

# CHESAPEAKE CONSERVANCY 2017 WINTER NEWSLETTER

# Shorelines

*Saving the Chesapeake's Great Rivers and Special Places*



Chesapeake Conservancy's Conservation Innovation Center staff present a live demonstration to 16,000 people at the 2017 Esri User Conference in San Diego, California.

PHOTO BY ESRI

## Moonshot

### Mission

The Chesapeake Conservancy's mission is to strengthen the connection between people and the watershed; conserve the landscapes and special places that sustain the Chesapeake's unique natural and cultural resources; and restore landscapes, rivers, and habitats in the Chesapeake Bay region.

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In October, at our fourth annual *Champions of the Chesapeake* event, Chesapeake Conservancy honored Maryland Governor Larry Hogan, Virginia Governor Terry McAuliffe, Microsoft, and the Mount Vernon Ladies' Association. This year's honorees show that innovative conservation is a bipartisan and shared priority. They will inspire you to imagine a new era of conservation where anything is possible.

In a time when we need to come together more than ever, the governors of Maryland and Virginia have set an example of the importance of uniting for conservation. It doesn't matter whether you're a Republican, Democrat, or Independent. We all want to enjoy the beauty and bounty of the Chesapeake Bay. It's a basic right, no matter what your party affiliation is. Conserving land, investing in restoration, protecting funding, and providing new places for people to enjoy the great outdoors are just a few of the things each of these governors has accomplished. Their legacies will endure for future generations.

We also honored two other champions for their leadership and achievements. The Mount Vernon Ladies' Association was recognized for their work to preserve shoreline across the Potomac from Mount Vernon, the home of George Washington, which provided a fitting venue for the awards celebration. Recently, the association utilized Chesapeake Conservancy technology to protect Mount Vernon's viewshed. The Mount Vernon Ladies' Association has

been a strong partner in the Captain John Smith Chesapeake National Historic Trail. Our fourth champion, Microsoft Corporation, was honored for its role in providing technology and assistance that support the Conservancy's work in precision conservation.

In the 1960s, President John F. Kennedy challenged America to put a man on the moon, kicking off the space race. This literal moonshot sparked American ingenuity and ideas on how to use the latest technology to accomplish a seemingly impossible task.

Today, the Chesapeake faces staggering challenges with pollution, habitat loss, invasive species, climate change, and limited public access. But I believe with the power of technology we can protect and restore the land and water that matter to you.

Pulitzer Prize winning biologist E.O. Wilson has given us a new moonshot for conservation: To save the planet, we must protect half of nature. That is an audacious goal. With your help, we can unite with purpose, direction, and courage to protect and restore 50 percent of the Chesapeake watershed.

If you join us, I know we can do it together. Please consider using the envelope inside this *Shorelines* to make a gift to the Chesapeake Conservancy as we take on new challenges in 2018.

Sincerely,



JOEL E. DUNN, *President and CEO*



At our fourth annual *Champions of the Chesapeake* event, from left to right: Chesapeake Conservancy President and CEO Joel Dunn, Host Committee Chair Elinor Farquhar, Chesapeake Conservancy Board of Directors Chairman Douglas Wheeler, First Lady of Virginia Dorothy McAuliffe, Maryland Governor Larry Hogan, Mount Vernon Ladies' Association Regent Mrs. Sarah Coulson, and Microsoft's Vice President for U.S. Government Affairs Fred Humphries.

PHOTO BY PETER TURCIK



## Conservancy Honors Four at 2017 Chesapeake Awards Ceremony

Our fourth annual *Champions of the Chesapeake* awards ceremony was held at George Washington's Mount Vernon on October 15, 2017. This year, we celebrated revolutionary leaders and ideas that are changing the world and protecting the Chesapeake:

**Mount Vernon Ladies' Association** for their leadership in preserving this national treasure and their work to establish Piscataway National Park—the first national park founded in our country to protect a historic viewshed.

**Maryland Governor Larry Hogan** for his commitment and leadership in fighting to protect federal bay funding; fully funding the Chesapeake and Atlantic Coastal Bays Trust Fund; and supporting legislation that will lead to the full funding of Program Open Space next fiscal year. In almost three years, Governor Hogan has invested \$3 billion in Chesapeake Bay pollution reduction and related programs.

**Virginia Governor Terry McAuliffe** for his successful efforts to protect 1,300 natural and historic treasures in Virginia and secure millions in federal funding for land conservation across the watershed.

