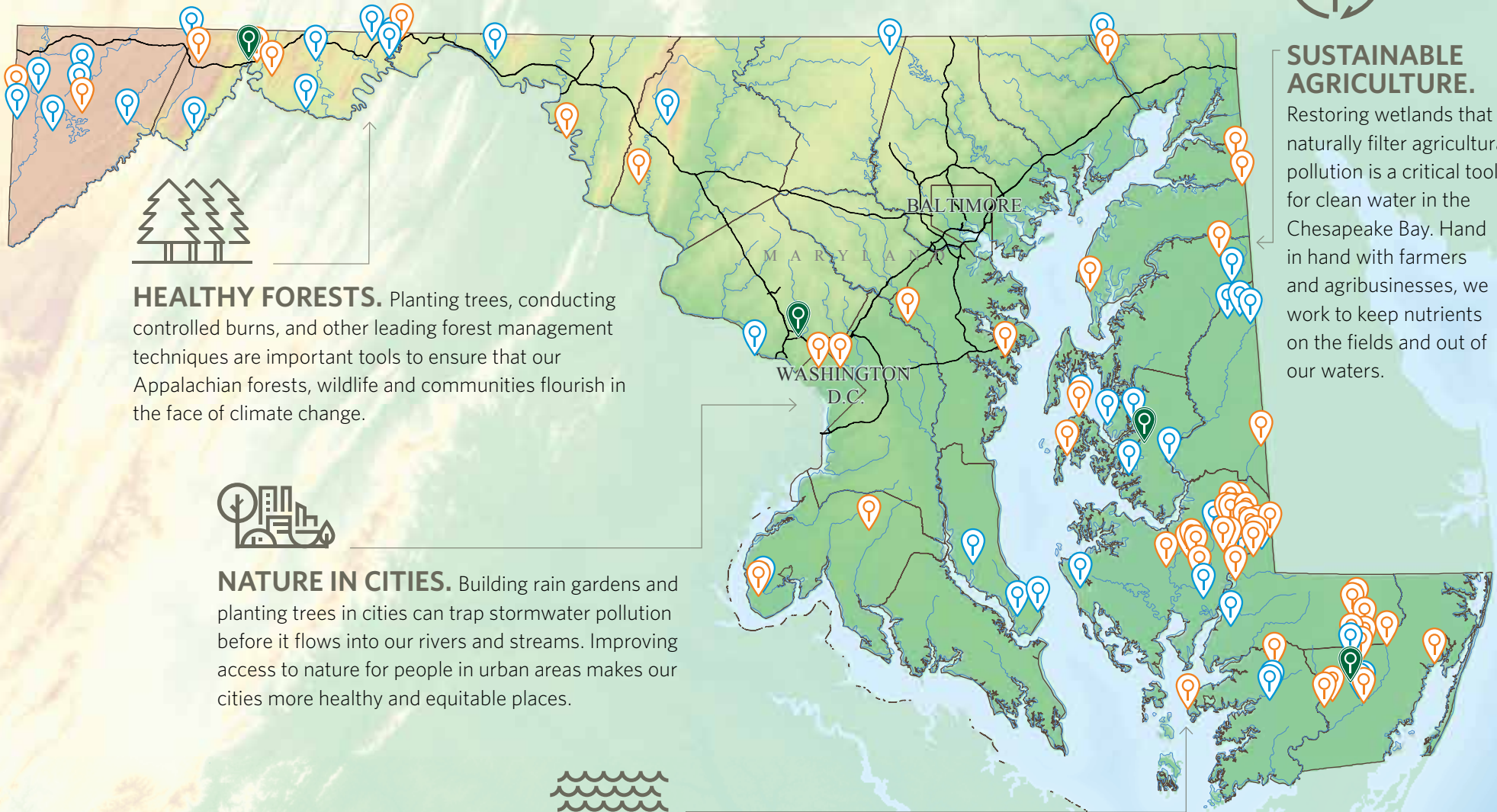


# 2018 AT A GLANCE



## SUSTAINABLE AGRICULTURE.

Restoring wetlands that naturally filter agricultural pollution is a critical tool for clean water in the Chesapeake Bay. Hand in hand with farmers and agribusinesses, we work to keep nutrients on the fields and out of our waters.



**HEALTHY FORESTS.** Planting trees, conducting controlled burns, and other leading forest management techniques are important tools to ensure that our Appalachian forests, wildlife and communities flourish in the face of climate change.



