

CHESAPEAKE

BAY JOURNAL

October 2023

Volume 33 Number 7

Independent environmental news for the Chesapeake region

Seeking solutions for the Anacostia's toxic hot spots

Page 20



MORE MANATEES?



Recent sightings in Bay rivers raise questions **PAGE 11**

NEXTGEN BIRDERS



Outings introduce more people to the world of birds **PAGE 15**

LAND COVER



Tree cover declines and pavement spreads **PAGE 18**

NONPROFIT ORG
U.S. POSTAGE
PAID
PERMIT 280
LANC, PA 17604

Bay Journal | P.O. Box 300 | Mayo, MD 21106

CONTENTS



The Hershey Company and U.S. Environmental Protection Agency will jointly spend \$2 million to help dairy farmers that supply milk to Hershey reduce their environmental impacts. Read the article on page 10. (Courtesy of the Alliance for the Chesapeake Bay)

NEWS

- 8 MD community aims to continue fighting industrial impacts
- 9 3D printing puts freshwater mussels into people's hands
- 10 Hershey, EPA team up to help dairy farmers reduce pollution
- 11 Manatee sightings could point to Bay's warmer future
- 12 Converting to clean energy depends on power line buildout
- 14 Community composting programs gain foothold in Bay region
- 15 Meetup group beckons newer birders to the field and forest
- 16 Residents push back on planned cruise ship visits to Yorktown
- 18 Tree cover declines, pavement spreads across Bay watershed
- 19 Hellbenders to be reconsidered for endangered species list
- 20 'Surgical' solution tested on the Anacostia's toxic hot spots
- 22 Hammerhead worms are social media stars no one asked for
- 23 A MD river turns orange, once-lush Bay grasses disappear
- 24 Energy programs at stake if/when RGGI disappears in VA
- 26 Federal agencies forced to curtail wetland protections

TRAVEL

- 28 New coal mine tour shares PA's checkered mining legacy

FORUM

- 34 Russ Baxter leaves lasting legacy for VA natural resources
- 35 **Chesapeake Born** | Students on the rise, sturgeons on the brink

QUIZZES | EVENTS | RESOURCES

- 27 **Chesapeake Challenge** | Spiders
- 36 **Bulletin Board** | Volunteer | Events | Programs | Resources

COLUMNS

- 38 **Steward's Corner** | Make a difference with conscious consumerism
- 39 **On the Wing** | Cedar waxwings
- 40 **Bay Naturalist** | We like to go where the wild things are

EDITOR'S NOTE



The land beneath our feet

Every so often, I ask myself an important question: Have my feet touched the earth today?

There was a point in my life when I realized that, despite living in an area that is not heavily urbanized, there are days when that is not the case. I walk floors in my home and step on porches and sidewalks. I climb into a car and tread driveways and parking lots only to cross floors in other buildings. Yards, parks and sometimes woodlands are within view, but my feet touch none of them.

For reasons I can't explain clearly, that bothers me. It has something to do with being grounded, both literally and spiritually. And I've been reflecting on that again, partly because of the *Bay Journal* reader surveys that have been flooding our mailbox.

Among the themes that are emerging, one is clear: land use. Many of you are deeply concerned about the impacts of development on air, water, human health and wildlife. You share frustrations that local media doesn't report more fully on land use decisions and their impact. You ask what people can do, and you question whether sustainable communities are possible without public officials willing to lead the way.

Your concerns are justified. Two articles in this issue by Tim Wheeler (see pages 18 and 23) look at land use. One reports on polluted runoff from a construction site that seems stymied for solutions. The second is about land use changes in the Bay watershed over time, using data from the Chesapeake Bay Program. The bottom line: The land beneath our feet is changing. Gray is gaining (more roofs, roads and parking lots that contribute to pollution), and we're losing trees. Despite planting more than 8,000 of them, there's been a net loss of about 16,000 acres.

Creating a society that lives sustainably on the land is an enormous challenge. We need changes, large and small, in our personal lives and our policies. I hope the *Bay Journal* helps to raise awareness, highlight problems and explore solutions. And I hope you, too, might make an extra effort to stray from the sidewalk and let your feet feel the earth.

— Lara Lutz



SIGN UP FOR THE BAY JOURNAL OR CHANGE YOUR ADDRESS | PLEASE PRINT CLEARLY

The Bay Journal is distributed **FREE** by Bay Journal Media, a nonprofit news organization.

Check one: New Subscription / Please choose: Print Only Email Newsletter Only Both Print / Email

Change of address Please remove me from the mailing list *Please note that it may take up to two issues for changes to become effective.*

Name _____

Address _____

City _____ State _____ Zip _____

Email _____ Phone _____

OPTIONAL: Enclosed is a donation to the Bay Journal Fund for \$ _____

Please check here if you would like your gift to remain anonymous and not be recognized in the *Bay Journal*.

Please mail this form to: Bay Journal, P.O. Box 300, Mayo, MD 21106.

bayjournal.com

ON THE COVER

EcoSpears CEO Sergie Albino explains how specially designed plastic spears, recently retrieved from an Anacostia River mudflat, helped remove toxins from the aquatic ecosystem. (Dave Harp)

Bottom photos: Left by Sam Farkas/NOAA, center by Whitney Pipkin, right by Dave Harp

BY THE numbers

25

Approximate number of freshwater mussel species found in the Chesapeake Bay watershed

30,000

Approximate number of workers killed in the mines of northeastern Pennsylvania between 1870 and 1960

2.7 million

Households in the Mid-Atlantic region with access to community-led composting programs for food waste

8,307

Acres of trees planted across the Bay watershed from 2013 to 2018, according to the Chesapeake Bay Program

25,000

Approximate acres of tree canopy lost across the Bay watershed from 2013 to 2018

16,000

Net acres of tree canopy lost across the Bay region from 2013 to 2018

Water snakes of the Chesapeake region



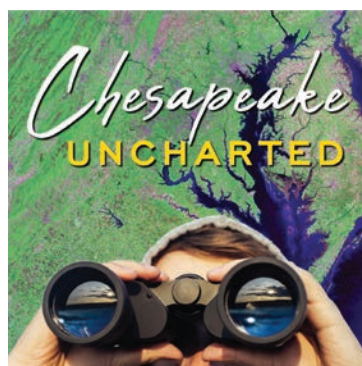
The northern or common water snake, *Nerodia sipedon*, is the largest and most common of the four water snakes you might encounter in the Bay watershed. It can grow nearly 5 feet long, while the others are notably smaller. The others are the plain-bellied (aka red-bellied) water snake, the brown water snake and the banded or southern water snake.

Water snakes can be found in all Bay states. They swim in shallow areas of rivers, lakes, ponds and marshes — hunting mostly amphibians and fish, the size of the prey depending on the size of the snake. All are nonvenomous but are often mistaken for the dangerous water moccasin, or cottonmouth, which is only found south of the James River. That's not to say water snakes won't bite. Give them a wide berth, because they can be aggressive. Some also inject an anticoagulant, which can cause profuse bleeding.

Colors and patterns vary greatly. Water snakes are usually brown, tan or gray, sometimes with dark splotches, but often appear solid-colored from a distance. Plain- or red-bellies are usually solid brown with red or orange undersides. The banded or southern species has dark cross-banding on a greenish gray to brown background. The brown water snake is light to medium brown with alternating dark brown, square-ish blotches on its back and sides.

Inset photos, top to bottom: A plain-bellied water snake (John Williams/CC BY-NC 3.0); a brown water snake (Glenn Bartolotti/CC BY-SA 4.0); and a banded water snake (Scott Beazley/CC BY 2.0).

Background photo: A northern water snake. (D. Gordon E. Robertson/CC BY-SA 3.0)



bayjournal.com/podcast

LOOKING BACK

30 years ago

First goal set for Bay grasses

The Bay Program set a goal to reach 114,000 acres of underwater grasses, the first quantifiable goal for the Bay's living resources. ■

— *Bay Journal*, October 1993

20 years ago

Underwater grasses rebound

Aerial surveys revealed that Bay grasses covered nearly 90,000 acres in 2002, nearly half of the region's restoration goal. ■

— *Bay Journal*, October 2003

10 years ago

Federal judge backs TMDL

A federal judge rejected claims that the U.S. EPA had overstepped its authority in setting the Bay TMDL or "pollution diet." ■

— *Bay Journal*, October 2013

ABOUT US

The *Chesapeake Bay Journal* is published by Bay Journal Media, an independent nonprofit news organization dedicated to environmental reporting in the Chesapeake Bay region. *Bay Journal* reporting reaches well over 250,000 people each month through news articles, columns, films and the *Chesapeake Uncharted* podcast.

The *Bay Journal* is available in print and by email and is distributed free of charge. The print edition is published 10 times a year, and bundles are available for distribution at offices, libraries, schools, etc.

The Bay Journal News Service distributes *Bay Journal* articles and opinion columns for free use in hundreds of newspapers across the region.

Publication is made possible by grants, reader donations and advertising revenue.

Views expressed in the *Bay Journal* do not necessarily represent those of any funding agency, organization, donor or advertiser.

Material may be reproduced, with permission and attribution.

Policies on editorial independence, gift acceptance and advertising are available at bayjournal.com/about.

STAFF

Lara Lutz, Editor / Executive Director (llutz@bayjournal.com)
Karl Blankenship, Editor-at-Large (kblankenship@bayjournal.com)
T. F. Sayles, Managing Editor / News Service Editor (tsayles@bayjournal.com)
Timothy B. Wheeler, Associate Editor / Senior Writer (twheeler@bayjournal.com)
Jacqui Caine, Marketing & Advertising Director (jcaine@bayjournal.com)
Jeremy Cox, Staff Writer (jcox@bayjournal.com)
Ad Crable, Staff Writer (acrable@bayjournal.com)
Kathleen A. Gaskell, Copy Editor (kgaskell@bayjournal.com)
Dave Harp, Photographer (dharp@chesapeakephotos.com)
Khristna Paysour, Administrative Assistant (kpaysour@bayjournal.com)
Whitney Pipkin, Staff Writer (wpipkin@bayjournal.com)

Editorial content and oversight is managed solely by Bay Journal staff.

Layout by Michele Danoff, Graphics By Design.

BOARD OF DIRECTORS

Mary Barber , President	Donald Boesch
Bill Eichbaum , Vice President	Lara Fowler
Don Luzzatto , Secretary	Mark Platts
Kim Coble , Treasurer	Lara Lutz , Ex-Officio

SCIENCE ADVISORY COMMITTEE

Rich Batiuk | U.S. EPA Chesapeake Bay Program (retired)
Donald Boesch | UMD Center for Environmental Science (retired)
Marji Friedrichs | Virginia Institute of Marine Science
Marjorie Mulholland | Old Dominion University
Ray Najjar | Penn State University
Michael Paolisso | University of Maryland
Kurt Stephenson | Virginia Tech
Jeremy Testa | UMD Center for Environmental Science
Lisa Wainger | UMD Center for Environmental Science
Claire Welty | University of Maryland - Baltimore

ADVERTISING

Advertising space is available in print and online.
Contact Jacqui Caine at 540-903-9298 or jcaine@bayjournal.com.

CONTACT US

by mail:

The Bay Journal | P.O. Box 300 | Mayo, MD 21106

subscriptions, donations or advertising:

jcaine@bayjournal.com or 540-903-9298

opinion columns:

tsayles@bayjournal.com or 410-746-0519

editor:

llutz@bayjournal.com or 410-798-9925

WE'RE JUST
A CLICK AWAY



BAYJOURNAL.COM

BAY JOURNAL NOTEBOOK



The Virginia Press Association recently selected this Bay Journal photo by Jeremy Cox as its Photo of the Week. The research team from the Virginia Institute of Marine Science is on a boat near Cape Charles, VA, seeking the cause of oyster die-offs at aquaculture operations. (Jeremy Cox)

Oysters, dolphins & manatees

Ticket sales are underway for a special *Bay Journal* film event to celebrate the upcoming release of our new film, *A Passion for Oysters*, by Dave Harp, Tom Horton and Sandy Cannon-Brown. We're hosting a reception, film screening and panel discussion in Cambridge, MD, on Oct. 26 from 5-8 p.m. Tickets are \$50 each and must be purchased in advance at bayjournal.com/events. Space is limited, so secure your tickets soon! We'd love to see you there. Special thanks to our event sponsors: Environmental Quality Resources, HD Squared Architects, Maryland's Best, and Froehling & Robertson.

When *Bay Journal* writer **Whitney Pipkin** visited Yorktown, VA, to learn about plans for a cruise ship to visit the historic town in 2024, she got an unexpected treat. From the public fishing pier that evening, she finally spotted one of the Chesapeake Bay's visiting dolphins hunting for dinner in the York River.

But fellow writer **Jeremy Cox** was not so lucky. This issue includes a report from Jeremy about what's behind the recent manatee sightings in the Chesapeake Bay. Cox has never spotted a sea cow in the Bay region himself. But he brings much first-hand experience to covering these critters. As a reporter for more than a decade in Florida, he wrote dozens of stories of their plight. He has been present for multiple manatee rescues and post-rehabilitation releases. Now living in Maryland, Cox says he can't help but feel like he's being followed.

Writer **Ad Crable** didn't sight any unusual critters, but during a recent visit to a coal mine for an upcoming story, he marveled at a petrified tree trunk embedded in the low, dripping rock ceiling above him.

Recognition for *Bay Journal* staffers continues to roll in. In September, the Virginia Press Association selected one of Jeremy's news photos as its Photo of the Week. The image accompanied an article about oyster die-offs at aquaculture operations and shows a research team from the Virginia Institute of Marine Science on a boat near Cape Charles, VA.

— Ad Crable

Morgan State to study how AI can help address climate change

Morgan State University in Baltimore has received nearly \$3 million to research the use of artificial intelligence to combat climate change.

The grant, awarded by the National Science Foundation, will provide hands-on research opportunities for 50 doctoral students from bio-environmental science, computer science, civil engineering, mathematics and electrical and computer engineering backgrounds. The program is designed to bolster representation among underrepresented minority students in the field.

The money comes from the foundation's Research Traineeship Program, which supports graduate students in research-based STEM careers. Morgan State's award is part of the latest \$63 million federal investment in the program, \$6 million of which comes from the federal CHIPS and Science Act, which was enacted in 2022.

"Both climate science and artificial intelligence technology are moving at such a rapid pace that it's going to take the skills, academic prowess and unique experiences of the next generation of top scholars to keep up," said U.S. Sen. Ben Cardin (D-MD).

"That's exactly the opportunity this investment is providing at Morgan State University." — *L. Lutz*

DE approves permits to create biogas facility

The Delaware Department of Natural Resources and Environmental Control announced in early September that it has approved five permits associated with the expansion of the Bioenergy Devco facility near Seaford, which will enable the site to produce biogas. It currently houses a composting operation that processes waste from the poultry industry.

The company plans to produce biogas by constructing an anaerobic digestion system, a wastewater pre-treatment system and a biogas upgrading plant.

After the Seaford facility reaches capacity, Bioenergy Devco expects to process 250,000 tons of organic poultry waste annually, producing both compost that can replace chemical fertilizers and biogas that will be injected into Chesapeake Utilities' pipelines for use by Sussex County customers.

The state natural resources agency says that

the company's processing of poultry waste is also expected to reduce nutrient pollution in Delaware waterways and the Chesapeake Bay.

Meanwhile, environmental groups have collaborated on a complaint to the U.S. Environmental Protection Agency, charging that the state and county discriminated against communities of color and people with limited English proficiency during the regulatory process. — *L. Lutz*

VA lawmakers increase Bay cleanup money

Virginia has pledged to spend hundreds of millions of dollars this year to reduce pollution affecting the Chesapeake Bay under a long-delayed budget deal approved recently.

Meeting in special session in Richmond on Sept. 6, lawmakers passed amendments to the two-year state budget, thus ending a six-month partisan stalemate over whether to cut taxes or increase spending on schools, behavioral health and the environment. Republican Gov. Glenn Youngkin signed the legislation after issuing a statement praising it.

The deal includes \$286 million more in matching grants for farmers who adopt best management practices to curb soil erosion and runoff of fertilizer and animal waste, such as planting streamside trees or fencing livestock away from the water. That comes on top of more than \$350 million lawmakers had included in the two-year budget in 2022 to address agricultural runoff, the leading source of the Bay's water quality woes.

It also provides \$151 million more for upgrading wastewater treatment plants to improve their removal of nitrogen and phosphorus, nutrients that pollute the Bay and many of its rivers. That adds to more than \$70 million for treatment plant upgrades approved in 2022.

An extra \$30 million will go to localities as grants to reduce polluted stormwater runoff, another source of Bay water quality woes, on top of \$25 million approved for that purpose in 2022.

Lawmakers also put \$100 million into a "resilience" fund created in 2022 to help localities and property owners deal with flooding that's worsening as climate changes.