**Microsoft Corporation** for generously providing the technology that supports the Conservancy's program of precision conservation in the Chesapeake and beyond.

Thank you to our organizational supporters who helped make this memorable evening possible, including the Mount Vernon Ladies' Association who generously provided the magnificent venue.



Mrs. Claudia Puig Amundsen and Mrs. Ann Cady Scott of the Mount Vernon Ladies' Association enjoy the reception at George Washington's Mount Vernon.

PHOTO BY VIRGIL STEPHENS



Chesapeake Conservancy President and CEO Joel Dunn is presented with a painting of the eagles at Fones Cliffs by Michael Peccini from U.S. Senator John Warner (retired), to his left.

PHOTO BY VIRGIL STEPHENS



From left to right: Anna Chaney, Hamilton Chaney, Maryland Governor Larry Hogan, Stuart Chaney, Chesapeake Conservancy Board Member Barbara Jackson, and Glenn Jackson.

PHOTO COURTESY OF MARYLAND GOVERNOR LARRY HOGAN'S OFFICE

- **The Bunting Family Foundation**
- **The Campbell Foundation**
- **The Helena Foundation**
- **Intel**
- **Wallace Genetic Foundation**
- **Brown Advisory**
- **Ms. Elinor K. Farquhar**
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- **Mr. and Mrs. Chip & Sally Akridge**
- **Benchworks**
- **Cherry Bekaert**
- **Chesapeake Contracting Group**
- **Herrington on the Bay**
- **Herrington Harbour North**
- **The Martin Architectural Group**
- **Mr. and Mrs. Andrew and Ann Rose**
- **Mount Vernon Ladies' Association**



Chesapeake Conservancy President and CEO Joel Dunn participated in an Earth Day panel discussion entitled “AI for Earth: Developing Data-Driven Solutions for Biodiversity Conservation” at the Microsoft Innovation and Policy Center in Washington, D.C. From left to right: ESRI’s Brett Rose, Conservation X Labs’ Alex Dehgan, Chesapeake Conservancy’s Joel Dunn, Microsoft’s Lucas Joppa, the Nature Conservancy’s Sam Sankar, and the University of Illinois at Chicago’s Tanya Berger-Wolf.  
PHOTO BY MICROSOFT

## Accelerating the Progress of Our Partners: Protecting Clean Water and Land for Generations to Come

This was a monumental year for the Chesapeake Conservancy’s Conservation Innovation Center (CIC), which is being recognized both nationally and internationally as a pioneer in leveraging technology to change how land management and conservation are done.

Just as the use of technology changed the banking, health care, and communications sectors, making them faster and more efficient, Chesapeake Conservancy’s Conservation Innovation Center is doing groundbreaking work to ensure technology does the same for the environment.

### Precision Conservation

Precision conservation—focusing on projects that are done at the right place, the right scale, the right size, the right time, and making sure they are working—is quickly redefining how landscape conservation is approached.

Instead of sweeping acquisitions or all-encompassing legislation, we can use the latest high-resolution datasets to conduct advanced geospatial analysis that allows us to better target and implement on-the-ground agricultural and conservation best management practices.

The CIC is using its groundbreaking technology to help partners harness the power of precision conservation. The CIC’s efforts were highlighted in a 2016 White House report and have attracted the attention of some of the world’s largest technology companies.

### Live Demo for 16,000 People

In July, Chesapeake Conservancy Director of Conservation Technology Jeffrey Allenby and Geospatial Program Manager Cassandra Pallai presented to an audience of 16,000 people at the 2017 Esri User Conference in San Diego, California. Allenby and Pallai did a live demonstration about the use of distributive computing—or using multiple cloud-based servers—to generate and analyze land cover data.

The comparison focused on impervious surfaces, such as roads and sidewalks, in Albemarle County, Virginia. The demonstration showed possible changes to these surfaces that can be used to identify conservation opportunities by organizations like Chesapeake Conservancy and local watershed groups. Local governments can also use the data for management purposes, including assessments for stormwater utilities.

The CIC team also used Microsoft’s Azure cloud and demonstrated the power of Artificial Intelligence (AI) to analyze the Chesapeake Bay watershed, increasing the efficiency of data creation by over 15 times and showing how this technology allows us to quickly identify changes over entire landscapes.