**NATURE IN CITIES.** Building rain gardens and planting trees in cities can trap stormwater pollution before it flows into our rivers and streams. Improving access to nature for people in urban areas makes our cities more healthy and equitable places.



**RESILIENT COASTS.** Protecting natural coastal features such as marshes and forests will create a connected network of habitats needed to adapt to rising seas. These habitats are the first line of defense from storms and flooding for our coastal communities.

- TNC Offices
- TNC Preserves and Easements
- FY18 Conservation and Science Projects



**Love photos?** Follow us on Instagram to see conservation in action from around Maryland and D.C.  
[instagram.com/nature\\_dcmdva](https://www.instagram.com/nature_dcmdva)

# SUSTAINABLE AGRICULTURE

*Restoring clean water and healthy habitats in the Chesapeake Bay means engaging with Maryland's largest industry—agriculture.*

The rural Delmarva Peninsula, tucked between the rich waters of the Chesapeake Bay and the great Atlantic Ocean, is the agricultural engine that helps feed the mid-Atlantic region. As the region's population continues to grow, along with the demand for food, we must work with our agriculture partners to improve farming practices that will support a thriving industry and improve water quality.

The Nature Conservancy is working with farmers and agribusinesses on Maryland's Eastern Shore to accelerate the adoption of new and emerging best practices and technologies

that keep nutrients on the farm fields and out of the rebounding Chesapeake Bay.

This year, with our partners at the Delaware-Maryland Agribusiness Association, we connected with more than 1,600 farmers on the Eastern Shore of Maryland, providing tools and education to help them farm more efficiently and more sustainably. This work leads to healthier bottom lines for farmers and a healthier Bay for people and nature.

Surrounding the farms and streams on the Eastern Shore are networks of ditches, streams and rivers that drain most of the Delmarva

Peninsula into the Bay. We are using science to restore wetlands and floodplains to filter water and allow water to flow more naturally across the landscape. This year, we restored more than 1,000 acres of floodplain wetlands in the Pocomoke and Nanticoke River watersheds, improving water quality in the Chesapeake Bay, and improving habitat for waterfowl and other wildlife.

The combined efforts of our in-field work with farmers and our wetland restoration projects are improving habitat and water quality in the Chesapeake Bay while supporting Maryland's agricultural economy. Imagine the opportunities if the Chesapeake Bay more closely resembled the thriving estuary encountered by John Smith.

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THIS PAGE, LEFT A sprouting corn stalk. © Kent Mason; RIGHT Maryland/DC chapter trustees learn about nutrient management best practices from farmer partner John Swaine. © Severn Smith/TNC; OPPOSITE PAGE An egret hunts for fish on the Chesapeake Bay. © Matt Kane/TNC



“Oysters lay as thick as stones. We had more sturgeon than could be devoured by dog or man. We saw grampus, porpoise, seals, stingrays, brits, mullets, rockfish, trout, soles, perch of three sorts and a variety of shellfish.”

— Observations from Captain John Smith in 1608 upon his arrival to the Chesapeake Bay