The environmental funding tracked more or less

See **BRIEFS**, page 6

RESOURCE RESTORATION GROUP, LLC

Providing innovative solutions to conserve, restore, and enhance our natural resources.

CONSERVE RESTORE ENHANCE

Ecological Design & Construction
Stream • Wetland • Shoreline • Stormwater BMPs

www.RRGroup.us

VIRGINIA Living museum

Learn More

Aquarium
Environmental Center
Dinosaur Discovery Trail
Planetarium/Observatory
Native Wildlife Center & Gardens

PROTECT WHAT'S PRECIOUS

Open Daily 9-5 • Newport News • 757-595-1900 • theVLM.org

briefs

From page 5

with what the governor had proposed before the regular 2023 legislative session, which ended Feb. 25. The budget deal, though, left out \$100 million the governor had sought to help Richmond reduce overflows of untreated wastewater into the James River from its combined sewer system.

Christy Everett, acting Virginia executive director of the Chesapeake Bay Foundation, hailed what she called "unprecedented levels of investment" by the state in farm conservation practices and other pollution reduction programs. Increased funding is critical, she said, if the state is to make progress toward meeting its Bay cleanup goals.

— T. Wheeler

Large dam removed from the Susquehanna River

In Pennsylvania's largest dam removal in modern times, a 755-foot-long, 16-foot-high concrete span is being bulldozed from the North Branch of the Susquehanna River. Work was expected to conclude by the end of September, weather permitting.

Local officials and environmental groups have hailed the removal of the Oakland Dam for banishing a longtime barrier to paddling and the movement of fish, water-purifying mussels and other wildlife.



The Oakland Dam is removed from the North Branch of the Susquehanna River in Pennsylvania. (Courtesy of Endless Mountains Heritage Region)

"Removing a dam is the fastest, most efficient way to bring a river back to life," said Tom Kierman, president of American Rivers, a national nonprofit

that was a partner in the project. Others included the boroughs of Oakland and Susquehanna, Endless Mountains Heritage Area, Upper Susquehanna

Coalition, two state agencies and the U.S. Army Corps of Engineers. The \$450,000 demolition project was funded through grants.

The dam had blocked the river since the 1800s. It was enlarged in the 1920s to provide hydroelectric power to a nearby railyard and hospital. Shortly after the power plant closed in the late 1990s, a 100-foot breach appeared in the middle.

The dam's removal opens up 250 miles of the river to unimpeded passage for both paddlers and wildlife. Susquehanna Borough is purchasing an acre of adjacent land to use as a riverfront park.

American Rivers lauded Pennsylvania as a leader in dam removal, saying it has removed more than any other state.

— A. Crable

Goodwin retires as UMCES president

After a 40-year career in science and higher education, University of Maryland Center for Environmental Science President Peter Goodwin retired at the end of September.

An internationally known expert in ecosystem restoration, Goodwin became UMCES president in 2017. While there, he worked to convene the best available science regarding coastal resilience, oyster recovery and ecosystem management. He also championed the use of large-scale



Clyde's
SPORTS SHOP
www.clydessports.com

Since 1957
Open 7 Days
(410) 242-6108

FISHING TACKLE - LIVE BAIT
GUNS - AMMUNITION - Guns Bought, Sold, Traded
HUNTING EQUIPMENT - ARCHERY

2307 Hammonds Ferry Rd.
Halethorpe, MD 21227
Exit 9 off I-695

24 HOUR
Fishing Info:
(410) 247-FISH

Keep Your Boat Dry All Year Long!



DEK Drain's protective shield captures and redirects moisture away from your raised deck, allowing you to enjoy dry storage space below.

Double the use of your boat slip and keep everything shipshape.

PERFECT FOR WATERFRONT HOMES AND MARINAS!
Call us today at 1-866-335-3724 to schedule your free estimate.

www.dekdrain.com | info@dekdrain.com

Stormwater management with native plants. Slow water movement and increase soil water infiltration. Prevent erosion.



ERNST SEEDS 800-873-3321
sales@ernstseed.com

<https://bit.ly/ECS-ad-CBJ>

briefs

environmental data for decision-making in Maryland.

As part of UMCEs' longtime role in advising the state on Chesapeake Bay management and restoration programs, Goodwin served as a member of the Governor's Chesapeake Bay Cabinet, as well as lead science advisor on the Maryland Commission on Climate Change. He has urged the expansion of Diversity, Equity and Inclusion initiatives both within UMCEs and throughout the environmental sciences.

Bill Dennison, who has been vice president for science application with the university since 2002, has been named UMCEs interim president.

— L. Lutz



The green floater, a freshwater mussel, may get federal protection. (Ryan Hagerty/U.S. Fish & Wildlife Service)

'Green floater' mussel might get federal protection

The U.S. Fish and Wildlife Service has proposed protecting a freshwater mussel known as the green floater under the Endangered Species Act.

Green floaters have been lost from nearly half their historical range and are now found in Maryland, New York, North Carolina, Pennsylvania, Tennessee, Virginia and West Virginia. They are no longer found in Alabama, Georgia, New Jersey or the District of Columbia.

"Protecting the green floater under the Endangered Species Act will save this mollusk

from extinction and also benefit people who rely on rivers for clean drinking water and recreation," said Tierra Curry, a senior scientist at the Center for Biological Diversity, which pushed for the protection.

The Fish & Wildlife Service also proposed designating 1,586 stream miles as critical habitat for green floaters. The designation would require any federally funded or permitted project in those locations to avoid degrading the mussels' habitat. Within the Chesapeake Bay region, the streams proposed for designation are found in the Potomac watershed in Maryland, Pennsylvania and West Virginia, and in the Susquehanna watershed in Pennsylvania and New York. Other streams in Virginia and North Carolina could be protected, too.

Like most bottom-dwelling river species, green floaters are threatened by silt that enters the water from agricultural fields, logging, mining and construction. They are highly sensitive to pollution, including oil and gas byproducts, pesticides, livestock waste, road runoff and sewage treatment plant effluent. They are also vulnerable to rising water temperatures.

Green floaters are unique among mussels because they can incubate their own larvae and do not require a host fish for reproduction, though a variety of fish species can host the juvenile mussels on their gills.

— L. Lutz

Environmental Justice Fund coming to Mid-Atlantic region

The Chesapeake Bay Trust, with nine other partners, has been selected to receive and administer a \$17 million federal grant to establish the Mid-Atlantic Environmental Justice Fund.

The fund will provide grants and resources directly to communities and community-based organizations that have historically faced constraints in competing for money to address environmental problems. The program will use a participatory grantmaking process, in which members of impacted communities have the power to decide who and what to fund.

In addition to awarding grants to under-resourced groups, program partners will provide outreach and technical assistance so a larger number of grantees can more effectively address disparities in environmental and public health.

The U.S. Department of Agriculture's Forest Service awarded the grant through its Urban and Community Forestry Program.

Among the trust's partners in the initiative are Sacoby Wilson, director of the Center for Community Engagement, Environmental Justice and Health, and co-director of the Thriving Communities Technical Assistance Center in the U.S. Environmental Protection Agency's Mid-Atlantic region; the National Wildlife Federation; Howard University; the Environmental Finance Center; and a network of regional environmental justice leaders.

"We will achieve environmental justice only when the power, resources and decision-making are yielded to the communities most impacted by environmental harms and related health inequities. We know that the participatory funding model will be the most effective method to distribute these funds and intend for the Mid-Atlantic Environmental Justice Fund to be a leader and exemplar for how philanthropy must evolve, how philanthropy must cede power to frontline and fence-line communities most impacted by environmental, climate and energy injustices," Wilson said.

— L. Lutz

POCAHONTAS
REFRAMED
FILM FESTIVAL
NATIVE FILM | MUSIC | CULTURE

Image from the film *Gift Of Fear* screening at this year's festival

7th Annual Pocahontas Reframed Film Festival

November 17-19, 2023
Robins Family Forum at VMHC
Richmond, Virginia

Ticket Sales on-line only at pocahontasreframed.com

Stream Restoration Living Shorelines
Stormwater Management
Invasive Species Removal

ENVIRONMENTAL QUALITY RESOURCES

EQR

www.eqrllc.com 443-833-4282

A REAL FORCE FOR NATURE
SINCE 1991

MD community aims to continue fighting industrial impacts

Effort sees setback as county appeals board overturns order to shut down former quarry

By Timothy B. Wheeler

A rural Maryland community lost a round recently in their fight to curb polluting industrial activity in their midst. But they refuse to give up.

In July, Anne Arundel County's Board of Appeals overturned a decision rescinding a 1967 approval for Westport Reclamation to continue mining sand and gravel and producing concrete in the Lothian area.

A county hearing officer in December had determined that after 55 years, little if any mining was still going on at the site. He cited evidence that the property was being used to store contractors' material and unregistered vehicles and to dump debris, and he ordered it to cease all commercial operations.

Residents who have long complained about the concentration of mining and waste disposal activities in their neighborhood hailed the hearing officer's ruling as vindication of their cause.

Westport Reclamation is one of several industrial operations along a short stretch

of Sands Road paralleling the Patuxent River. Among the other operations are a large sand and gravel mine, two former quarries undergoing reclamation and two rubble landfills, now closed.

Although the area is zoned for rural agricultural land use, sand and gravel mining is allowed with a "special exception" to the zoning code.

Riverkeeper Fred Tutman decried the appeals board's decision, saying it sets an impossibly high bar.

But Belle Grove Corp., the owner of Westport Reclamation, appealed the shutdown order. After hearing from both sides in March, the five-member appeals board ruled in the company's favor. In a July 20 decision, it said the two parties that had petitioned to close Westport lacked the legal standing to do so.

One petitioner was Tracy Garrett, who

lives about a half-mile from the old quarry on Sands Road. The other was Patuxent Riverkeeper Fred Tutman, who has said the cluster of industrial activities along Sands Road have made the area an environmental "sacrifice zone," where a significant number of nearby residents are people of color or have below-average incomes.

Neither lives next to the facility, the board said, nor could they show that they are impacted by Westport's operations any more or differently than the public in general. Moreover, the board added, the only people who clearly can seek to rescind a special zoning exception are those who spoke against it when it was originally granted more than 55 years ago.

Tutman decried the appeals board's decision, saying it sets an impossibly high bar for challenging the continued operation of a facility that violated the terms of its long-ago zoning approval. Other Maryland counties limit the duration of such special exceptions or at least review them periodically, he noted.

The county did sue the company in 2022, alleging that it was conducting business at the site that was not permitted under its special exception. The company settled the suit by agreeing to pay a \$3,000 penalty, remove any unregistered vehicles and cease using the site as a contractor's yard. But the county did not join the residents in seeking to shut the operation down.

Patrick DeArme, a lawyer with the nonprofit Chesapeake Legal Alliance who is representing Garrett and other residents, said they are still deliberating their next steps, which may involve refiling the petition or seeking a legislative remedy.

Tutman said they also are hoping to buttress their complaints with evidence that the health of local residents is threatened by having to breathe air pollution from heavy truck traffic and industrial activity in their midst. They are working with a researcher at the University of Maryland School of Public Health to place air monitors along Sands Road.

"We're not done yet," Tutman said. ■

Reforestation Specialists



LIST OF SERVICES:

- Riparian Buffer Plantings
- Wetland Mitigation and Restoration
- Afforestation
- Upland Plantings
- Streambank Restoration
- Stormwater Plantings
- Customized Survival Guarantees
- Invasive Species Management



570-458-0766 • Email: info@wfatrees.com
www.wfatrees.com

Residential Window Cleaning

Chesapeake Window Cleaning

Serving the Eastern and Western Shores for 30 years

410-280-2284

Family Owned & Operated

Licensed, Bonded & Insured

VOTED BEST

Restaurant Overall
Crab Cake • Raw Bar
Family Friendly
Boaters/Sailors Bar
Weekend Brunch



Our Crab Cakes Ship:

www.goldebly.com/boatyard-bar-and-grill

Long-time Supporter of the Environment

- Over 90% of our non-consumables are recycled
- Recycled oysters shells: over 900 bushels in 2022!
- Our straws are compostable
- Happy Hour Mon-Thurs 3-6 pm
- Gift certificates
- Weekend brunch



Committed to Great Crabcakes • A Healthier Bay • Sailing Fast • Fishing with Friends • Happy Kids

400 Fourth St Annapolis, MD boatyardbarandgrill.com 410-216-6206

3D printing puts freshwater mussels into people's hands

Durable shell replicas will help with public outreach in Bay region

By Whitney Pipkin

When it comes to marketing, freshwater mussels have had an exposure problem. Living on the sandy bottoms of rivers, even the most memorably named mussels can be hard for people to picture, let alone hold in their hands.

But that could soon change, thanks to a new program using 3D-imaging technology to create durable mussel shell replicas. Unlike the often brittle and sometimes extremely rare original shells, these look-alikes can be created remotely and shipped into the hands of the mussel curious.

Environmental educators and groups like the Chesapeake Bay Foundation plan to use these mussel replicas to introduce students, conservationists and others to the diverse world of freshwater mussels — the world's most endangered group of animals.

"Giving someone the opportunity to hold a lifelike mussel shell in their hand is an important step toward protecting and restoring freshwater mussel populations," said Joe Wood, senior scientist with the Bay Foundation. "Raising awareness is key."

Many of the country's freshwater mussels are hard to come by, with roughly one out of every three species protected under the Endangered Species Act. Another 30 are thought to have recently gone extinct in the wild, though examples of their shells are sometimes available in far-flung museums.

3D printing allows those rare specimens to be replicated and dispersed into watersheds where they may still exist and something could still be done to save them.

Staff at the Florida Museum of Natural History and the Smithsonian Institution's National Museum of Natural History are doing the painstaking work to prepare dozens of species to be duplicated by 3D printing, with the help of funding from the U.S. Fish and Wildlife Service's National Conservation Training Center.

Matthew Patterson, course leader at the center, said the project "provides



The National Conservation Training Center will use 3D prints of freshwater mussel shells, such as the reconstruction of a fat threeridge mussel shown here, to train biologists and conservationists. (Zachary Randall/Florida Museum of Natural History)

opportunities to teach field biologists and the public how to identify all of the freshwater mussel species native to the United States, including the nearly 100 species listed as threatened and endangered."

Researchers use a method that stitches multiple photographs of a single mussel shell into a 3D composite, called photogrammetry. This technology can capture the shape, texture and color of the shells, creating a model that can be used to recreate replicas with 3D printing machines.

Several mussel specimens have already been digitized and are available for viewing on the Florida museum's page at Sketchfab, which aggregates publicly available 3D printing models.

The Bay Foundation plans to use the replicas to continue mussel conservation efforts in the Chesapeake region, focusing on water quality in rivers that support or could support more mussels. As filter feeders, mussels help clean the waters where they live, much like oysters do in saltier water. And, with names like heelsplitter, pocketbook and pigtoe, mussels come in enough shapes, sizes and places to potentially appeal to a much broader audience.

Once in hand, advocates hope these mussel replicas will help spread the word about the diverse aquatic life that clean water can support. ■

FALL IS FOR PLANTING!

Trees | Shrubs | Perennials | Plugs



Retail & Wholesale NATIVE PLANT NURSERY

unitychurchhillnursery.com
410-556-6010



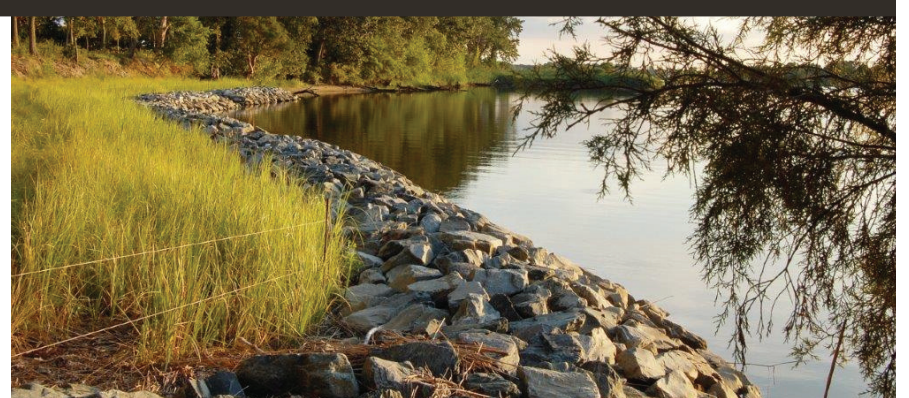
SCAN ME
for current availability



30 Years Experience Restoring Maryland's Shorelines

410-556-6010 | 3621 Church Hill Rd, Church Hill, MD
unitylandscape.com

Licensed MDE Marine Contractor #086(E)
Licensed MHIC Contractor #79963



Hershey, EPA team up to help dairy farmers reduce pollution

\$2 million will help operations that supply chocolate maker install clean water projects

By Karl Blankenship

Hershey is giving consumers a reason to feel less guilty about indulging in their chocolate passion.