The presentation demonstrated how distributive computing can increase the speed of going from imagery to action. Chesapeake Conservancy created new land cover data from 2015 aerial imagery

for the conference and compared it to data generated from 2013 imagery as part of the Chesapeake Bay High-Resolution Land Cover Project.

Chesapeake Conservancy led an innovative approach for the Environmental Protection Agency Chesapeake Bay Program along with our partners to produce some of the most powerful data ever compiled for conservation: 1 meter by 1 meter resolution land cover data for the entire 64,000-square-mile Chesapeake Bay watershed. This new land cover classification provides 900 times more information than existing datasets (see winter 2016 *Shorelines* for story about the project). The new techniques leveraging Artificial Intelligence will allow us to update our land cover data much more quickly and cost effectively.

**“If we treat agricultural pollution with a scalpel instead of a hatchet, we might have a fighting chance of cutting the flow of fertilizers into rivers, lakes, and coastal waters.”**

— John Carey  
(*Conservation Magazine*,  
September 9, 2013)

With this data, the CIC can provide our partners with an assessment of what is changing (e.g., decreased forest cover or increasing impervious surface) with an up-to-date and unprecedented level of detail and accuracy. The CIC can also analyze the data to create a detailed

roadmap of where conservation and restoration actions are most needed to keep on track with watershed restoration goals.

“You cannot ask for a better chance to talk about what we at the Chesapeake Conservancy are doing and how it can improve the world. What we demonstrated has dramatic applicability to help solve environmental challenges across the country and around the world,” Allenby said. “We are providing a road map for small organizations and local governments who traditionally have not had access to precision information or processing power. We’re saying, ‘It doesn’t matter how small of an organization you are, you can still get this level of detail.’ It’s really exciting to be able to provide the vision and solutions for how nonprofits and other small organizations can leverage this power and technology to empower information-based management.”

### World Stage

Microsoft invited Joel Dunn to be a panelist at the Microsoft Innovation and Policy Center in Washington, D.C., for an Earth Day panel discussion entitled “AI for Earth: Developing Data-Driven Solutions for Biodiversity Conservation.”

During the summer, Microsoft chose to highlight the value of Microsoft’s Azure cloud to Chesapeake Conservancy’s precision conservation work in a video shot on the Chesapeake Bay and a farm on Maryland’s Eastern Shore.

**“When the world’s largest software company calls to feature your small nonprofit on the global stage, you know you’re starting something revolutionary.”**

— *Chesapeake Conservancy President and CEO Joel Dunn*

### Living Laboratory

At the request of new partners throughout the United States and internationally, the CIC is expanding its work to other landscapes to address additional conservation problems.

“We are inspired to build a larger ‘living laboratory’ where we can expand our partnerships and the innovative work we are doing,” Dunn said.



Data informs the new era of conservation, such as this partnership restoration project on Elk Creek in Pennsylvania in November 2017. PHOTO BY PETER TURCIK

“We’re a small nonprofit with a big idea powered by faith in our work by major corporations such as Microsoft, Esri, and Intel. In fact, Intel got this all started just a few short years ago with a grant for research,” Dunn continued.

The CIC is accelerating conservation and restoration efforts across the country by bringing what has been learned in the Chesapeake to these other landscapes. By developing new tools and models for these partners, the CIC team is also learning new ways to improve upon work here in the Chesapeake.

“While the data we are creating in the Chesapeake is predominantly going toward big efforts such as the Total Maximum Daily Load (TMDL) and the Watershed Implementation Plans (WIPs), we understand that smaller organizations will have challenges integrating such big data into their work, so the CIC is very focused on working with our nongovernmental partners, too, to build customized solutions that are manageable for their own use at their own skill levels,” Allenby said. See, for example, the article on page 7 of this *Shorelines* about how the Chesapeake Conservancy’s technology can help individual landowners in two Pennsylvania counties.

For more information about what the Conservation Innovation Center can do for your organization, please contact Jeffrey Allenby at [jallenby@chesapeakeconservancy.org](mailto:jallenby@chesapeakeconservancy.org).