# NATURE IN CITIES

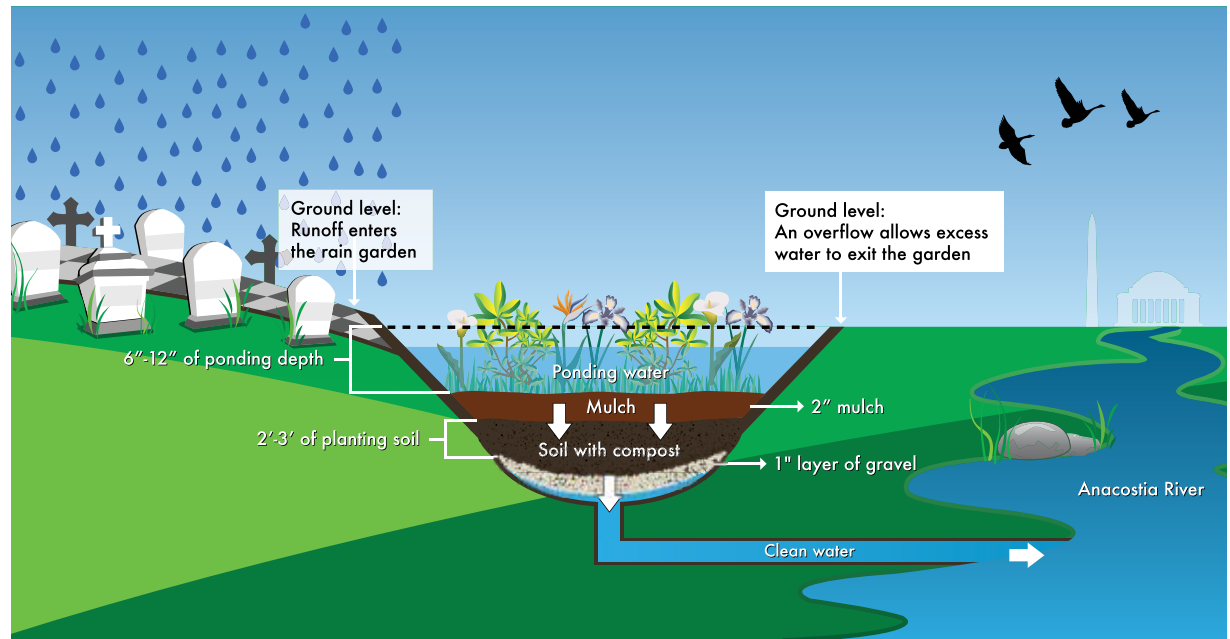




*We use the power of nature to make cities more resilient and livable places, where both nature and people thrive.*

2018 was the Year of the Anacostia. A yearlong dedication to honor the river's history, celebrate cleanup progress and envision an inspiring future. The Anacostia River has had a tumultuous history. Decades of heavy industrial activity along its banks, combined with a constant flow of raw sewage and polluted stormwater, have substantially degraded the river.

Today, the Anacostia River is beginning to bounce back. The Nature Conservancy is contributing to the Anacostia recovery by reducing polluted stormwater runoff in the river's watershed. Stormwater pollution is caused when rainwater falls on impervious surfaces where it mixes with oil, sediment, trash and other pollutants. It then flows into our cities' sewer systems and rivers, eventually reaching the Chesapeake Bay. Stormwater runoff is the fastest-growing source of pollution to the Bay.



In 2018, we replaced approximately 18,000 square feet of impervious surface with rain gardens in the first phase of a two-phased project at historic Mount Olivet Cemetery. This project is expected to prevent the runoff of millions of gallons of stormwater into the nearby Anacostia River.

Our financial partners on this project didn't just make this work possible—they also helped show the world a new way to lever up investor capital to drive conservation. Because of the District's progressive regulations and the potential to generate cash flow by selling credits

Today, the Anacostia River is beginning to bounce back.

generated from the project, our investors are seeing a profitable return. Prudential Financial provided the capital, while Encourage Capital brokered the deal and helped to found District Stormwater, LLC, in conjunction with NatureVest, TNC's impact investing unit.

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# HEALTHY FORESTS





*Protecting and restoring healthy, connected forests enable habitats, wildlife and communities to thrive and persist in the face of a changing climate.*

The Central Appalachians are the water tower for the mid-Atlantic. More than 6 million people in the D.C. metro area get their drinking water from the Potomac River, which flows from the cool mountain streams that form and converge in the forested mountains to the West. Those forests naturally filter our water as it falls out of the sky and gradually moves across the landscape toward our faucets.

“The best time to plant a tree was 20 years ago. The second-best time is now.”

— Old proverb

The forests of the Central Appalachians not only clean our drinking water, they support a diversity of life virtually unrivaled in all other temperate regions of the globe. They are home to 140 kinds of trees, 78 different mammals, 76 amphibians, 250 species of bird, and thousands of other varieties of life. As climate change brings warmer temperatures and new weather patterns to the Appalachians, plants and animals are shifting their ranges. Keeping the Appalachian forests healthy and connected will allow people and nature to adapt and thrive in the face of a changing climate.

Keeping our Western Maryland forests healthy and connected requires diverse skills, experiences and partnerships. We use science to better understand forest health and resilience. We rely on decades of land management experience to lead the way on sustainable management that keeps priority forests connected and healthy. And we engage people living in Appalachian communities to help them keep forested land connected and healthy for future generations.

In 2018, we planted more than 100,000 trees across the state of Maryland. In Western Maryland, we are restoring the native coniferous forests by planting red spruce trees in areas that have been degraded and transformed from centuries of logging. On the Eastern Shore, we are restoring more than 600 acres of upland forest at the headwaters of Nassawango Creek, a Chesapeake Bay tributary in the heart of farm country.