The Pennsylvania-based chocolate producer on Aug. 22 announced a commitment with the U.S. Environmental Protection Agency to jointly spend \$2 million to help dairy farmers that supply its milk reduce their environmental impacts.

“Providing financial resources to dairy farmers to reduce greenhouse gas emissions and improve water quality is an intentional business decision,” said Tricia Brannigan, chief procurement officer with the Hershey Company. “And it’s also critical to our brand identity as a milk chocolate company.”

The company’s operation in Hershey, PA, is the largest chocolate plant in the world. Part of the reason the company’s founder, Milton Hershey, chose that location in 1903 was the plentiful supply of milk nearby.

Nearly all of the milk used at the plant still comes from within 90 miles, according to Brannigan.

“This investment aligns with our value of togetherness, as we recognize that Pennsylvania dairy farms, including those in our supply chain, need to be profitable and sustainable,” Brannigan said. “We wouldn’t have a company without them.”

The company purchases milk for its plant from a dairy cooperative managed by Land O’Lakes. Under the agreement, Hershey and the EPA will each invest \$1 million over three years to help farmers in the cooperative reduce both nutrient runoff and greenhouse gas emissions.

Adam Ortiz, administrator of the EPA’s Mid-Atlantic region, which includes most of the Chesapeake Bay watershed, hailed the public-private partnership as a way to accelerate the Bay cleanup progress. “It’s significant step forward,” Ortiz said, “and is going to help bend the trajectory of [Bay] restoration at a more aggressive angle.”

Land O’Lakes, which has more than 800 members in its Eastern Region, will select farms to work with, and the non-profit Alliance for the Chesapeake Bay will assist them in putting pollution control practices in place.

“This particular collaboration brings significant funding, technical support and incentives to help farmers prioritize conservation practices while navigating



Steve Harnish of Central Manor Dairy in Lancaster County, PA, hosted visitors on his farm for an event on Aug. 22, 2023, to announce funds from the Hershey Company and U.S. Environmental Protection Agency that will help more farmers protect water quality. (Courtesy of the Alliance for the Chesapeake Bay)

some difficult market conditions at the same time,” said Tim Leviny, a senior vice president with Land O’Lakes.

Falling milk prices have put pressure on small dairy farms in recent years, as more production comes from larger operations in other parts of the country — though the density of small farms in south-central Pennsylvania has helped keep them economically viable.

Still, the runoff from those farms can be a significant source of water-fouling nutrients that reach the Bay, and dairy operations are also a significant source of methane, a major greenhouse gas.

Because of such concerns, Leviny said efforts like the new partnership promote voluntary implementation of conservation practices with farmers. “[It’s] about future-proofing farm businesses, and the Land O’Lakes enterprise, while respecting our farmers’ independence, privacy and ability to make a living,” he said.

The announcement took place on the 200-cow dairy farm of Steve Harnish, not far from the Susquehanna River in Pennsylvania’s Lancaster County. His Central Manor Dairy practices no-till farming and plants nutrient-absorbing cover crops in the fall. The operation has a covered manure storage facility, streamside buffers and other runoff-control measures.

Harnish said the farm is “not an example for the rest of the industry to follow” but rather is “representative of how the rest of

our region is adopting the same practices.”

Looking ahead, he said, there are still opportunities to reduce impacts on water

quality and to capture methane emissions. And being a member of the Land O’Lakes cooperative is “an opportunity to access resources and funding.”

Kate Fritz, president of the Alliance for the Chesapeake Bay, said one of the goals of such corporate partnerships is to help share the costs of reducing pollution throughout the food chain, so the burden does not fall solely on financially squeezed farmers.

“This partnership is allowing us to leverage more resources and expertise across the entirety of the supply chain so we are no longer in a situation where we expect our farmers to be the ones to reduce the pollution,” she said.

“We are expecting the entire supply chain — from our producers, from our cooperatives, from our purchasers all the way to our consumers — to be part of this opportunity to clean our streams and waters, and to continue to have economically viable agriculture here in the Chesapeake Bay,” she said. ■

NATIVE PLANTS ON THE PATUXENT

Green Landing
NURSERY

Quality,
Native Plants,
Locally Grown

www.greenlandingenursery.com
301-952-0593

Experts: Manatee sightings could point to Bay's warmer future

Some say that Florida sea cows might be more frequent visitors to the Chesapeake region

By Jeremy Cox

When a Florida manatee swims into the Chesapeake Bay, it makes waves. Such was the case on Aug. 19, when one of the gentle giants was photographed munching on underwater grass in the St. Mary's River in Maryland near where the Potomac River meets the Bay. Another followed on Aug. 27, when a group of paddle-boarders spotted a manatee trapped in a pound net at the mouth of the Rappahannock River in Virginia. (It was freed, unhurt, by a marine police within hours.)

Manatee sightings remain rare occurrences in Maryland and Virginia waters — rare enough that they generate a flurry of viral social media posts and news headlines. (Exhibit A: the manatee, nicknamed “Chessie,” that has captured the public's imagination with its multiple visits to the Bay, beginning in the mid-1990s.)

Scientists don't have enough data to say whether the whiskered marine mammals are visiting the region more frequently. But many believe it's only a matter of time.

“You can mark my words and come back to me if I'm wrong. I think you'll see more before you see fewer,” said Ruth Carmichael, a marine ecologist with the Dauphin Island Sea Lab in Alabama. She has been collecting reports of manatee observations across the southeastern U.S. for more than 15 years. “We're seeing the same patterns in Mississippi and Texas and going up to North Carolina.”

Scientists don't conduct formal surveys of manatees' presence in the Chesapeake region. But one measure suggests that an average of at least one per year ventures into the estuary.

Since the National Aquarium in Baltimore began keeping records in 1991, it has collected 39 manatee sightings in Maryland waters — either in the Chesapeake or the Atlantic Ocean. To qualify as an observation, the report must be accompanied by a photograph, said Kate Shaffer, who oversees the facility's animal rescue program.

But there might be more in the future. Carmichael and other scientists point to a potential collision of three trends: a decades-long upswing in the species' Atlantic population, a decline in water quality off Florida's East Coast and warming waters tied to human-caused climate change.

The Florida manatee was one of the first creatures to receive protection from the



A stranded Florida manatee was rescued from a pound net near Windmill Point off Virginia's Northern Neck on Aug. 27. (Virginia Marine Police)

federal Endangered Species Act after it went into effect in 1973. Efforts to shield the sea cows from boat collisions helped the population rebound from barely 1,000 individuals in the mid-1970s to more than 6,000 by 2017. That year, the U.S. Fish and Wildlife Service downlisted the species from endangered to threatened.

It's only natural for manatees, especially males, to expand the boundaries of their range as their numbers increase, Carmichael said. Some have been tracked as far north as Cape Cod, MA, in recent years.

“Those animals have to go somewhere, and we know there's the concept of carrying capacity,” she explained.

But that biological success story has hit a major snag. Since December 2020, about one-quarter of the species' population has died during what federal wildlife officials have dubbed an “unusual mortality event” along the East Coast of Florida.

Worsening water quality appears to be at the center of the phenomenon, researchers say. Excessive nutrients spilling off lawns and farms are fueling the growth of a toxic form of algae, known as red tide, that is fatal to manatees. Such nutrients are also nourishing another type of algae bloom that has wiped out thousands of acres of seagrass, one of the manatee's primary food sources. Many have starved.

Such pressures are likely to push manatees farther northward, research has suggested.

The Chesapeake Bay's underwater grasses are proving to be an inviting refuge, said Jamie Testa, a dolphin researcher with the University of Maryland Center for Environmental Science and former marine mammal stranding coordinator for the Maryland Department of Natural Resources.

“We expect they find seagrass to eat in Chesapeake Bay and head back to the Southeast before water temperatures get too cold” around mid-October, she said.

Manatees begin showing signs of cold stress when water temperatures dip below

around 68 degrees. So, with a typical thermometer reading of 48 degrees in February, the Chesapeake Bay is highly unlikely to become a year-round residence for sea cows, experts say.

“I don't really see that yet,” said Dan Slone, a Florida-based manatee researcher for the U.S. Geological Survey. “Maybe in centuries.”

But warming water could widen the Bay's visitation window, making sightings likelier both earlier and later in the season, Carmichael said.

For now, encounters in the Bay region still tend to induce astonishment. “I was surprised to see a manatee up here,” said Neil Gunter, the state marine police officer who responded to the Rappahannock report. “In fact, I didn't believe it when the call came in.”

Their presence, though, is nothing new in the Chesapeake, Slone said. The first recorded manatee sighting in the region was in Virginia in 1676, he said.

“I just want to stress how unremarkable it is,” Slone said of this summer's reports. “Can we say this is a new behavior that is changing what manatees are doing? I would say not in the absence of any new data.”

Officials and researchers urge the public to keep manatees at a distance and not to disturb them. They remain protected by the federal Marine Mammal Protection Act and the Endangered Species Act.

In Virginia, sightings can be reported to the Virginia Aquarium at 757-385-7575. In Maryland, reports of live manatees should go to the National Aquarium at 410-576-3880 while carcasses should be called in to the state natural resources or marine police at 410-260-8888. ■

Restoring Nature with Nature
COIR MATTING | COIR LOGS
ecofabriks
solutions for the environment
www.ecofabriks.com | info@ecofabriks.com | TOLL FREE: 877-(COIR MAT) 264-7628

Converting to clean energy depends on power line buildout

More grid connections needed to deliver power from diverse sources

By Ad Crable

As Chesapeake Bay drainage states and the nation move to fulfill bold commitments to convert to renewable energy in the next few decades, an inconvenient truth has become apparent: It can't be done without many more transmission lines.

Through neighborhoods, along roads and across mountains, the nation's network of power lines needs to double or triple in the next decade if the clean energy revolution is to succeed, warn the U.S. Department of Energy, scientists, environmental groups and many policymakers.

Thousands of miles of new lines are needed nationwide to get energy from solar panels, inland and offshore wind turbines, and battery storage facilities to the places where people live in large numbers.

Think of the electric grid system like a network of highways. Until recent years, major transmission lines were the super highways that connected the grid with a relatively few coal and natural gas power plants. But now, more highways are needed to reach smaller but more numerous renewable energy sources, many of which may be located far from population centers.

But the needed buildout is off to a slow start and Congress, the Federal Energy Regulatory Commission and Biden administration are stepping in to jumpstart the work and require interstate sharing of electricity.

"We must improve and expand national transmission capacity to meet the challenges of more frequent and intense weather, provide access to diverse sources of clean electricity and fulfill electrical demands driven by increased electrification of homes, businesses and vehicles," said Maria Robinson, director the U.S. Department of Energy's Grid Deployment Office.

Despite the clear need for an expanded grid, building largescale transmission projects in the U.S. has declined in the past decade. And few of the new high-voltage transmission lines connect different regional grids — which will be needed to send electricity from largescale solar and wind projects in the Midwest back to feed East Coast demand.



A technician works on a power grid update along Route 50 in Cambridge, MD. (Dave Harp)

The lack of an adequate transmission grid, combined with a surge in renewable energy projects and an overwhelmed review process, has caused massive backlogs in getting clean energy projects online.

In PJM Interconnection, which operates the grid serving Pennsylvania, Maryland, Virginia, West Virginia and District of Columbia, the backup has averaged seven years, according to the American Council on Renewable Energy. In 2020, more than 3,000 energy projects were in line.

PJM recently announced reforms to its review process, including studying projects in batches rather than individually, but it did not address the transmission line shortage.

"The development of new transmission is key," said Noah Strand, author of a new report on PJM's interconnection woes for the

American Council on Renewable Energy.

So, even with reforms in place, states such as Maryland and Virginia could face problems in meeting their aggressive clean-energy goals, warns a recent study by the Natural Resources Defense Council.

"Maryland has the most aggressive goals in the nation to reduce carbon emissions. The only way to meet the goals is to move the energy from where it is produced to where it is needed, and that's going to mean more [transmission] lines," said Kim Coble, executive director of the Maryland League of Conservation Voters.

Dominion Energy, with 300 million customers in Virginia and North Carolina, agrees that grid improvements are needed, said Gregory Mathe, manager of electric transmission communications.

"We are squarely focused on ensuring the grid in Virginia is reliable and meets energy demands while ensuring the conversion to renewable resources," he said. "We will invest in the transmission grid to ensure those components are able to move forward."

The backup also threatens to keep utilities and other developers of renewable energy from taking advantage of massive clean energy incentives being offered by the Biden administration's Inflation Reduction Act.

Expanding the grid would not only bring more renewable energy online, but also result in a more resilient reservoir of power needed to avoid blackouts during extreme weather events. It could also mean cheaper electricity for consumers.

More electricity is also needed to power the growing ranks of electric vehicles and to power data centers that have become especially concentrated in northern Virginia.

The necessary planning for such growth, especially to bring in power that originates beyond a regional grid's service area, has been mostly absent.

Disagreements over who should pay for regional transmission upgrades, a project approval system that allows state authorities in Pennsylvania, Maryland and Virginia to nix projects and set conditions, as well as public opposition on the local level, have hindered new transmission lines.

PJM has come under criticism for its lack of proactive transmission planning and its long interconnection backlog for renewable energy.

"We need to blow up the grid," added Dana Ammann, policy analyst of the Natural Resources Defense Council. "PJM is pretty behind on this. We need to be proactive and identify the larger lines that could do the work better than a scattered piecemeal approach."

Enthusiasm & objections

The widespread call for more power lines has attracted strange bedfellows, including influential environmental groups that in the past might have viewed new swaths of power lines across the landscape as a massive environmental threat.

"People are coming to grips with a new fact. We cannot consume energy without having impacts," said Coble, of the Maryland League of Conservation Voters.

Groups such as the Sierra Club, Environmental Defense Fund, Earthjustice, Natural Resources Defense Council and Union of Concerned Scientists sent a letter



High-voltage transmission lines march through farmland in Lancaster County, PA. (Ad Crable)

to Biden last December, urging him to expand transmission infrastructure to achieve the nation's climate goals.

The groups favor an approach called "Smart from the Start": early engagement with affected communities on concerns about environmental impacts, public health and environmental justice.

Though not part of the coalition, the National Audubon Society, known for its emphasis on protecting birds, released a paper in August titled, *Birds and Transmission: Building the Grid Birds Need*.

Yes, transmission lines kill birds, the group observed, but climate change could wipe out 389 species of American birds.

But a big challenge going forward is getting communities to allow, if not embrace, new power lines in their midst.

In 2017, PJM authorized the construction of a new high-voltage power line through York and Franklin counties in Pennsylvania and Harford and Washington counties in Maryland to ease electric congestion in the Baltimore-Washington area and to carry future power from renewable energy sources.

The Maryland Public Service Commission approved the Maryland portion of the power line in 2020. But later that year, the Pennsylvania Public Utility Commission denied permits to build the line, siding with more than 200 property owners who stood to lose portions of their land to eminent domain.

The Pennsylvania commission said the line offered no benefits to state residents and cited detrimental economic and environmental impacts on real estate, farming practices and tourism.

"PJM has shown this project is a necessary investment to address market inefficiencies and reliability issues," argued Todd Burns of line contractor Transource Energy after the decision. "These problems do not go away with today's action, and ultimately they will need to be addressed. Pennsylvania will play an important role in transmission grid expansion given the evolving electrical needs in this region and the growing influx of new generation that is expected."

For all the headwinds pushing against a pivotal transmission buildout, the Natural Resources Defense Council's Ammann thinks change is happening and will increasingly be driven by a public demanding action on climate change.

"I feel there is more energy and openness to what we need to do in order to achieve the aspirations that we've laid out," she said. "I think people are feeling the impacts of climate change more clearly every single season and are motivated to push their representatives in the right direction and demand accountability from agencies involved in permitting and siting."

Feds stepping in

The transmission capacity shortfall has prompted an emerging federal intervention.

Biden is pushing Congress to pass legislation to streamline permitting rules for clean energy projects. In the meantime, he issued an order in August directing federal agencies to ease siting and permitting steps for interstate transmission lines.

The same month, the U.S. Department of Energy announced its intention of



Sections of electric towers lay in a staging yard operated by AUI Power in Cambridge, MD. They will be used for a power line project between Cambridge and the town of Vienna, about 15 miles away. (Dave Harp)

designating "National Interest Electric Transmission Corridors." Selection of priority corridors would open up transmission line funding under the Inflation Reduction Act and could overrule state energy commissions that haven't acted promptly on siting power lines or have denied permits for them. Maryland, Virginia and Pennsylvania all have such independent commissions.

During the protracted budget reconciliation process in Congress this summer, Democrats tried to include the "Big Wires Act" that would have expanded the federal government's role in approving interstate transmission lines. But Republican legislators objected and it was not included.

Now, Sen. John Hickenlooper, a Democrat from Colorado, is preparing to introduce a bill that contains those initiatives. It would require regional transmission organizations like PJM to share at least 30% of their peak electricity with neighboring regions. The intent is to encourage more transmission lines as well as to bolster grid reliability during extreme weather to enable the movement of power to where it's needed when solar and wind generation wanes.