**WATCH THE MICROSOFT VIDEO FEATURING CHESAPEAKE CONSERVANCY AT [CHESAPEAKECONSERVANCY.ORG/CONSERVATION-INNOVATION-CENTER](https://www.chesapeakeconservancy.org/conservation-innovation-center)**

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[www.chesapeakeconservancy.org](http://www.chesapeakeconservancy.org)



# Conservancy's Marker Project Follows Smith's Trail to Susquehanna

On October 17, more than two dozen people gathered at Susquehanna State Park in Havre de Grace, Maryland, to install and dedicate the latest granite marker in the Chesapeake Conservancy's John Smith Chesapeake Cross Marker project. Maryland Delegate and Lower Susquehanna Heritage Greenway executive director, Mary Ann Lisanti; central regional manager of the Maryland Park Service, Ranger Steve McCoy; Chesapeake Conservancy's president and CEO, Joel Dunn; and volunteer historians Edward Wright Haile and Connie Lapallo were among the participants.

Captain John Smith's journal describes crosses—either of brass or as a shape carved in tree bark—that marked the furthest extent of his 1607–1609 explorations in the Chesapeake Bay watershed. His famous map of the Chesapeake region shows 27 of the Maltese-style crosses.

The Chesapeake Conservancy has been working to identify the locations of these crosses and mark each spot with a square granite pillar. The installation at Susquehanna State Park is the 16th of the marker sites.

According to Haile, on July 30, 1608, Captain Smith and his crew landed in a small sailing vessel, called a shallop, near today's Lapidum and marched up the west bank of the Susquehanna River as far as the cross site, observing the river rapids, which were dubbed "Smith's Falls." The following morning they sailed or rowed out of the river to explore other parts of the Upper Bay.



Chesapeake Conservancy staff and volunteers gathered at Susquehanna State Park in Maryland to install the 16th in a series of markers to identify places where Captain John Smith noted the extent of his 1607–1609 explorations of the Chesapeake. PHOTO BY PETER TURCIK

On August 6, 1608, Smith and company returned to the river to meet with about 60 Susquehannock Indians at an unknown location near the river's mouth. Visitors to Susquehanna State Park can see the newest marker near the Rock Run Grist Mill.

## Pamunkey Artist Shares Ancestral Stories

If you have visited the National Park Service Roving Ranger at one of its many stops throughout the Chesapeake Bay watershed, chances are you have also seen three giant gourds beautifully decorated to reflect the American Indian cultures in Virginia. Ethan Brown, an artist and a member of the Pamunkey Indian Tribe, carves and paints the dried gourds with many of the traditional stories of Powhatan culture.

Brown draws his inspiration from old photographs and artifacts, as well as from his own experiences and perspective. He uses pencil to outline the design, then works with a wood-burning tool, paint, and stains before sealing the finished gourd.

Brown's ancestors, the Powhatan people, have lived in the tidewater area of Virginia for more than 10,000 years. Captain John Smith's map shows the Pamaunk flu (Pamunkey River), a branch of the York River, where the descendant people continue to live on ancestral lands.

Additional examples of Ethan Brown's art are on display at the Pamunkey Indian Museum in King William, Virginia.



In the Powhatan story of the creation of the Earth, the Great Spirit took the form of a Great Hare.



The Pamunkey tribe established its reservation through treaties in 1646 and 1677 and still resides there today. In Brown's final gourd in the NPS collection, he shows that life was very different for Powhatan's people by the turn of the 20th century.



This gourd depicts what life was like before European settlers came to the land that would be renamed Virginia. It shows the different roles of men and women in society, as well as the types of clothing, housing, agriculture, and even religious ceremonies.



Pamunkey artist Ethan Brown uses his craft to interpret traditional stories of his ancestors who inhabited the tidewater area of Virginia for thousands of years before English colonists arrived.

GOURD PHOTOS COURTESY OF NATIONAL PARK SERVICE

ARTIST PHOTO COURTESY OF BIG IDEAS COMPANY

## Donor Spotlight – Board Member Rick Scobey

### Planned Giving Shows Long-Term Confidence and Support for Our Mission

Did you know you can make a legacy gift to the Chesapeake Conservancy? Planned gifts can be made in your last will and testament, through an IRA, and even by naming Chesapeake Conservancy as a secondary beneficiary on a life insurance policy. This year we have received some of our first gifts as an institution, and they signal very strong support for our organization and its sustainability.

Rick Scobey, a member of the Chesapeake Conservancy's Board of Directors, is a generous donor and supporter who has chosen to include the Conservancy in his will and trust. Rick is the president of the World Cocoa Foundation, where he leads the strategic development of the foundation, serves as the primary spokesperson on behalf of 100 member companies, and leads the direction of the cocoa and chocolate industry on sustainability priorities.