Appalachian forests are home to **140** kinds of trees, **78** different mammals, **76** amphibians, **250** species of bird, and thousands of other varieties of life.

THIS PAGE, TOP Tree tubes line a TNC forest restoration site on the Eastern Shore of Maryland. © Severn Smith/TNC; BOTTOM Volunteers plant red spruce seedlings at a forest restoration site in Western Maryland. © TNC; OPPOSITE PAGE Healthy forests program director Donnelle Keach observes the forest on TNC’s Sideling Hill Creek Preserve in eastern Allegany County. © Kent Mason



# RESILIENT COASTS

*Natural coastal features such as wetlands and forests play a crucial role as a first line of defense from storms and rising seas across the more than 7,000 miles of Maryland coast. We call these natural features our “green suit of armor.”*

Maryland’s Eastern Shore is the third most vulnerable region to sea-level rise in the United States. With more than 7,000 miles of Atlantic and Chesapeake Bay shoreline, our communities across the state are already dealing with flooding, marsh loss, saltwater damage to agricultural fields and other issues related to sea level rise. We are on the front lines of climate change.

Nature can help. Coastal wetlands support significant biodiversity, and serve as a natural defense against flooding and erosion, hazards that are increasing as sea-levels rise and extreme storms occur more frequently.

Our coastal wetlands are also in jeopardy from rising waters. To persist, coastal wetlands must keep pace with sea level rise or migrate to higher land. The Nature Conservancy has identified “coastal strongholds” across the Northeast and mid-Atlantic regions. These strongholds are areas with intact tidal wetlands connected to sufficient migration space to allow species to adapt to rising seas. They will continue providing vital ecosystem services to people and wildlife into the next century.


In 2018, we protected more than 2,000 acres of land on the Eastern Shore of Maryland, including nearly 1,500 acres of wetland adaptation areas. Land protection, the oldest tool in TNC’s toolbox, still plays an important role in our conservation strategy to facilitate marsh migration so that our green suit of armor can persist in the face of a changing climate.

In 2018, we protected more than 2,000 acres of land on the Eastern Shore of Maryland, including nearly 1,500 acres of wetland adaptation areas.



THIS PAGE George Mason University water resource engineers are partnering with TNC to help us better understand how coastal wetlands can reduce the risk of sea-level rise. © Severn Smith/TNC; OPPOSITE PAGE A small community on the Lower Eastern Shore of Maryland is surrounded by rising waters. © Severn Smith/TNC



An aerial photograph of a coastal region in Maryland. The image shows a large body of water on the left, with a narrow strip of land extending from the shore. This strip is densely populated with residential houses and is bordered by a thick line of green trees. To the right of this strip, a wide, flat expanse of marshland stretches out, characterized by yellowish-brown grasses and scattered patches of water. A winding river or stream flows through the marshland. In the background, more marshland and distant landmasses are visible under a clear sky.

After the Mississippi Delta and South Florida, Maryland's Eastern Shore is the next most vulnerable region to sea-level rise in the United States. With more than 7,000 miles of Atlantic and Chesapeake Bay shoreline, hundreds of coastal communities across the state are already dealing with flooding, marsh loss, saltwater intrusion and other issues related to sea-level rise. We are on the front lines of climate change.



# GUIDED BY SCIENCE

## 2018 SCIENCE LEADERSHIP IN MARYLAND AND DC

- 8-person Science Team
- 30 presentations
- 8 publications
- 1 invitation to the Chesapeake Bay Program's Science and Technical Advisory Council (STAC)

## WHERE LAND AND WATER MEET Pocomoke River Floodplain Monitoring



In 2018, we wrapped up a three-year study designed to evaluate the benefits of targeted floodplain restoration. Funding from the U.S. Department of Agriculture

provided an exciting opportunity to build upon our multi-agency effort to reconnect floodplains along a nine-mile stretch of the Pocomoke River. Together with scientists from the U.S. Geological Survey, we monitored water, nutrient, and sediment exchange in six floodplains throughout the river system.

Beyond the clear habitat benefits of reconnecting the channelized river with its adjacent wetlands, our monitoring results highlighted the important water quality benefits these wetlands provide, particularly in the areas dominated by a vast network of roadside and agricultural ditches artificially constructed across the Eastern Shore. Further, we learned that floodplains lower in the system provide exceptional capacity to capture sediment.