In July, FERC announced a generator interconnection reform rule. One thrust is to restructure how utilities and regional grid operators plan and weigh the benefits of long-range transmission projects. FERC also is requiring that regional grid operators

adopt a first-ready, first-served study process to weed out speculative clean-energy projects that often never get built.

Some industry analysts are critical that the reforms do not address the root cause of permitting backups: lack of adequate transmission capacity to hook the renewable energy projects to the grid.

With a lethargic response so far to new transmission lines, some are urging that existing power lines be rewired with new higher-voltage lines or that high-voltage lines be restrung with new, state-of-the-art materials that can double the current.

There also are smart technologies that can more efficiently regulate the flow of electricity. Others suggest private contractors be given permission to build transmission lines on speculation, then sell electric capacity.

Some of these grid-enhancing technologies are being put into use. In its Pittsburgh service area, Duquesne Light has rolled out dynamic line ratings, which can expand the amount of electricity carried through lines by moving it away from overloaded lines detected using real-time sensors.

But multiple industry analysts say that many utilities are wary of new technology because the standard business model provides guaranteed revenue returns by charging ratepayers for new infrastructure projects. ■

Community composting programs gain foothold in Bay region

Curbside food-scrap collection helps reduce methane releases from landfills

By Jeremy Cox

Like a fine wine, the Organics Composting Facility in Upper Marlboro, MD, possesses a complex bouquet. On a weekday afternoon in mid-September, after a streak of unseasonably hot days, a discerning nose would have detected notes of sandalwood, vanilla, wet leaves, raisins and stewed plums mingling in the air.

“It’s fresh to me,” said Denice Curry, inhaling deeply. “In general, it smells good.”

To Curry, it’s the smell of success. She has been one of the primary architects of a program that collects food waste from Prince George’s County residents and hauls it here instead of a landfill. Six years ago, the effort began with 200 residents; by January 2023, officials had made curbside containers available to about 75,000 residents, representing nearly half of the county’s eligible population.

Food-scrap collection is becoming more common in communities across the Chesapeake Bay region and beyond. Since 2005, the number of U.S. households with access to such programs has mushroomed from 576,000 to nearly 15 million, according to a survey published in September by *Bio-Cycle*, a magazine that promotes recycling.

The Mid-Atlantic has been at the vanguard of the movement. New York leads the region, having 1.7 million households with access. That is followed by Virginia with 672,000, Maryland with 221,000, DC with 108,000 and Pennsylvania with 6,500, according to the magazine. These include communities with curbside pickup, drop-off only or a combination of the two.

Supporters point to benefits such as lower levels of methane generated by landfills, increased carbon sequestration in soils where the compost is applied and the creation of new jobs. The material can also aid the Chesapeake cleanup, local advocates say, by helping soils retain nutrients that might otherwise find their way into the estuary, fueling destructive algae blooms.

But the effort hasn’t been without growing pains. Local governments can face hefty upfront costs, such as paying for the construction of processing facilities and buying curbside containers by the hundreds or thousands. In many communities, the programs have often rolled out exclusively to the dwellers of detached single-family homes, raising equity concerns.



Denice Curry, administrative specialist with the Prince George’s County Department of the Environment, stands by a compost grinder at the county-owned Organics Composting Facility in Upper Marlboro, MD. (Jeremy Cox)

And then there is perhaps the biggest hurdle of all: persuading residents to fill their bins. In communities large and small, many programs have limped off the starting line.

Take Arlington, VA, where, in September 2021, officials attempted to goose participation in the startup by supplying residents with a how-to website, a 2-gallon indoor caddy and 20 compostable bags. They also produced instructional videos and hosted town halls in the run-up.

Erik Grabowsky, the DC suburb’s longtime solid waste chief, said he hoped a little more than half of the locality’s 32,000 homes would become regulars. But the rate has been closer to 20–25%. He attributed the muted response to difficulties with changing human behavior. The program, he added, also has struggled to overcome a perceived “yuck” factor.

“People have all these concerns about, ‘Oh, I’m going to get bugs,’ or, ‘Oh, I’m going to get rats,’” Grabowsky said. Waste authorities have generally responded to such concerns by providing vermin-proof containers and advising residents to use paper or other biodegradable material at the bottom to reduce odors.

In her Upper Marlboro neighborhood, Janet Gingold said her container is often the only one at the curb on Monday mornings. She wants local officials to offer more public education and push back harder

against any whiff of an idea that composting is hard, smelly work.

“It’s really easy,” said Gingold, chairwoman of the Prince George’s Sierra Club chapter. “I think a lot of people think of composting as something you have to work at. But the program in Prince George’s County is so user-friendly.”

How much a household pays for the service varies widely by geography.

Some communities offer the service for free, such as Takoma Park, MD. Others have raised their waste-hauling fees by modest amounts. In Virginia, for example, Falls Church’s monthly cost went up by \$8 while Arlington’s rose by \$12. In nearby Alexandria, residents can get the service free for six months, then pay \$21 per month afterward. But community programs almost always cost less than the \$32 per month, on average, that private contractors charge in the region, advocates point out.

New composting milestones are cropping up with regularity around the Bay.

Last January, Maryland, in an effort to support the state’s nascent organics recycling industry, became the second state in the Bay drainage after New York to begin enforcing limits on dumping organic waste into landfills. The state started requiring the largest generators of food waste, such as supermarkets, to recycle the material instead. Beginning Jan. 1, 2024, the law



Finished compost produced at the Organics Composting Facility in Upper Marlboro, MD, is sold under the brand name Leafgro Gold. (Jeremy Cox)

expands from applying only to entities that produce at least 2 tons of scraps per week to those that churn out as little as 1 ton.

This fall, in neighboring DC, officials are expanding a system of drop-off sites to include an experimental curbside pickup effort. About 9,000 homes were expected to be on board by the end of September.

In Prince George’s County, officials hope to expand curbside service by early 2024 to all 180,000 residents currently receiving trash and traditional recycling services.

At that point, the residential composting program will be the third-largest in the country after New York City and Seattle, they say.

One of the most salient measures of the surge in food composting’s popularity is the Organics Composting Facility itself. Owned by the county and operated by the Maryland Environmental Service, the 200-acre campus accepts both yard and food waste from as far away as Ohio and South Carolina. Last year, only a half-percent of all loads comprised food scraps, said operations manager Steven Birchfield. This year, that figure has jumped to 2.5%.

The two types of scraps are layered together like a “sideways lasagna,” he said during a walking tour of the grounds. From there, microbes and nature take over. If managed properly, the compost doesn’t smell like rotting garbage. It takes about eight weeks for the material inside the brownish mounds to be ready for sale. Garden centers and farms are among the biggest buyers.

“It’s kind of like back to the future,” said Curry, the Prince George’s official. “My grandmother was composting at home. She used it to fertilize her hydrangeas. We’re cycling back to what nature wanted us to do.” ■

Meetup group beckons newer birders to the field and forest

Northern VA Audubon group hopes to lure future conservationists

By Whitney Pipkin

Hawks were the gateway bird that turned Santiago Carnice, age 10, into a birder. For Jacob Roberts, 24, it was an ornithology class at his university in Colorado that piqued his interest — just as the pandemic left him looking for a new outdoors hobby.

“It’s a combination of mindfulness and real-life Pokémon,” Roberts said as he hiked down a new trail with a group of seven birders he had met just that morning.

Being relatively young and relatively new to birdwatching were the only criteria for joining this group that gathered at Prince William Forest Park on the first not-too-hot Saturday of September. Sponsored by the Audubon Society of Northern Virginia, the NextGen Birders for Conservation group was started in 2022 to reach just this sort of people: the fledglings of the birdwatching world.

A 2016 report on birding in the United States found the average age of a birder to be 52, with the majority of birders in the 55-and-older group. The average birder is also more likely, compared to the general population, to be a White male.

As the local Audubon group looked to the future, organizers saw “the need to engage more young birders to carry the torch of conservation,” wrote program manager Tina Dudley and member Libby Lyons in an article announcing the initiative last year.

To reach younger people who might be interested in birding, the group set up a page on Meetup, a platform for finding and building communities. Events so far this year have included birding hikes at Algonkian Regional Park in Sterling, Frying Pan Park in Herndon and Bull Run Regional Park in Centreville.

The group also promotes relevant events hosted by other groups, such as a firefly-focused dark skies night at Wolf Trap National Park in Vienna and opportunities to see raptors up close at the Audubon group’s annual meeting. The NextGen Birders Meetup page has about 230 members so far, but fewer than 10 usually show up for a hike on a particular day.

The events are hosted by birding experts and new birders alike. Abby Flanders, 29, teaches biology at a high school in Prince William County and organized the hike



A group of relatively young and relatively new birders gathered at Prince William Forest Park in Virginia on a September Saturday as part of the NextGen Birders for Conservation group. (Whitney Pipkin)

on Sept. 9. She met up with Tina Dudley beforehand to collect binoculars for participants to borrow, if needed. She beamed at the new arrivals while wearing a shirt from Hawk Mountain Sanctuary that featured vultures and said “no carcass left behind.”

Doing bird walks with this group has been “a good reminder that it’s OK to be learning something new,” Flanders said. “That’s the joy in it.”

Flanders used to work at a nature center and could identify the calls of several birds on the hike. (“Sweet-sweet-I’m-so-sweet,” is a yellow warbler, one of her favorites.) Still, she said, “I’m by far not the expert birder.”

Many of the other birders she’s met in this group have been trying out the hobby for a few years. A lot started birding during the pandemic, finding respite and new things to research in the great outdoors.

And almost everyone’s birding journey has been aided by apps. Santiago’s parents, Megan and Hans Carnice, who also brought their 5-year-old son, Esteban, hadn’t heard of the Merlin Bird ID or eBird apps yet.

“You need Merlin!” said Kathryn Lawson, 29, a research associate at Penn State who lives in Woodbridge. “It’s basically a traditional bird book on your phone.”

Both apps were developed by Cornell University’s Lab of Ornithology. The Merlin app helps users identify a bird in the wild from a photo or birdsong recording. You can run the app’s sound ID feature in your backyard and see pictures of nearby



A fascination with hawks turned Santiago Carnice, age 10, into a birder. (Whitney Pipkin)

birds pop up on the screen. Users can also explore lists of birds that they are likely to see nearby.

eBird has similar lists and can point birders to nearby “hot spots” where a large number of species are often present. It’s also the app many birders use to track the species they see in a single walk or to build

a “life list” of what they’ve seen over time. These lists help contribute to an international bird database that informs research worldwide on bird migration and habits.

Janice Cessna, 45, uses the apps often at home in Warrenton, where she’s gotten back into birding recently. She drove about an hour to join the group for the first time that Saturday.

“I go out and bird by myself back home, but I think having at least one other person around might be helpful to spot more things,” she said.

Standing in a rocky expanse of Quantico Creek shrouded by trees, her hypothesis seemed to be proving true. Roberts stood at one end with his binoculars in hand and a bird-ID app running on his phone, spouting out names: Acadian flycatcher, Carolina chickadee. Later, Cessna spotted a northern parula, whose males are blue-backed and yellow-bellied, and the others helped to verify it. Then there was a Carolina wren, a white-breasted nuthatch and a downy woodpecker.

“Could someone get eyes on it?” Roberts asked from another vantage point along the trail, pointing across the river to a bird that the group worked for several minutes to identify.

It had a gray head and body with yellow streaks on either side of its tail feathers and a bit on its wings. It was just hard enough to identify that the group decided it was a female of some sort as they swiped through the likely bird list for the area.

Finally, Roberts came up with the answer. “It’s an American redstart, a female,” he said, and others used binoculars to verify it. If more experienced birders had been along, they agreed, the newer birders might not have had the chance to identify it on their own.

“It’s so fun to figure out,” Flanders said. “It’s like a scavenger hunt.”

“Yeah, it’s like, ‘Find that Pikachu!’” Roberts said, referring to the elusive yellow Pokémon character.

After an hour and a half, a few of the participants said they needed to head out and the not-so-formal walk came to a close. Roberts said they identified 21 birds that morning, which he’d been tracking on the eBird app.

But he had driven all the way from Arlington and wasn’t quite done. “I’m gonna stay for a while if anyone wants to join me,” he said.

“I’m in,” said Cessna, having seen the power of birding in numbers. ■

Residents push back on planned cruise ship visits to Yorktown

Large ships seen as threat to character, air quality of historic town

By Whitney Pipkin

A cruise ship carrying about 3,000 people is planning to anchor in the York River on three occasions next summer, giving travelers the option to visit Virginia's "historic triangle" of Yorktown, Jamestown and Williamsburg by water (and bus).

But not everyone in Yorktown is thrilled about it. Some of the fewer than 300 residents living in the small historic area next to Yorktown's beach and national battlefields find a 16-deck Princess Cruises ship out of character for the quaint town where the final major battle of the American Revolutionary War was fought.

These residents are also concerned that a three-visit pilot project next year could quickly balloon into more visits. The potential environmental footprint of even larger ships could be even greater in the future.

"We are not against tourism or cruise ships in general," Yorktown residents Elizabeth Wilkins and Jacques van Monfrans wrote in an opinion article on behalf of a newly formed group called Preserve Yorktown. "It is the sheer scale of these large ships and their inevitable large impact that concerns us."

Princess Cruises is a smaller subsidiary of Carnival Cruise Lines, which operates a fleet of 15 ships. The ships range in capacity from 2,000 to 3,600 passengers and about 1,000 crew members. For comparison, the Royal Caribbean's new *Icon of the Sea*, billed as the world's largest cruise ship, will carry 7,600 guests and 2,350 crew members when it launches next year.

Yorktown is already a port of call for much smaller American Cruise Lines ships, which carry 170 passengers at a time. Larger cruise ships visiting this region of Virginia typically come from Norfolk, VA, which has a terminal for them.

In February, Princess Cruises announced its plan to visit Yorktown for the first time in 2024. Initially, the cruise company planned five one-day visits to Yorktown, three from its 2,200-passenger *Island Princess* and two from its 3,080-passenger *Emerald Princess*. These cruises would be part of its "American Heritage" and "Canada & Colonial America" trips, ranging from 10 to 14 days in length, with



A sign in Yorktown, VA, expresses opposition for a pilot project by Princess Cruises to visit the town three times in June 2024. (Whitney Pipkin)

other stops in places like New York City, Boston and Charleston.

But during an informational meeting in Yorktown on Aug. 14, Princess Cruises representatives spoke only about the *Island Princess* making three Yorktown visits next June. A Princess Cruises spokesman later confirmed that visits from the larger *Emerald Princess* are no longer planned for 2024.

Princess Cruises spokesman Vance Gulliksen said via email that the company made the change "at the request of [Yorktown] community leaders to avoid visits on weekends and holidays."

By the week of the August meeting, the Preserve Yorktown group had started an online petition opposing any cruise ship visits to Yorktown. By the end of the month, the petition had garnered 5,000 signatures.

Public input

Yorktown residents Barbara Luck and Alyssa Adams were alarmed about the idea of a 204-foot-tall cruise ship coming to Yorktown when they learned about it in February. The ship is about twice as tall as the Coleman Memorial Bridge that carries U.S. Route 17 across the York River to

Gloucester Point. They didn't know where the nearly 1,000-foot-long ship would anchor or how it would manage getting so many visitors in and out of town.

They were also concerned about the impact of such a large ship on local air and water quality. Above all, residents said they wanted to have their concerns and questions addressed in a public forum. When they asked members of the York County Board of Supervisors for more information about the cruise company's plans, "they repeatedly said to us through the first half of this year

that they didn't know anything," Luck said.

Yet, by the end of May, customers could begin buying tickets online for three different *Island Princess* trips in June 2024 with one-day stops at Yorktown.

The Preserve Yorktown group began obtaining documents through a Virginia Freedom of Information Act request that showed some board members did know about the cruise company's plans as far back as December 2022. That's when the chair and vice chair of the Board of Supervisors sent a letter to their representative in Virginia's General Assembly requesting "a \$15 million special appropriation for the initial phase to support this major cruise line tourism commitment to Yorktown."

The letter said Princess Cruises intends to run 2024 visits with the help of tender boats — smaller boats that would run visitors from the cruise ship to a public pier on the shore — with plans to eventually build a new pier for cruise ships at the privately owned Watermen's Museum campus. The double-swing Coleman Bridge across the York River would need to open more frequently to allow the *Island Princess* to reach such a pier.

The county board members seem to be getting what they asked for. A 2023 amendment to the state budget sets aside \$7.5 million in 2024 and another \$7.5 million in 2025 for the Virginia Port Authority to support "a cruise ship port-of-call location and related visitor support and tourism on the York River at Yorktown."

The funds are contingent on there being an agreement in 2023 with at least one cruise ship company planning to visit. The amendment also states that a workgroup and outreach efforts should involve stakeholders in the region and that project plans should demonstrate a positive return to the state for its investment.