Rick lives with his spouse Bruce Ragsdale in Washington, D.C., but he

spends every weekend on Maryland's Eastern Shore, where he has integrated deeply into the fabric of the community. He serves on the boards of directors of numerous community organizations, including the Mid-Shore Community Foundation, Academy Art Museum, Pickering Creek Audubon Center, and Frederick Douglass Honor Society.

"I was very excited to make a charitable bequest to the Conservancy in my estate planning. As a 'citizen of the Chesapeake,' I am grateful for the amazing work and impact of this dynamic organization in conserving the Bay. As a board member, I see close up what an extraordinarily effective and efficient team Joel has put together. I want to make a long-term investment in the Conservancy so that it not only survives for the next few years, but also thrives for future generations. I encourage others to do the same, because supporting the success of an organization in the long term is one of the most important things you can do. The Conservancy's work at all levels—local, regional, and national—ensures the protection of the places in the Chesapeake that I love, here on the



Rick Scobey, president of the World Cocoa Foundation, in the field. PHOTO COURTESY OF RICK SCOBEY

Eastern Shore, and throughout the entire Chesapeake region," Scobey said.

"In addition to being a board member and an annual donor, Rick really saw the opportunity to make the ultimate gift and include the Conservancy in his will," Chesapeake Conservancy Director of Development Melissa Ehrenreich acknowledged.

To make a legacy gift of your own, or for more information, contact Melissa Ehrenreich at [mehrenreich@chesapeakeconservancy.org](mailto:mehrenreich@chesapeakeconservancy.org).

## Chesapeake Conservancy Releases Tool for Precision Conservation in Pennsylvania

In August the Chesapeake Conservancy released its latest conservation tool at the 2017 Grange Fair in Centre County, Pennsylvania. The Restoration Reports tool was created in partnership with Bloomsburg University, Chesapeake Bay Foundation, Pennsylvania

Department of Conservation and Natural Resources (DCNR), and Susquehanna University as part of the Conservancy's *Envision the Susquehanna* initiative. It shows landowners in Clinton and Centre counties information about possible restoration projects on their property that will help improve the health of their land and the nature it supports.

Using state-of-the-art data analysis, the Restoration Reports tool generates a customized report for a specified property that includes: the watershed it is a part of; the wildlife species that may already or could potentially live in the area; and the proximity of the property to a designated trout stream—or other requested features.

Landowners can select management priorities—for example, supporting agricultural land uses or improving hunting and fishing—to learn more about opportunities on their parcel.

The tool will generate a confidential report that includes contact information for specific restoration specialists that serve the area and fit the landowner's interests.

During the weeklong fair, the Conservancy shared a booth with DCNR, where we demonstrated the tool to more than 50 interested landowners alongside our partners, including Penns Valley Conservation Association, Native Creations Landscaping, ClearWater Conservancy, and Susquehanna University.

Using this technology, Chesapeake Conservancy and our partners are providing the best data to these landowners to make informed decisions about how to improve the health of their land, the Susquehanna River, and the Chesapeake Bay.

If you live or own property in Centre or Clinton counties, you can access a report at [www.restorationreports.com](http://www.restorationreports.com).



(From left) Mr. and Mrs. Wolfe of Rebersburg used the Restoration Reports tool to learn about possible projects on their property, with project partners David Huntzberry of Susquehanna University and Dale Ronk of the Pennsylvania Department of Conservation and Natural Resources. PHOTO BY ADRIENNE GEMBERLING

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## We Are Worth the Investment

Chesapeake Conservancy was honored to receive a "Partner in Excellence Award," from the Virginia Environmental Endowment, the nation's oldest foundation dedicated solely to the environment. Recently, we were also accepted as a nonprofit partner of the 1% for the Planet Network, an initiative that connects businesses, individuals, and nonprofits to accelerate environmental giving. Others agree: our work is worth the investment.

Please consider making a special gift to Chesapeake Conservancy by naming us in your will or by designating Chesapeake Conservancy as a beneficiary of your bank account, 401(k) or other retirement account, or life insurance policy.

You can help immediately by becoming a monthly sustaining donor today to support the Conservancy's ongoing habitat and land conservation programs.

For more information, call 443.321.3610

PHOTO BY PETER TURCIK