The mid-19th century channelization of the Pocomoke River has historically led to inland flooding during severe weather events. As a result of our study, we learned that breaching levees along channelized rivers may provide the very important benefit of diffusing coastal flooding. These areas may also help with inland migration of coastal wetlands as sea levels continue to rise.

## AFTER THE BURN Acoustic Bird Monitoring



In 2008, the chapter started conducting controlled burns at Nassawango Creek to manage loblolly pine plantations and natural stands of shortleaf pine, along with inland dune habitat.

Post-burn insect and plant surveys have been carried out every year at the preserve; however, the last official bird survey was conducted in 2005. Traditional bird surveys are labor intensive and require a person (or team) to sample very early in the morning and conduct point counts along a transect.

Last year, our chapter began piloting a new, innovative method for measuring birds, bats, and insects using acoustic instrumentation. During the bird breeding season of 2018, we conducted a pilot study to test the feasibility of the "soundscape" or "acoustic" ecology method for measuring bird diversity. We are using this method to compare management treatments (burned and unburned habitat).

Our pilot study at Nassawango has already yielded information that can be used to guide future land management decision-making. We are now also coordinating with Maryland Department of Natural Resources ecologists on the use of acoustic recorders to study bats at the preserve.



## WILD. NATIVE. RARE.

### Canby's Dropwort (*oxypolis canbyi*)



Dr. Deborah Landau and Chase McLean conduct a canby's dropwort survey on the Pristine Pines nature preserve.  
© Gabe Cahalan/TNC

Canby's dropwort (*Oxypolis canbyi*) is a globally imperiled wildflower native to the eastern coastal plains. In Maryland, the plant is found in a single Delmarva bay on a preserve in Queen Anne's County. When the Pristine Pines preserve was first protected in 1983, there were only a handful of these rare

plants, and the surrounding forest was starting to close in on this naturally open Delmarva bay.

In 2002, we made an intensive effort to remove the majority of the invading trees in the wetland. Canby's dropwort numbers increased gradually over the next 14 years. However, it looked like the plant was still being suppressed, now by competition with a native grass called maidencane.

We determined that a controlled burn would be the most effective means of maintaining the open character of the wetland, while reducing competition from the maidencane. We first burned in October 2015. The results were incredible; we saw numbers increase from 121 plants to more than 400. The following year, we counted more than 600 plants. A second burn in 2017 resulted in a still greater increase: the 2018 count of more than 800 plants was so high we were only able to count flowering plants before calling it a day. This is a big conservation success driven by science and an adaptive management approach.

OPPOSITE PAGE, LEFT Dr. Kathleen Boomer and Mike Dryden taking water quality measurements in the Pocomoke River floodplain. © Dr. Ariana Sutton-Grier/TNC; RIGHT Red-headed woodpeckers nesting in a burn unit at Nassawango Creek Preserve. © Gabe Cahalan/TNC

## CITIZEN SCIENCE IN ACTION

### The 2018 City Nature Challenge



A northern ringneck snake was identified in Montgomery County, MD during the 2018 City Nature Challenge. © Hikerguy150/iNaturalist.

What kind of wild species can you spot in the middle of a rainy spring night? That's what D.C.-area citizen scientists were asking themselves in the wee hours of Friday, April 27, 2018. There was stiff competition to be the first person in the District to post a photo of a wild organism to iNaturalist, and thus become the first

observer in the 2018 Washington, D.C. City Nature Challenge.

This was our chapter's first year participating in the challenge. Deborah Barber, one of our resident naturalists, led a few observation hikes at our nature preserves during the competition. In preparation for the hikes, Deborah decided to spend some time familiarizing herself with the iNaturalist app and was floored by its capabilities as a powerful citizen science tool. She decided to spread the word about the D.C. City Nature Challenge with her counterparts and connections at local parks, other conservation organizations and master naturalist groups.

Deborah is not normally a competitive person, but when the race started at midnight she found herself driven to help the D.C. area record as many observations as possible. When she discovered that another local participant made the first observation at 12:00 a.m. on April 27th (ophion wasps), Deborah went outside and quickly recorded three more (an Indian meal moth, an eastern cottontail, and a northern mockingbird). When the competition closed, the D.C. metro area ranked 5th for number of observations, 8th for number of species and 4th for number of observers. (San Francisco, the home of iNaturalist, won in all three categories, with Houston, Hong Kong, and Klang Valley, Malaysia also making excellent showings.)