The *Island Princess* has 16 decks and carries 2,200-passengers. (Courtesy of Princess Cruises)



The view of Virginia's York River will include a large cruise ship when the *Island Princess* makes three visits to Yorktown in June 2024. (Whitney Pipkin)

Chad Green, who represents Yorktown on the county Board of Supervisors, said in an email that the board does not have jurisdiction over the cruise line or any agreements it makes with private entities like the nonprofit Watermen's Museum. Overall, he said the county should measure the success of the initial cruise ship venture by how well the county can preserve both "quality of life in the village and a steady stream of positive net income for the community."

Green, who is currently running as a Republican for Virginia's 69th District in the House of Delegates, said he could see both sides of the cruise ship debate. While the cruise ships will bring additional tourists to the area, he said, "I share many environmental concerns as well as concerns that large cruise ships may destroy all the things that we love about Yorktown."

Cruise ships run their engines around the clock and traditionally burn heavy fuel oil for power, which emits nitrogen oxides and

sulfur oxides. Tougher 2020 standards from the International Maritime Organization requiring cruise ships to reduce sulfur emissions have caused companies like Princess Cruises to add scrubbing systems that greatly reduce pollution but don't eliminate it.

Princess Cruises' head of communications, Vicki Johnson, noted at the August meeting that the company doesn't "have the best track record in the world" when it comes to the environment. Princess was convicted of felony charges and fined \$40 million in 2017 for deliberately dumping oil-contaminated waste from one of its vessels. The U.S. Department of Justice said it was the largest criminal fine ever issued for intentional pollution from a ship. The company was fined another \$20 million between 2019 and 2022 for violating its probation terms.

Padgett said the company has since spent hundreds of millions of dollars to make its ships "the most sustainable engineered



Yorktown, VA, residents (from left) Elizabeth Wilkins, Jacques van Monfrans and Barbara Luck helped to form a group called *Preserve Yorktown*, which opposes plans by Princess Cruises to visit the town next summer. (Whitney Pipkin)

machines that exist," citing reductions in food waste and "closed-loop" systems for treating other forms of waste.

Full steam ahead

Not long after the *Preserve Yorktown* group started a petition and began staking "No Princess" signs in yards, Princess Cruises organized an informational meeting. The meeting, which took place at the American Revolutionary Museum on Aug. 14, was attended only by those who had received invitations and RSVP'd, though a recording of it was later posted to Yorktown's tourism website. Attendees could not ask questions publicly but could ask questions at booths manned by company representatives after the presentation.

The meeting included cameos by TV conservationist Jeff Corwin and Jill Whelan, an actress from the 1970s and '80s TV series *The Love Boat*. Both are paid ambassadors for Princess Cruises.

Princess Cruises' President John Padgett explained at the meeting that he is a Virginia native who grew up in the Yorktown area, lifeguarding at the town's beach as a youth. When people around the world ask him where he's from, "I say, 'Yorktown, where independence was born.'"

It's always bothered him that people seem to know about Williamsburg but not Yorktown, he said. And he sees his cruise line as a way to change that.

"Yorktown is historic, but it doesn't have access," he said, noting the distance to international airports and traffic woes of Virginia's Tidewater region. "That's the problem Princess Cruises solves. We insert guests directly — via the deepwater characteristics of the river — into the commerce

engine and then take them away."

For Princess Cruises' three one-day visits in 2024, the ship will anchor well offshore to accommodate its 26-foot draft. Passengers will be shuttled on much smaller 90-passenger tenders to the Yorktown waterfront, where buses will take them to various destinations. Padgett said about two-thirds of the ship's 2,200 passengers typically go ashore and that the tenders allow daytime visitors to trickle in at a steady pace.

Some county documents reflect plans to eventually construct a long pier from the only privately owned property along Yorktown's waterfront at the Watermen's Museum upstream from the Coleman Bridge. But both Princess Cruises and Steve Ormsby, president of the Watermen's Museum, have backed away from discussing details.

"We do have an ability to put a pier out there, but it would be expensive to put one out there that is capable of supporting a cruise ship," Ormsby said. "It's a possibility, but no funding has been reached."

Meanwhile, at the Aug. 14 meeting, Princess Cruises presented Ormsby with a \$5,000 check to help pay for educational programs at the nonprofit Waterman's Museum.

At the meeting, Padgett said building a relationship between the cruise company and a new destination is "a multiple decade journey."

"My guests have to love Yorktown and Yorktown has to love my guests. That's what we're hoping to do with the three [visits] next summer," he said. "My hope is that people love it. But if it doesn't [work out], then we won't come back." ■



A runner travels the brick walkway that lines the shore of the York River in Yorktown, VA. (Whitney Pipkin)

Tree cover declines, pavement spreads across Bay watershed

Analysis shows 5-year growth in impervious surfaces is larger than total acreage of District of Columbia

By Timothy B. Wheeler

When it comes to safeguarding the ecological health of the Chesapeake Bay and the rivers and streams that feed it, little is more pernicious than development and nothing more beneficial than trees.

Yet despite long-running, wide-ranging efforts to restore the Bay, high-resolution aerial survey data show that an area larger than the District of Columbia is being covered by pavement and buildings every five years. Over the same period, an area the size of Arlington County, VA, loses tree cover, dwarfing watershedwide tree-planting efforts aimed at replacing cover already lost.

Those data, recently released by the Chesapeake Bay Program, highlight the as-yet unmet challenge of reversing the harm that development is causing to the Bay and its tributaries. The 2014 *Chesapeake Bay Watershed Agreement* signed by all six Bay watershed states and the District of Columbia pledges only to “evaluate policy options, incentives and planning tools” that local officials might use to curb forest loss and reduce the spread of runoff-inducing paved surfaces.

Comparing aerial imagery and other data gathered between 2013 and 2018, the nonprofit Chesapeake Conservancy, the U.S. Geological Survey and a University of Vermont laboratory tallied 3,012 square miles of the Bay watershed covered by buildings and pavement. Such impervious surfaces keep rainfall from soaking into the ground. Instead, the rain picks up pollutants as it washes toward local waterways. Stormwater runoff is a significant and, according to Bay Program computer models, a growing source of pollution degrading the Bay.

While impervious surfaces currently cover less than 5% of the Bay watershed’s 64,000 square miles, they are spreading at the rate of 50,651 acres or 79 square miles every five years, the groups’ analysis found. The District of Columbia encompasses 68.3 square miles, by comparison.

The analysis found that buildings accounted for a little less than a third of the increase in impervious surfaces, while roads added 4%. Nearly two-thirds of the spread came in the form of new parking lots, storage lots, driveways, sidewalks, runways and the like.



Amputated tree trunks and mounds of shredded wood are all that’s left of a patch of woods off Aris T. Allen Boulevard in Annapolis that was cleared in 2022 for development. (Dave Harp)

The aerial surveys found that 8,307 acres of trees had been planted across the Bay watershed from 2013 to 2018, with efforts in Maryland accounting for more than 80% of that. Yet communities throughout the watershed lost more than 25,000 acres of canopy, three times what was planted. The net loss of tree canopy was about 16,000 acres, or 25 square miles. Arlington County, VA, covers 25.8 square miles, as a comparison. While Maryland had the largest acreage in tree plantings, it also had the greatest net loss of trees in that period, the groups found.

Trees provide a panoply of ecological and health benefits. They soak up rainfall, stabilizing soil and preventing runoff of nutrient and sediment pollution that harms water

quality. They also reduce air pollution and provide shade that mitigates summer heat.

Bay Program participants called the data sobering but said they believed it could spur local officials to do more to curb the impacts of development.

“Data and technology can inform and empower the Chesapeake conservation movement like never before,” said Joel Dunn, president of the Chesapeake Conservancy. “In this case, land use decisions in the watershed will finally be informed by both the amount and the value of tree canopy status in every county, one of the most significant factors for water quality.”

Matt Stegman, a lawyer in the Maryland office of the Chesapeake Bay Foundation, called the data “a wake-up call for local



Analysis of high-resolution imagery has revealed that pavement and buildings cover about 45% more of the Chesapeake Bay watershed than had been previously identified. (Dave Harp)

jurisdictions to target reforestation projects and policy solutions in places most rapidly losing canopy.”

The data released in August by the Bay Program largely tracks with preliminary analysis of the aerial surveys first reported in 2022 by the *Bay Journal*. At that time, the groups said the watershed was adding more than 12,000 acres annually of runoff-inducing pavement and buildings.

They also reported in 2022 that communities in the Bay watershed cumulatively suffered a net loss of more than 29,000 acres in urban tree canopy. That’s higher than the current net loss tally of about 16,000 acres, but further analysis found that some of those losses were offset by tree cover forming on otherwise developed lands, according to Bay Program geographer Sarah McDonald.

The latest analysis doesn’t mention another significant trend. In 2022, the groups’ preliminary analysis found the watershed was losing more than 20,000 acres of forest a year.

McDonald said the overall forest loss number remains the same, but the groups chose not to report that to the public again because they are “working on better understanding land conversion,” particularly the generally permanent loss of forest to development versus the short-term but potentially replaceable loss of forest to timbering or farming.

Counties with the biggest increases in impervious cover

2013–14 to 2017–18

- Sussex County, DE: 3,313 acres*
- Lancaster County, PA: 2,424 acres
- Loudoun County, VA: 2,222 acres
- Chester County, PA: 2,002 acres*
- York County, PA: 1,770 acres
- Cumberland County, PA: 1,763 acres
- Kent County, DE: 1,746 acres*

*Only partly in the Chesapeake Bay watershed
Source: Chesapeake Bay Program, 2022

Examples of net loss of tree cover

2013–14 to 2017–18

- Anne Arundel County, MD: 1,710 acres
- Albemarle County, VA: 1,427 acres
- New Castle County, DE: 650 acres
- York County, PA: 576 acres
- Hampshire County, WV: 458 acres
- Broome County, NY: 70 acres

Source: Chesapeake Bay Program, 2023

Hellbenders to be reconsidered for endangered species list

Judge strikes down decision denying protection for large aquatic salamander

By Ad Crable

A federal judge has ordered the U.S. Fish and Wildlife Service to take another look at its 2019 decision denying endangered status protection for the eastern hellbender, the nation's largest aquatic salamander that is found in low numbers in all Chesapeake Bay drainage states.

On Sept. 5, Judge Lewis Liman in a U.S. District Court in New York voided the federal agency's 2019 decision. Liman ruled that one of the agency's determinations that hellbenders were not threatened or endangered because of emerging conservation and reintroduction efforts could not be assumed to head off population declines.

The Center for Biological Diversity, Middle Susquehanna Riverkeeper Association, Waterkeeper Alliance, Lower Susquehanna Riverkeeper and Waterkeeper Chesapeake had sued the U.S. Fish and Wildlife Service in 2021 over denying endangered protection status for the hellbender, Pennsylvania's state amphibian.



A juvenile eastern hellbender hatched in captivity rests in a storage tank before being introduced into a stream in the Susquehanna River basin in Pennsylvania. (Middle Susquehanna Riverkeeper)

"There are few creatures as symbolically significant to our work in the Susquehanna River watershed as the eastern hellbender, a misunderstood and underappreciated species that is a critically important litmus test of water quality," Middle Susquehanna Riverkeeper John Zaktansky said after the court ruling.

Information submitted in the application

that seeks to declare hellbenders endangered said that the number of known healthy populations in the U.S. had declined by 61% and that 63% of the remaining populations were in decline.

The Fish & Wildlife Service had countered that conservation efforts would prevent hellbenders from becoming endangered throughout a significant portion of its range.

Eastern hellbenders, which live up to 50 years, are found in 15 states. They have been around for tens of thousands of years and are the largest amphibians in the world aside from a 4-foot-long species in Asia, which is their closest relative.

A fully aquatic salamander with slimy, wrinkled skin, the eastern hellbender can grow up to 2 feet long and goes by an unflattering array of nicknames such as devil dog, mud devil and snot otter.

Hellbenders survive only in clean, well-oxygenated and fast-flowing streams. They also need streams with plenty of boulders to hide under and snatch prey, which consists almost entirely of crayfish with an occasional minnow or trout egg.

They are secretive, live most of their lives under a single boulder or two, and only come out at night to feed. Few people have ever seen them, though anglers fishing with bait occasionally are startled to find one at the end of their lines.

Pennsylvania named the eastern hellbender its state amphibian in April 2019. ■



Join us for a *Bay Journal* film event

A Passion for Oysters



A new *Bay Journal* film by Dave Harp, Tom Horton & Sandy Cannon-Brown

Thursday, October 26, 2023
5:00–8:00 p.m.

Film begins at 6:00 p.m.
At the "447 Venue," 447 Race Street
Cambridge, Maryland

A reception with hors d'oeuvres
& fresh shucked oysters,
followed by the film and
a panel discussion

Tickets are \$50 and must be purchased
in advance at bayjournal.com/events



'Surgical' solution tested on the Anacostia's toxic hot spots

New method buries footlong plastic spears to absorb and remove contaminants

By Whitney Pipkin

A group of people standing knee-deep in the marshy muck of the Anacostia River might have been mistaken for mussel foragers on an early August morning, except for their hazmat-like clothing. And the foot-long mud-covered spikes they pulled out of a highly contaminated stretch of the river that day were not for consumption.

The 63 plastic spikes had spent a year in the riverbed absorbing PCBs, or polychlorinated biphenyls. Now they could be removed, taking the toxic contaminants with them — and out of the Anacostia ecosystem.

That's the idea behind the technology, developed by NASA scientists and used by the Florida-based company ecoSPEARS. The Anacostia River is among a handful of locations around the world — including Sweden, Guam and the Port of San Diego — where it's being tested as an alternative to dredging.

While dredging can remove toxic sediment quickly and effectively, it disrupts the aquatic environment and can reintroduce some contaminants into the water column. It also can come with high transportation costs, depending on how far it is to a landfill or incinerator that is equipped to receive toxic materials.

The PCBs settled in the Anacostia riverbed were once used as coolants and insulators in electrical equipment by the industries that flanked the river in Washington, DC, and Maryland. They are now known as likely causes of cancer and other health problems in humans. Their presence is one of the reasons it's not considered safe to swim or wade in the Anacostia, or to eat fish caught there.

"Everything that's an aspect of industrialization was trying to do good for our world," said Sergie "Serg" Albino, an aerospace and thermal engineer who worked at NASA before co-founding ecoSPEARS, where he is now the CEO. "We just didn't know at the time that it's bad for you."

New approach

Many technologies originally developed by NASA are eventually spun off into startup companies looking to apply them to real-world problems. This is one of those applications.



Workers with the Florida-based company ecoSPEARS remove dozens of footlong plastic spears from a cove in the Anacostia River on Aug. 8. Called "spears," after the acronym for their technical name, they spent a year in the sediment, absorbing toxic PCBs as part of an effort to remove them from the local ecosystem. (Dave Harp)

Chemicals like PCBs, DDT and dioxins are hydrophobic, meaning they do not dissolve or mix in water. After reading an article about how these chemicals can be carried across entire oceans in plastics that had absorbed them, NASA researchers realized that plastics could be used to deliberately attract, absorb and remove contaminants from the environment.

"It works like a sponge," Albino said. "When you deal with sediment contamination, you have to throw everything but the kitchen sink at it."

The ecoSPEARS company is named for its product: "SPEARS" stands for sorbent polymer extraction and remediation system.

The "spears," as they're called, are deployed in clusters at least four inches apart, working like sponges to absorb chemicals

through their plastic exterior into a reagent at their core. The number of spears used and number of spears per cluster depend on the removal needs of a particular project. Albino said the company is also experimenting with longer spears that would work at greater depths.

After being separated from the sediment, the contaminants absorbed by the spears can be destroyed more efficiently using a UV system, the company says.

Exelon, which owns the electric utility company Pepco Holdings in Washington, DC, is supporting a pilot program to test ecoSPEARS in the Anacostia River as part of its cleanup work near Pepco's Benning Road Transfer Station. Pepco, along with Washington Gas and the U.S. Navy, is among the parties that have signed consent



Spears used to extract contaminants from the Anacostia marsh stand in a bucket. (Dave Harp)

decrees pledging to clean up pollution in the river generated by their facilities in the past.

The District of Columbia is leading the



Sergie "Serg" Albino, co-founder and CEO of ecoSPEARS, displays a clean set of specially designed spikes that help remove toxic contaminants from river sediment. (Dave Harp)



Tony Cespedes, left, and Nolan Bennett retrieve ecoSPEARS from an Anacostia River mudflat. (Dave Harp)

effort to remove or remediate the toxics that remain in the Anacostia. A document released in 2020 detailed initial plans to dredge or cap-and-treat contaminated sediment in 11 "hot spots" along a 9-mile stretch of the lower river before it joins the Potomac River, at a cost of more than \$35 million.

As part of that plan, the responsible parties are looking at alternatives to more traditional approaches to toxics removal and testing how feasible and effective they

are. These include capping and sealing some contaminated sediment in place and spreading activated carbon to trap contaminants in some areas.

In other places where ecoSPEARS have been deployed, Albino said they have removed 35–80% of the nearby pollutants within six months and "it goes up from there."

When the Anacostia spears were checked at the six-month mark, they had removed 35–50% of the contaminants that had been measured in the sediments before the spears were deployed, he said. The range accounts for variations across the treated area, which covered about 50 square feet of the cove's marsh. Albino said the 12-month removal data — how much the spears had removed by the time they were pulled out in August — will be included in the report compiled by AECOM, the contractor Pepco hired to run the pilot project.

Upal Ghosh, a professor at the University of Maryland in Baltimore County who specializes in toxics remediation, said he is not aware of research analyzing the effectiveness of the spears and could not, for now, speak to its effectiveness.

One of the concerns with any toxic sediment removal plan is the degree to which the river — and its sediments — continue to receive new contamination.



Chemist Roland Bennett holds some of the spears he pulled from sediment along the Anacostia River. (Dave Harp)

Potential ongoing sources of toxics from an upstream tributary in Maryland continue to be a concern for the cleanup plan in the Anacostia River.

Localized solutions

Ravi Damera, a senior program manager with AECOM, learned about ecoSPEARS when he met Albino at a conference. He wanted to try the concept as a pilot project in the Anacostia, and ecoSPEARS eventually received a \$100,000 grant for the work.

Once labs have analyzed the results, the spears technology will be evaluated in comparison to other clean-up methods. The U.S. Environmental Protection Agency has a list of criteria for assessing the best solutions by considering both the cost and overall impact on the environment.

Albino said it's difficult to predict the cost of ecoSPEARS applications until the full scope of the project is known. He said

using it typically costs 40–50% less than dredging and hauling.

A range of solutions will be part of the overall toxics cleanup plan for the Anacostia River and its 11 hot spots near industrial areas.

Damera said cleanup crews have already spread activated carbon in some portions of the cove near the Pepco transfer station. The carbon, similar to what is used in drinking water filtration, creates a bioactive zone that can absorb PCBs and other contaminants, trapping them in place.

Albino said ecoSPEARS will be most effective when it's used "surgically" as part of a more varied treatment plan, similar to how doctors treat cancer in humans.

"When you're dealing with environmental cleanup, you want to start at the hot spots," he said. "We go to those higher concentration areas so that, if we reduce those, it helps out the rest of the waterway." ■

Hammerhead worms are social media stars no one asked for

Bizarre flatworm species appears to be doing no harm in Bay region

By Jeremy Cox

Move over, bats. Halloween may have a new animal icon.

Meet the hammerhead worm, an invasive species of flatworm that downs its prey with the same neurotoxin employed by pufferfish and can reproduce an entirely new worm by detaching a piece of itself — no head required. It can be a gardener's best friend because it feeds on invasive earthworms that degrade the soil. And, frankly, it's just a weird-looking creature.

"Biologically, they are really cool, very fascinating organisms," said Peter Ducey, an evolutionary ecologist at the State University of New York at Cortland. "They're creepy looking for sure, and they do things somewhat differently than other animals."

These transplants from East Asia have likely been in the Chesapeake Bay region for decades. (The present theory is they have spread across the world in plant pots.) And they probably would have continued living their strange lives in quiet anonymity — if not for social media.

"In the past, if you saw something gooey, you killed it, threw it away and maybe told your friend," Ducey said. "Now, you post about it."

From there, it's only a matter of time for that post to make the rounds across the social media landscape. Then the news stories begin to appear. And for a few weeks at least, hammerhead worms are the topic du jour. Think murder hornets, but with a far less menacing name.

"I see it as a social media phenomenon," Ducey said. "It'll be a big deal for about two weeks, then people will move on to something else."

Hammerhead worms found themselves in the spotlight this summer in the Bay region in the wake of a few viral posts. Then, those local stories went national, with outlets such as CNN and CBS News wriggling into the mix. Occasional stories were still cropping up into September.

Theresa "Tree" Dellinger, an entomologist with the Virginia Tech Insect ID Lab, said she can understand why hammerhead worms tend to grip the public's imagination, especially after her own recent encounter.



Hammerhead worms have likely been in the Chesapeake Bay region for decades but have recently drawn attention in social media. (Piterkeo/CC BY-SA 4.0)

"I saw one in my front yard over by my potting area where I start my seeds. I moved a pot and there was this thing on the ground, and it was undeniably weird looking," Dellinger said. "They're flat. They're squishy. I think it's the head that really bothers people."

A hammerhead worm would make for an instantly recognizable Halloween costume. The head is shaped like a half-moon or crescent. (Yes, like a hammerhead shark.) Another striking feature is its length. The species most common in the Bay region, *Bipalium kewense*, grows to a snakelike foot in length. Its body tends to be tan or yellowish brown with five, neatly spaced dark stripes running along its entirety.

Some of the recent news stories have hyped the worm's "poisonous" component.

Hammerheads can indeed subdue earthworms with tetrodotoxin, the neurotoxin found in blue-ringed octopuses, newts and pufferfish. It's a good idea, therefore, to wear gloves while handling them. Exposure can lead to a rash. But they are incapable of injecting the venom into humans or pets, and there are no documented cases of people or pets being sickened by them, according to a fact sheet compiled by the Penn State Extension office.

"Unless you're an earthworm, it's probably not a big deal," said Michael Skvarla, the

entomologist who authored the fact sheet.

Still, Dellinger offers this advice: "Don't lick the flatworms. Sometimes, I can't believe we have to say that."

From an ecological perspective, hammerhead worms don't seem to be causing trouble, she said, adding: "I think if they were going to cause problems, it would have happened by now."

The *B. kewense* species feeds almost exclusively on earthworms. Some varieties of earthworms can improve soil health, but others, most notably the jumping worms, can upend soil composition, making it drier and less capable of holding nutrients.

In that sense, the hammerhead worms are acting as a biological control, experts say. But they're not quite ready to recommend introducing them into new landscapes to ferret out unwanted worms.

"I don't know what I could say what is the better scenario," Dellinger said. "You'll always have more gazelles than lions. You'll never have enough predators to wipe out the prey item."

When it comes to hammerhead worms, scientists have more questions than answers. It is a rare research paper indeed that attacks the hammerhead knowledge gap head on. Because the species doesn't appear to pose issues with agriculture or human health, funders are unlikely to invest in its research.



Hammerhead worms subdue earthworms with the same neurotoxin found in blue-ringed octopuses, newts and pufferfish. It can cause a rash on human skin. (Mohammed Rafiq/CC BY-SA 4.0)

"They're an orphan group that nobody claims," Skvarla said.

One of the most burning questions in the field is if the non-native hammerhead species that is prevalent in the Southeast U.S. is being drawn northward by a warming climate. That would be significant because the *B. vagum* species eats snails and slugs instead of earthworms. The potential impacts of a movement north of Virginia are unknown.

Certainly, the hammerhead worms don't appear to be as destructive as fellow invaders, such as emerald ash borers or spotted lanternflies, said Bruce Snyder, an earthworm researcher with Georgia College and State University. But people shouldn't let their guard down, he advised.

"We don't know what the down-the-line impacts are going to be," he said. ■

A MD river turns orange, once-lush Bay grasses disappear

Community faults local, state response to construction runoff

By Timothy B. Wheeler

Until recently, underwater grasses grew so densely near where Maryland's Gunpowder and Bird rivers meet that boaters say they had to skirt the sprawling vegetation to keep it from tangling their props.

"Down by Mariner Point, you would see a prairie there," said Ralph Comegna, who lives on a canal off the river in Joppatowne. "You couldn't even kayak through it... You would see all kind of little fish and stuff in there, moving around. It was beautiful."

No more. The grasses, which provide critical habitat for fish and crabs, have virtually disappeared, and once-clear water is now too murky to see below the surface. After heavy rains, it turns orange as mud pours downriver.

Submerged grasses gained ground or held steady last year almost everywhere in the Chesapeake Bay, except in the slightly salty water between the Middle and Gunpowder rivers north of Baltimore. The once lush underwater meadows where the Bird River joins the lower Gunpowder shrank by 30%, leading scientists to speculate some "localized event" caused the decline.

Residents and activists say they know what caused it. For more than a year, they have been complaining about muddy runoff fouling Foster Branch, a Gunpowder tributary in Harford County. The source appears to be a large housing development under construction called Ridgely's Reserve, where more than 100 acres were cleared of trees and all other vegetation in early 2022, exposing the soil to the elements.

Despite repeated complaints and multiple citations ordering the developer to take corrective actions, muddy runoff has persisted. Residents and activists fault the developer, naturally enough, but they also blame it on lax or ineffective enforcement by both the county and state.

"It seems like every time we call, there's an inspection, and they find the same things wrong," said Mike Horsmon, another Joppatowne waterfront resident. "But the problem isn't going away. We would like something more to be done. This is going on 20-some months."

The problem there is extreme but by no means uncommon.



In August 2022, a plume of orange, silt-laden water covers much of Maryland's lower Gunpowder River past the Amtrak rail bridge. (Submitted Photo)

Inspectors in Maryland's 22 largest counties and municipalities cited more than 3,400 erosion and sediment control violations in the fiscal year ending June 30, 2022, and nearly 3,200 building and grading violations, according to state data. Authorities temporarily shut down construction projects 649 times and levied a total of \$1.8 million in penalties. They took violators to court just 43 times.

Harford cited 252 sediment and erosion control violations during that period, the fifth most among the reporting jurisdictions. It briefly stopped work 19 times but levied no penalties.

The Maryland Department of the Environment delegates inspection and enforcement of erosion and sediment control laws to the state's biggest counties and municipalities, including Harford. On at least 15 occasions in the past two years, though, an MDE inspector visited the Ridgely's Reserve construction project and an adjoining construction site for its sewer line.

The state inspector found the developer in noncompliance repeatedly, citing failure to properly install or maintain sediment runoff controls and failure to stabilize areas of erodible bare soil by spreading straw and planting grass seed.

While state law authorizes MDE to impose penalties of up to \$100,000 per day for each violation — and in severe cases to take violators to court — state officials are letting the county decide what to do about it.

"We have been there side by side with them

to make sure that the county is following [up] and taking the enforcement actions they need to," said Lee Currey, MDE's water and science administration director.

Asked why problems keep happening, he said the development is a "fairly unique site with some unique challenges." With about 380 single-family and town homes being built on 120 acres, it's a large project with a lot of ground exposed at one time, Currey said. Plus, he noted, the soil is largely clay, which is prone to wash away and cloud water whenever it rains.

The county has temporarily halted work at Ridgely's Reserve five or six times in the past year until corrective actions could be taken. County officials have even levied \$10,000 penalties twice this year, an unprecedented step for Harford. One of the penalties had been paid as of mid-September.

"The fines levied... do not amount to a pebble in the shoe of a [multi-]million-dollar project," said Bill Temmink, a resident who has filed multiple complaints and repeatedly pestered county and state officials over the project. "We need much stronger legislative and administrative remedies."

Harford County Executive Bob Cassilly said he was "very disappointed" that the mud pollution has not been halted.

"It's frustrating," he added. "I'm not at all happy with the developer here." He said the developer has been notified that the county may revoke its permits for the project.

Forestar Group Inc., a Texas-based



Ralph Comegna, a resident of Joppatowne, MD, points out where submerged grasses were once abundant in the lower Gunpowder River. (Dave Harp)

subsidiary of national homebuilder D.R. Horton, is developing Ridgely's Reserve. Forestar spokesperson Jamie Brown provided a statement that the company is "working diligently" with the county and state "to promptly and effectively address any and all issues."

Some question why MDE has not used its more substantial enforcement powers. Cassilly said he's encouraged the state to do so. MDE's Currey said state officials don't want to pile on more penalties for violations already cited by the county, but he added that they are considering whether other action could be taken.

Residents and environmental activists say they're frustrated. Besides the weak enforcement, they say, the runoff problems at Ridgely's Reserve were practically guaranteed because several years ago the state relaxed its limit on how much ground could be cleared at one time. Harford County followed suit, eliminating its own 20-acre restriction. By baring more soil exposed to the elements, construction sites are prone to having more severe erosion and sediment runoff, they point out.

Dion Guthrie, the Harford County Council member representing Joppatowne, said he's drafted legislation to reinstate the local 20-acre restriction. The county executive said he supports it.

That may reduce the severity of muddy runoff from future development in Harford, though not the rest of the state. And Joppatowne residents point out it won't repair the ecological damage already done in the lower Gunpowder River.

"The pollution from this site is so bad you can see it from space," said Evan Isaacson, research director with the Chesapeake Legal Alliance, a nonprofit law firm. "I just hope that this is the wakeup call our elected leaders needed to address this problem." ■

Energy programs at stake if/when RGGI disappears in VA

Loans would replace grants for climate resilience in communities

By Jeremy Cox

Jocelyn Chan used to dread the winter. When temperatures dipped, her home heating oil bill would skyrocket. She was paying \$500 every couple of months or so for more oil and not even completely filling the tank. Doing so, she said, would have been more than she could afford as a single mother raising two preschool-age children.

From Facebook, the Harrisonburg, VA, resident learned about a local nonprofit that helps low-income families improve the efficiency of their homes. The organization inspected her home and found that the drafty, 70-year-old structure needed a new heating system and a lot more insulation.

There was good news: Chan qualified for state funding that would cover the cost of the upgrades. And the contractor could start right away.

“I couldn’t have been more grateful,” said Chan, a piano technician at James Madison University.

The work was completed in March. She’s glad she learned about the program when she did.

Barring a last-minute change of heart or a judge’s order, Republican Gov. Glenn Youngkin’s administration plans to sever the state’s ties to the Regional Greenhouse Gas Initiative at the end of this year. The market, known as RGGI (pronounced “Reggie”) is a cap-and-trade market currently composed of 12 states. Under the market, power plants purchase allowances for carbon dioxide emissions during quarterly auctions. That raises revenue that participating states use to finance flood resiliency and energy efficiency projects.

The regional “cap” on emissions is gradually reduced over time, leading to lower emissions, backers say. Utilities are allowed to pass on the costs of the allowances to ratepayers through higher electric bills.

RGGI funding led to the creation of a new housing-assistance program in Virginia that made it possible for Chan to get the help she needed, said Everett Brubaker, a business development specialist for CHP Energy Solutions, the nonprofit that oversaw her project.



Jocelyn Chan of Harrisonburg, VA, with her children, 4-year-old Janelle and 16-month-old Christopher, play on the back porch of their home, which received a new HVAC system through a state program funded by the Regional Greenhouse Gas Initiative. (Jeremy Cox)

“RGGI is helping make sure the benefits of energy efficiency and lower emissions are reaching those most in need,” Brubaker said.

Youngkin made withdrawing from RGGI one of the central planks of his 2021 campaign. His opposition has centered on utility customers facing higher monthly bills — an average of \$2.39 for households and \$1,554 for industrial facilities as of 2022 — to pay for the allowances. The governor has called the program a “regressive” tax on families and businesses while rejecting research suggesting that the effort is yielding pollution reductions.

With its narrow majority of Youngkin appointees, the State Air Pollution Control Board voted in June to end the state’s RGGI participation when the contract lapses at the end of this year. That was in spite of the overwhelming support for the effort among the 6,600 public comments received by the state during the repeal process.

In response to a *Bay Journal* request for comment, Youngkin’s office emailed a statement from Secretary of Natural and Historic Resources Travis Voyles: “The Office of the Attorney General confirmed the [Air Board] has the legal authority to take action on the regulatory proposal using the full regulatory process — and the Board voted to do just that — furthering Virginians’ access to a reliable, affordable, clean



A sign outside Jocelyn Chan’s home in Harrisonburg, VA, promotes weatherization programs in Virginia. (Jeremy Cox)

and growing supply of power,” it read, in part. “Virginians will see a lower energy bill in due time because we are withdrawing from RGGI through a regulatory process.”

Environmentalists are fighting back. Three environmental groups were joined by a trade group of energy-conservation professionals in a lawsuit filed in August, seeking to overturn the administration’s decision. Like many critics of the administration’s move, they argue that Youngkin has no authority to unilaterally pull out of a program that was previously approved by legislative action.

“We will be doing everything we can, as quickly as we can, to enforce the law and maintain this successful program,” said attorney Nate Benforado of the Southern Environmental Law Center, which filed the action in Fairfax Circuit Court on behalf of the Association of Energy Conservation Professionals, Virginia Interfaith Power and Light, Appalachian Voices and Faith Alliance for Climate Solutions.

Advocates say that RGGI is more than worth the extra left on utility bills. They point to data suggesting that since the program’s inception in 2009, member states have reduced carbon emissions by 50%, almost twice as quickly as the national average. Virginia has realized a 17% reduction since joining in 2021, according to data from the U.S. Environmental Protection Agency.

In addition to the environmental benefits, public health experts say that the emissions reductions also may curb health problems related to poor air quality, such as asthma and bronchitis.