# POLICY HIGHLIGHTS



The Nature Conservancy plays a unique and vital role in the policy-making process by injecting science and on-the-ground experience into discussions on policies and public funding. We focus on legislated conservation programs that protect land and water, and help our communities adapt to and mitigate the risks of climate change.

In 2018 we had many policy wins, but we want to highlight four:

**Sea-Level Rise Inundation and Coastal Flooding — Construction, Adaptation and Mitigation Legislation Passed.** This is a bold step forward by the state to address several impacts of sea-level rise and guide future state infrastructure investment to be more resilient in the face of climate change. We are now working closely with the state and other partners to develop guidance

for localities to implement the new requirements established by this legislation.

**Program Open Space Fully Funded.** Maryland's premiere land conservation program was fully funded with revenue from the Real Estate Transfer Tax. These funds go to protecting and conserving critically important habitats and recreational spaces for all Marylanders to enjoy.

**Governor's Award for Pocomoke River Project.** The Chesapeake Executive Council consists of the governors of the six watershed states, the mayor of the District of Columbia, the chair of the Chesapeake Bay Commission and the administrator of the U.S. Environmental Protection Agency. At the August 2018 Executive Council meeting, our chapter was presented with an award for the 2017 completion of Maryland's largest ecological restoration project. The project

leveraged multiple funding streams to improve water quality and habitat, and reduce flood risk.

**Stormwater Retention Credit Market Property Tax Issue Resolved.** Through an act of the Council of the District of Columbia, property tax-exempt non-profits are able to maintain their status and participate in the Stormwater Retention Credit program. These large tax-exempt properties can now participate in the program by installing natural infrastructure to help improve the water quality of the Anacostia and Potomac River as well as the Chesapeake Bay.

LEFT Maryland/DC chapter trustees and staff prepare to meet with the offices of Maryland Senators Ben Cardin and Chris Van Hollen on Advocacy Day during TNC's 2018 Volunteer Leadership Summit. RIGHT Conservancy staff and one of our Eastern Shore landowner partners receive an award from Governor Larry Hogan. © Executive Office of the Governor of Maryland



# YOUTH ADVOCACY

The Nature Conservancy has a vision for a future in which both people and nature thrive. To reach that vision, we must prepare future generations to take up the torch and continue to advocate for sound environmental policies in the future.

**Georgetown Day School Summer Service Program.** This past summer, students from the Georgetown Day School's Summer Service Program spent several weeks focused on issues related to local environmental justice. One of the stops on their rotation was the Rock Creek Park Conservancy, which invited members from our staff to spend two days with the students to deliver our in-demand youth advocacy training program. We challenged these students to come up with a solution to the problem of plastic waste

in the Anacostia River. With our guidance, the students drafted a multi-faceted, policy proposal to reduce plastic pollution in the District. We then arranged for these students to pitch their proposal to three members of the Council of the District of Columbia. This meeting intensified the Council's discussion around the need to act to reduce the amount of plastic pollution in the Anacostia.

**Leaders for Environmental Action for the Future (LEAF).** Every summer, urban and rural high school students who have been accepted into TNC's LEAF program are assigned to chapters across the country to have summer work adventures and learn about careers in conservation. Last summer, for the third

"The most reliable way to predict the future is to create it."

— Abraham Lincoln

straight year, we took our chapter's LEAF interns through our vigorous youth advocacy training program, followed by a day of meetings with elected officials on Capitol Hill. LEAF intern Megan Waters said, "something that I learned has been that conservation isn't just field work. There are many other jobs involved. My favorite part was advocacy day in DC; going to the Capitol and talking to Congresswomen and men."

**United Nations Youth Assembly.** Because of TNC's stellar reputation at the United Nations, we were asked last year to deliver our youth advocacy training to more than 150 students at the 2018 UN Youth Assembly in NYC. Two members of the Maryland/DC chapter staff joined two leaders from our national youth engagement program to share how policy affects the environment. Young men and women representing more than 30 nations were challenged to think about conservation issues in their respective countries, and to develop realistic policy solutions to take home and share with elected officials.

Nature Conservancy staff engage United Nations Youth Assembly participants in a discussion about environmental advocacy.  
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YOUR  
VALUES

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