And RGGI’s supporters emphasize that the revenue it generates is being invested back into the communities that paid into the effort. The market has raised about \$6 billion overall so far for participating states, including \$730 million for Virginia.

“That’s money that just keeps coming in, and it’s really going to work for Virginia,” said Lee Francis, deputy director of the Virginia League of Conservation Voters.

In the Chesapeake Bay region, Delaware, Maryland, New York, Pennsylvania and Virginia count themselves among RGGI’s members. Here’s a look at what’s at stake if Virginia disappears from that list on Jan. 1, 2024.

Housing help

State and federal programs aimed at helping low-income families weatherize their homes grew out of the energy crisis of the 1970s. Weatherization services can include installing LED lighting, insulation and weatherstripping. The efforts have proven environmental and economic benefits, supporters say.

“This is not a welfare program,” said Billy Weitzenfeld, executive director of the Association of Energy Conservation Professionals. “It’s probably one of the better uses of tax dollars because of the outcomes that can be measured.”

When lawmakers passed the RGGI law in 2020, they mandated that half of the

proceeds go toward making new and existing low-income housing more energy efficient. State and federal sources have typically supported those programs to the tune of about \$55 million per year. In 2022, Virginia hauled in an additional \$150 million for efficiency funds through the RGGI auctions.

Energy costs are typically higher, percentage wise, for low-income families, averaging 8.6% of their gross household income compared with 3% for the higher income brackets combined, according to the U.S. Department of Energy. Inefficient housing is one of the key contributors to those higher costs, research shows.

The RGGI-backed upgrades are forecast to result in up to \$676 per home in annual energy cost savings by 2030, according to a Virginia Commonwealth University analysis. Buttoning up those homes benefits all of society by leading to less energy consumption and lower overall greenhouse gas emissions, advocates say.

The RGGI funding promotes greater energy efficiency through two programs.

Under a program geared toward new multifamily developments like apartments, developers who incorporate energy-efficient building practices are offered forgivable, no-interest loans of up to \$2 million or 10% of construction costs, whichever is less. In its first two years, the program dispensed nearly \$30 million in loans for the construction of about 2,400 housing units statewide.

The RGGI funding also enabled officials to create a new program to address one of the biggest gaps in weatherizing existing homes. For years, about 25% of Virginia applicants to the federal Weatherization Assistance Program were turned away because their homes needed major health or safety repairs, such as mold remediation or new roofs.

“The last thing you want is to put more installation in the attic just to suck up the water,” said Kerri Walker, vice president of energy conservation programs for Project:HOMES, a Richmond-based nonprofit that oversees repair projects.

Now, once work is completed under the state’s new fund, called the Weatherization Deferral Repair program, homeowners are ready to step into the federally backed counterpart. Brubaker estimated that his organization has shepherded 500 homes through the repair program since its inception, with another 500 in the queue.

In Chan’s case, she needed to replace her failing oil-fired heating system under the repair program before she could get new insulation. She now has a heat pump, a cleaner and more efficient alternative.



Protesters outside the Virginia State Capitol in Richmond on Aug. 28 call on the Youngkin administration to back off efforts to end the state’s involvement with the Regional Greenhouse Gas Initiative. (Jen Lawhorne)

It remains unclear if funding will be available for deferred homes after the Jan. 1 exit date for RGGI. The Virginia Department of Housing and Community Development, which oversees the RGGI funding in the state, didn’t address the issue in its response to a list of *Bay Journal* questions.

Walker said she hopes Virginia will at least allow organizations like hers to spend down the millions of dollars that have yet to be allocated to the program. “After so many years of trying to help people more effectively, we were starting to get it,” she said. “Now, we’re battling to keep a really essential program alive.”

Shoring up resilience

While they have put forward no state-funded alternatives for energy efficiency programs, the Youngkin administration has attempted to replace funding for the

other major RGGI-backed initiative, climate resilience — that is, helping communities prepare for a wetter future. But many environmentalists and civic leaders doubt a RGGI alternative will prove to be as consistent and reliable.

The administration’s move represents a step backward, said Mary-Carson Stiff, executive director of Wetlands Watch and one of RGGI’s strongest backers.

“We’ve never seen such progress before,” Stiff said. “We really need to have the resources continue flowing to our communities.”

Climate change is ramping up the urgency for action, experts say. Virginia faces a flooding threat from rising seas along much of its 5,000 miles of coastline. In the state’s southeastern quadrant, home to the populous Hampton Roads region, the land is also sinking, an artifact from the last Ice Age’s glacial retreat. The area is often described as second only to New

Orleans as the part of the country most vulnerable to sea level rise.

Inland portions of the state also can expect to see increased flooding from stronger, more frequent storms. Between 1958 and 2012, the amount of precipitation during the heaviest storms surged by 27%, the EPA estimates.

By law, 45% of RGGI’s proceeds are earmarked for what is known as the Community Flood Preparedness Fund, Virginia’s only dedicated statewide pot of money for resilience planning and construction. The market has raised more than \$320 million for the program so far.

That money has flowed to communities across the state. Examples include \$118,000 for Albemarle County to develop a comprehensive flood resilience plan, \$5.4 million for Petersburg to hire a certified floodplain manager and improve stormwater infrastructure in its Lakemont neighborhood, and \$5.9 million for Alexandria for efforts that include increasing flood protection in the low-income Arlandria neighborhood.

In Hampton, a city on the James River near its mouth at the Chesapeake Bay, a \$9 million RGGI investment is helping to launch a slate of long-awaited flood-fighting endeavors. In August, the city broke ground on the first of three projects designed to store and filter 8.5 million gallons of stormwater in the Newmarket Creek watershed.

Hampton Mayor Donnie Tuck said the community would have struggled to afford the \$34 million effort without the money from RGGI. He added that he hopes Youngkin reconsiders his plan.

“I understand the desire to try to lower energy costs for all of Virginia,” Tuck said, “but I think we miss out when we think about the value [of the program] and the potential loss to this region.”

Youngkin has touted a state revolving loan fund as a RGGI replacement for resilience projects. The legislature set aside an initial round of \$25 million for the fund last year and another \$100 million in the budget that was finalized this September.

Stiff, the Wetlands Watch director, said she is pleased that there is a funding outlet available to communities struggling with floods and rising water. But she still prefers RGGI because those dollars were furnished as grants. Many localities are simply too small to afford to pay back large loans, she argued.

Another strike against the loan fund is that it relies on lawmakers having the political will to fund it from year to year, Stiff said. By contrast, RGGI funds refill the state’s coffers four times a year when auctions are held. ■

Federal agencies forced to curtail wetland protections

In Bay region, all but DE still have some state oversight

By Timothy B. Wheeler

Cornered by a U.S. Supreme Court ruling sharply restricting federal authority over wetlands and streams, the Biden administration rolled back rules meant to protect them from development. Yet the long-running dispute over the issue seems likely to continue, as the new rule drew fire from all sides.

Five of the nine justices had declared in May that the federal government lacked legal authority to regulate disturbances of isolated wetlands and tiny streams that flow with water only after heavy rains.

The majority's opinion, issued in a case for which the U.S. Environmental Protection Agency had demanded that an Idaho couple get a permit to build in a wetland, seemed to settle a decades-old legal and political controversy about which "waters

of the United States" are protected by the federal Clean Water Act passed in 1972.

The Trump administration had sought to roll back federal protection of wetlands and streams, only to have its rulemaking blocked by a federal judge. The Biden administration had come out in January with a proposal to restore protections for many isolated wetlands and ephemeral streams.

The high court's majority, though, said federal law only applied to relatively permanent water bodies and to wetlands connected or adjacent to "navigable waters," such as a river or ocean.

The decision effectively strips federal protection from as much as 65% of wetlands nationwide and more than 80% of the streams, environmentalists contend.

The effect in the Chesapeake Bay watershed is not as drastic because five of the six states and the District of Columbia provide at least some protection under their own laws. Delaware is the only watershed state that relies solely on federal law to regulate disturbance of its streams and wetlands. But environmental advocates say they fear that withdrawal of federal oversight will inevitably



Amy Jacobs of The Nature Conservancy's Maryland/DC chapter stands in a Delmarva bay in Dorchester County, MD. Such waters were left unprotected by the Trump administration's redefinition of "waters of the United States." (Dave Harp)

weaken enforcement of wetland protections even in states with their own laws.

In August, the EPA and the U.S. Army Corps of Engineers responded to the high court's decision by yanking the more expansive definition of waters of the U.S. that they had proposed in January, which would have protected isolated wetlands and ephemeral streams with a "significant

nexus" to navigable waters. The agencies replaced that with a much narrower rule that officials said hews to the justices' opinion in *Sackett v. EPA*.

EPA Administrator Michael Regan issued a statement saying that although he was disappointed by the court's decision, the agencies had to comply with it.

The American Farm Bureau complained that the agencies still didn't go far enough in withdrawing federal oversight. "The updated rule leaves in place much of the overreach that Farm Bureau and many others have been opposing," the group said, vowing to persist in its legal challenge to the rule.

Environmentalists, meanwhile, blamed the court rather than the EPA for forcing the agency to rely on a "radically narrower" definition of protected waters. Lisa Frank of Environment America called on the states to "act immediately" to protect wetlands from pollution and degradation.

"Ultimately," Frank said, "Congress must amend the Clean Water Act to restore federal protection to all of America's waterways, including wetlands." ■

Join us!
Support environmental journalism
with a stock donation to the

BAY JOURNAL

Ask your tax advisor
about the benefits from
a gift of stock.

Contact Jacqui Caine
jcaine@bayjournal.com
540-903-9298

BAY JOURNAL

Advertise with us!

- In print
- BayJournal.com
- Bay Journal podcast
- Event sponsorships

Contact Jacqui Caine
jcaine@bayjournal.com
540-903-9298

CHESAPEAKE CHALLENGE

— Kathleen A. Gaskell



The webby world of spiders

Kibosh the squash!

Spiders are cursed with the ability to turn people into quick-acting spider stompers who forget that these creatures are excellent natural pesticides. Still refuse to share your space with a spider? Consider capturing it, then releasing it somewhere else, where its insect-exterminating skills will be better appreciated. Meanwhile, how well do you know these "spells" to discourage them from coming around in the first place? Answers are on page 36.

1. Certain strong scents will repel spiders. Adding lavender, eucalyptus, peppermint or cinnamon extracts to a spray bottle of water and spritzing no-spider zones should do the trick for most spiders. What other scents are recommended for spider-proofing?
 - A. Tea tree
 - B. Cedar
 - C. Vinegar
 - D. Cayenne pepper
 - E. All of the above
2. Most spiders (and wasps) hate a particular color and tend to avoid it. What color should you paint your porch or ceilings? Be warned, though, this color is known to attract flies.
 - A. Bright yellow
 - B. Deep purple
 - C. Light blue
 - D. Off-white
3. Music has charms to soothe the savage beast. Or not. Research suggests that spiders enjoy one of these genres and are repelled by two of them. The jury is out on the fourth. Which is which?
 - A. Classical
 - B. Country
 - C. Rap
 - D. Techno
4. There is a compelling reason not to step on a female wolf spider. What is it?
 - A. Her mate might track down her scent on the bottom of your foot or shoe and bite you. Repeatedly.
 - B. She carries hundreds of hatchlings on her back, and you could release a swarm of them that run in all directions.
 - C. Her bodily fluids leave a permanent stain where she was squashed.
 - D. Her corpse and guts will attract centipedes, the mortal enemies of wolf spiders.



Title image: Hentz orb weaver (Michele Danoff)

- A Red orb weaver (T. F. Sayles)
- B Orange marbled orb weaver (Michele Danoff)
- C Black and yellow argiope (Michele Danoff)



When thinking of spider webs, what comes to mind is probably the radial, wheel-like web of an orb weaver, one of more than 3,000 species in the *Araneidae* spider family that is found on every continent except Antarctica, with more than 160 species in North America. These spiders play an important role in controlling insect populations by eating flies, moths, beetles, wasps and mosquitoes.

The bigger the web, the more likely it's fall:

A web's size corresponds with that of the spider. Orb weavers reach their greatest size in fall, which is when they are most often noticed. The web of the garden orb weaver web can be up to 3 feet in diameter.

No threat: Orb weavers are typically non-aggressive, unless cornered. Except for people allergic to their venom, being bitten by an orb weaver bite is comparable to being stung by a bee.

Goes down smooth as silk: Most orb weavers are nocturnal, building and repairing their webs at night. Come dawn, some species eat the web. This may be to consume dew collected there as well as prevent larger non-prey from getting caught in the web.

Web wear: Nocturnal orb weavers are usually brown or gray. The less common diurnal species are often bright yellow or orange with black marks.

No wings, just strings! The ability of more than 1,000 spider species to glide in the air on a strand of silk is mostly found in orb weavers.

Nest egg: Each orb weaver sac may hold up to several hundred eggs.

Spinning out of control: In 2009, workers at the Baltimore Wastewater Treatment Plant found a community of an estimated 100 million orb weavers, in a complex of webs that covered almost 4 acres. Densities reached 35,176 spiders per cubic meter.



New coal mine tour shares PA's checkered mining legacy

By Ad Crable

As she made her way out of Pennsylvania's newest coal mine tour near Scranton, PA, an elderly woman stopped to thank one of the tour guides.

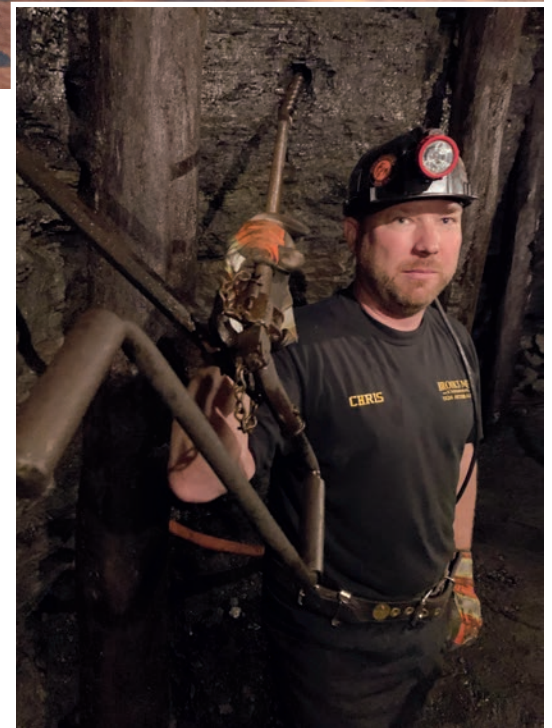
"This is so interesting," she said in the dimly lit, occasionally dripping rock tunnel drilled into an outcrop in the city's historic Nay Aug Park. "And it's so important! I'm glad you get younger people in here, because they don't remember."

She was preaching to the choir, as it were. The tour guide was a volunteer with Underground Miners, the coal history group that spent two years refurbishing the Brooks Mine before opening it to free guided tours every weekend.

That people are in danger of forgetting northeast Pennsylvania's impactful mining legacy is at the heart of the nonprofit group's motivation to reopen the mine, which was built in 1902.

The anthracite coal dug here, in what is known as the Northern Coal Field, fueled much of the country's Industrial Revolution and drove multicultural settlement of many towns in this part of the state.

The mines employed hard-working men, women and children who labored in miserable conditions. There were no child labor laws, and the miners were underpaid and risked death every day from explosions or tunnel collapses. From 1870 to about 1960, 30,000 miners were killed working the anthracite mines of



Underground Miners co-founder Chris Murley helped restore the Brooks Mine in Scranton so that the public doesn't forget northeastern Pennsylvania's coal history. (Ad Crable)

Anthracite coal is free for the taking at the entrance of the Brooks Mine, newly opened for touring in Scranton, PA. (Ad Crable)



Visitors admire a restored electric mine locomotive during the Lackawanna Coal Mine Tour near Scranton, PA. (Ad Crable)

northeastern Pennsylvania. And countless thousands died young from black lung disease, caused by decades of breathing coal and rock dust. Life expectancy for a miner in those days was 65.

“We’re a generation away from a lot of this being forgotten,” said Underground Miners member Greg Bock, whose grandfather was a coal miner in the area. “The younger generation that I interact with have no clue that this went on here.

“Organized labor started right here. These guys suffered and toiled in here to get us what we have today.”

Actually, Brooks Coal Mine never sent any coal to market. Only 150 feet long, it was built by local mine entrepreneur Reese Brooks to train mine workers and engineers — and even then as a showpiece to educate the public about the region’s economic engine.

But it’s an authentic representation of the mines of its time, with a rail line for carrying workers, two exposed coal seams and timber beams that kept overhanging rock from tumbling down. Miners in training learned that any splintering or shifting in those beams might be their first warning of an impending collapse.

It opened to visitors on Aug. 11 — the fourth such exhibition mine in the region. Unlike the other three, with more extensive and structured tours, the Brooks Coal Mine tours are free and visitors can linger as long as they want.

As you walk into the mine, you are immediately enveloped by not only darkness but also temperatures of 50-some degrees, regardless of the season. Most visitors wear sweaters

or light jackets. Expect to duck at times to avoid encounters with the rock ceiling.

On a recent tour, visitors were greeted by volunteer Isaac Walker, there to demonstrate the evolution of head lamps and lanterns used in unlit mine shafts — from original oil lamps to the battery-powered models of today.

Farther down the flat mine, Chris Murley, a licensed miner and co-founder of Underground Miners, put his full weight into a 6-foot, hand-turned breast auger that was used to drill holes that miners filled with gunpowder and later dynamite. They’d wire the charges, seek cover and blast away the rock and coal.

Around a corner, another volunteer explained the uses of mining tools and their evolution over time. There was even a fake rat, a prop for Mark Izak to tell the group, “Rats were your friends. If you saw them running out of the mine, follow them!”

Also among the guides was Adam Zuroski, whose mining roots run deep. His grandfather and his grandmother’s first husband both died in local mining accidents.

He has helped restore other exhibition mines in the area, as well as mine cars and other equipment. About half of the group’s 30 members have worked in mining at some point.

One of the visitors this day was James Seif, a former head of the Pennsylvania Department of Environmental Protection who was seeing his first anthracite mine.

“We have to correct problems of the past, like acid mine drainage and global climate change,” he said. “Still, we can respect [the miners’] effort, their moxie, their fortitude,

their faith that their kids would have it better. And they did.”

This area of northeastern Pennsylvania, known as the Wyoming Valley, at one time held North America’s largest deposits of anthracite coal — which burns cleaner and hotter and was therefore more valuable than the bituminous coal found in western Pennsylvania.

From the 1840s until the 1950s, the region’s anthracite was the choice for heating homes and buildings in the northern U.S. It fed steel and other industries, and it helped win two world wars. Production peaked in 1918 with more than 400 active mines. Today, there are just as many working mines as there are exhibition mines: four.

The Wyoming Valley boomed during those times. Towns and cities sprung up along the major coal veins. Most of them were populated by immigrants who were willing to work 10 hours a day, six days a week for about \$1 a day. In 1900, 70% of Scranton’s population were immigrants or first-generation Americans. The 1910 census recorded 26 distinct nationalities in Lackawanna County alone, which represents only about a third of the region.

The veins of coal visible in the Brooks Mine, formed 300 million years ago, are the same ones that miners worked in what was once the Continental No. 190 Slope Mine on the western edge of Scranton. That is now the Lackawanna Coal Mine Tour, which opened to the public in 1985. With all of its twists and turns, the coal seam runs about 7 miles, crossing the Lackawanna River 700 feet below the riverbed.

On a summer afternoon at the Lackawanna mine, 300 feet underground, guide Jim Scanlon told visitors about the origin of the expression “canary in a coal mine.” The diminutive, brightly colored songbirds were placed in mines as a safety measure because they succumb before humans to the buildup of odorless but deadly carbon monoxide gases.

More than once, Scanlon referred to exhibits in the mine as “sad” parts of the mining legacy — not surprising, as he lost both his grandfather and great-grandfather to black lung disease, formally known as coal workers’ pneumoconiosis or CWP.

In the early days, if a mining accident killed a worker, his body was laid off to the side until the end of the shift. It was then carried to the surface and transported by a black-covered wagon, known as Black Maria, to the miner’s home. If no one was present, the body would be left outside.

“There were plenty of cases of children finding their father on the front porch,” Scanlon said. ■



IF YOU GO

The Brooks Mine is in Scranton’s Nay Aug Park. Volunteers host free guided tours, no reservations required, 10 a.m. to 5 p.m. Saturdays and Sundays through Nov. 4, 2023. Tours resume in April. For information, go to Undergroundminers.com.

The Lackawanna Coal Mine Tour is in McDade Park in Scranton. Open daily April 1–Nov. 30, the tour includes transport on an old mine car for a 300-foot descent. The walking portion is one-half mile. General admission is \$10. For information, go to coalminetournepa.com or call 570-963-6463. Also at McDade Park is the Pennsylvania Anthracite Heritage Museum, open Fridays, Saturdays and Sundays this year through Dec. 10. General admission is \$7. For information, visit anthracitemuseum.org or call 570-963-4804.

The Pioneer Tunnel Coal Mine & Steam Train is in Ashland, PA, about 55 miles southwest of Scranton. It is open daily, May through August, offering a 45-minute guided tour of a mine that closed in 1931. Refurbished coal cars carry visitors into the mine. A separate tour includes an above-ground ride on an old steam locomotive to view a strip mine. General admission is \$12. For information, visit pioneertunnel.com or call 570-875-3850.

The No. 9 Coal Mine and Museum is in Lansford, PA, about 40 miles from Scranton. It is open Wednesdays through Sundays through the end of November. Mine cars take visitors 1,600 feet into the mountain, followed by a walking tour of the world’s longest-lived continuously operated anthracite mine (1855–1972). Sights include a miners’ hospital and an underground mule path. General admission is \$12. For information, go to no9minemuseum.wixsite.com/museum or call 570-645-7074.

Above: An electric mine car transports visitors 300 feet underground as part of the Lackawanna Coal Mine Tour in Scranton, PA. (Ad Crable)



Watermen tong for oysters on Broad Creek, a tributary of the Choptank River. (Dave Harp)

We are espe-shelly grateful for your generous contributions

There's no greater sign of the *Bay Journal's* success than compliments and donations from readers like you. Your gifts make our work possible, from coverage of the Bay and its rivers to wildlife, forest health, growth and more. We are grateful for your donations. *Please continue to support our success!*

CHAMPION

Nancy Allchin
Cockeysville, MD

John & Sally Freeman
Bethesda, MD

Richard Krauss
Woodbridge, VA

E. Kent & Carol Merkle
Chestertown, MD

Dave Neumann
Baltimore, MD

Lois Williams
Irvington, VA

BOOSTER

Catherine Cooper
Easton, MD

M. Cedar Dvorin & John Fox
Alexandria, VA

Frances Flanigan
Baltimore, MD

Denise & Ted Munns
Irvington, VA

Scott Plein
Bristow, VA

Sandra & William Rogers
Gaithersburg, MD

Fred Schaefer
Annapolis, MD

Carvel Tiekert
Abingdon, MD

ADVOCATE

Jim Brackbill
Strasburg, PA

Douglas Clow Jr.
Odenton, MD

Joseph Francis & Gale Rutan
Wilmington, DE

Janellen & Robert Frantz
Annapolis, MD

Barry & Mary Gossett
Edgewater, MD

Ruth Huber
Providence Forge, VA

Charlene & Scott Phillips
Parkville, MD

Alvin Schweizer II
Newport News, VA

Judge Robert Stewart
Norfolk, VA

Joseph Strakna
Baltimore, MD

Robert Sullivan
Cambridge, MD

Bill Sweeney
McDaniel, MD

Peter Welling
Kennett Square, PA

BENEFACTOR

Bob Andryszak
Baltimore, MD

Jason Bauer
Alexandria, VA

Norm & Sara Bell
Monterey, VA

Donna & Robert Brown
Richmond, VA

Elizabeth Barber Clark
Saint Mary's City, MD

Mark Collins
Baltimore, MD

Richard Crawford
Townsend, DE

Joe Dougherty
Cambridge, MD

Rebecca Hanmer
Fredericksburg, VA

Gordon Heidelberg
Waynesboro, PA

Patricia Holobaugh
Greenbelt, MD

Neal & Sandra Jackson
Chestertown, MD

Matt Krafft
Bethesda, MD

Jerry McCarthy
Richmond, VA

Thomas Pakurar
Midlothian, VA

Norma Reed
Martinsville, VA

Susan Rivers
Frederick, MD

David & Debbie Ross
Laurel, MD

Christianne Schoedel & John Segal
Baltimore, MD

Bub & Laura Shreaves
West Point, VA

Mr. & Mrs. Robert Solem
Laurel, MD

Kurt Stephenson
Blacksburg, VA

Michael & Rhonda Wade
Berlin, MD

Larry Ware
Fort Washington, MD

Nancy & John Wilson
Falls Church, VA

Carrie Witkop
Chevy Chase, MD

Mr. & Mrs. R. Charles Woods
Silver Spring, MD

SPONSOR

In memory of Gay Petrlik from George Petrlik
Ellicott City, MD

Bill Ackerman
Clifton, VA

Mr. & Mrs. Leon App
Sandston, VA

Henry Armistead
Philadelphia, PA

Darwin Aurand
Shermans Dale, PA

Roger Bollman
Easton, MD

Robert Bolster
Kilmarnock, VA

Bob Boxwell
Lusby, MD

Catherine Brown
Gaithersburg, MD

Charles & Barbara Carmichael
Hardyville, VA

Margaret & Nick Carter
Greensboro, MD

Nancy Catron
Annapolis, MD

Cynthia & Phillip Chase
Laurel, MD

Randy & Walter Childs
Cape Charles, VA

Louis Codispoti
Oxford, MD

Joseph Colley
Arlington, VA

Kent Crawford
Hummelstown, PA

Diane & Matthew Creme
Lancaster, PA

Bob & Pat Davis
Harrisburg, PA

Eileen Duobinis-Gray
Murray, KY

David Evans
Marshall, VA

William Fry
Saint Mary's City, MD

Nancy Galetsky
Annapolis, MD

Don Hammerlund
Charlotte Hall, MD

David & Linda Hartge
Brookeville, MD

Norman Hines Sr.
Kensington, MD

Eileen Hofmann
Norfolk, VA

James Kidwell
Chesapeake, VA

Ivor Knight
Hagerstown, MD

Stan & Alice Kotala
Altoona, PA

Nancy Lee
Potomac, MD

Margaret L'Hommedieu
Deale, MD

Michael Lightfoot
Hague, VA

Donald Liscomb & Gail Elizabeth Price
Luray, VA

Lauren & Jordan Loran
Idlewylde, MD

Dave Love
Asheville, NC

Sophia Lynn
Stafford, VA

Robert Magnien
Frederick, MD

David & Debra Mattera
Heathsville, VA

Joan Matthews
Bryans Road, MD

John McGinniss
King George, VA

David Messersmith
Hampton, VA

Cynthia Carington Miller
Easton, MD

Frederick Millhiser
Annapolis, MD

Louise Morgan
Salisbury, MD

Alan Newhouse
Solomons, MD

Karen Nielsen
Baltimore, MD

Richard Owen & Paula Wordtt
Chestertown, MD

Ellen Parlman
King George, VA

Jeffrey Putt Sr.
York, PA

Steve Radov
Silver Spring, MD

Barnett & Francine Rattner
Annapolis, MD

Michael Replogle
Arnold, MD

Jeffrey Schnebelen
Stafford, VA

John Sherwell
Annapolis, MD

Claudia Silvia
Kennett Square, PA

Ellen Smith
Glenville, PA

E. Franklin & Robin Smith
Kenton, DE

Andrea & Marvin Storey
Laurel, MD

Thomas Suddes
Athens, OH

Gonzalo Tornell
Port Republic, MD

Bill Troxler
Chincoteague, VA

Ed Tyler
Bremen, ME

Leo Vollmer
Kennedyville, MD

Lt. Col. John Walker
Perry Hall, MD

Sam Weaver
Baltimore, MD

Bob & Connie Zillig
Grasonville, MD

SUPPORTER

Robert Abarno
Silver Spring, MD

Glenn Amsbaugh
Annapolis, MD

Richard Anderson
Baldwin, MD

Armory Living Trust
Williamsburg, VA

David Avedesian
Silver Spring, MD

Evie & Jonathan Baskin
Chestertown, MD

Armin Behr
Bethesda, MD

Vertis Clinton Belcher
Pylesville, MD



A doe and buck roam the woods in Anne Arundel County, MD. (Michele Danoff)

- | | | | | | | |
|---|--|---|---|--|--|---|
| Bob Bender
Hampton, VA | David Cole
Ansted, WV | Perry Duryea III
Montauk, NY | Robert Griffin
Lusby, MD | Carl Hurley
Fairfax, VA | Gary Kozlowski
High Point, NC | Donald Merryfield
Oxford, MD |
| Glen Besa
North Chesterfield, VA | Sally Ann Cooper
Columbia, MD | Meredith Elinich
Quakertown, PA | Michael Grimes
Hampstead, MD | David Hutton
Catonsville, MD | Steve & Sue Kullen
Port Republic, MD | Tawna Mertz
Stevensville, MD |
| Charles Bessant
Silver Spring, MD | Ben Cornelius
Philadelphia, PA | Leslie Erickson
& J. Wright Witcher
Jarrettsville, MD | Carleen & Robert Grossman
Elizabethtown, PA | Donna & Jack Jackson
Upper Marlboro, MD | Carolyn & Michael Landi
Glen Allen, VA | Howard Metzger
Baltimore, MD |
| Henry Betz
Conowingo, MD | Stephen Cox
Oxford, MD | Kathryne Everts
Delmar, DE | Dianna & Dion Guthrie
Joppa, MD | Ted Jacobsen
Orangeville, PA | Raymond Leone
McLean, VA | Glenn Morrison
Quarryville, PA |
| William Bley
Wilmington, DE | Thomas Cronin
Ellicott City, MD | Jack Fischer
West Chester, PA | Robert Hanawalt
Washington, DC | James Jarvis Jr.
Glen Burnie, MD | Lexine Lowe & Fred Pomeroy
Cambridge, MD | Thomas Mullineaux
Keymar, MD |
| Jay Bower
Annapolis, MD | Rupert Cutler
Roanoke, VA | John Foellmer
Silver Spring, MD | Henry Hansen
Fairfax, VA | Carol & Peter Jensen
The Woodlands, TX | Lanny Lupold
Valley View, PA | John Nagengast
Woodbine, MD |
| C. R. Bowles
Mineral, VA | Zou Dandan
& Chris Donatelli
Port Republic, MD | Carolyn Ford
Staunton, VA | Karen Hayes
Norfolk, VA | Marshall Johnson
Mechanicsville, VA | Ken Maize
Knoxville, MD | Judith Niedzielski
Hagerstown, MD |
| Arthur Bruestle
Bethesda, MD | John Davis
Cooperstown, NY | Benjamin Forgey
Washington, DC | Austin & Sara Henry
Bowie, MD | Patricia Jonas
Baltimore, MD | Laura Malick
Baltimore, MD | Philip Olsen
Thurmont, MD |
| John Buba
Columbia, MD | Glenn & Helen Davis
Kingston, NJ | George & Nancy Forlifer
Martinsburg, WV | Winona Hocutt
Salisbury, MD | Jill Jordan
South Prince George, VA | Joe Mascari
Abingdon, MD | Mary Perkins
Glen Burnie, MD |
| Frank Buppert
Marriottsville, MD | Mike Davis
Easton, MD | Wanda Frick
Bowie, MD | Bruce & Madi Hoffmann
Jarrettsville, MD | Melvyn Kay
Reston, VA | Fred Masterman
Lutherville Timonium, MD | Paulding Phelps
Kennett Square, PA |
| Monroe Busch
Glenville, PA | Edward Dexter
Baltimore, MD | Patricia Galdun
Richmond, VA | Carol Hollander
Baltimore, MD | Susan Kearney
York, PA | Charlie Mauck
Littlestown, PA | Jonathan & Trudy Pomeroy
Kane, PA |
| Marjorie Busch
Morgantown, PA | Nancy Diangelo
Chestertown, MD | David Gallagher
Middle River, MD | Gregory Homer
Stevensville, MD | Robert Kelly & Sarah Ramsey
Oxford, MD | Ira May
Towson, MD | Wynn Poole
Grasonville, MD |
| Susan Canedy
Suffolk, VA | Elaine Dickinson
Neavitt, MD | Don & Lucy Gaskell
Eastport, MI | Nancy Daniels Hornick
Lutherville Timonium, MD | Fred Keonig
Reisterstown, MD | David & Kathryn McCorkle
Eagles Mere, PA | Col. Philip Prisco
Poquoson, VA |
| George Carlson
Camp Hill, PA | Ben Dize
Chestertown, MD | William Gibbs
Westminster, MD | Doris Hughes
Salisbury, MD | Mr & Mrs. Michael Killian
Spotsylvania, VA | Derek McGuirk
Bel Air, MD | Joan Pryde
Alexandria, VA |
| Glenn Carlson
Silver Spring, MD | Lynn Doll
York, PA | Richard Gilpin
Glen Mills, PA | John Hunt
Gettysburg, PA | John King
Blades, DE | Clyde Meade
Springfield, VA | M. K. Rauch
Bristow, VA |
| Vanessa Cieslak
& Kevin Holloway
Washington, DC | | Stephen Greenstreet
Hampstead, MD | Michael Huntley
Phoenix, MD | Thomas Klein
Pasadena, MD | Donna Mennitto
Ellicott City, MD | |

See **DONORS**, page 32

Thank You To These Philanthropic Donors



The Curtis and Edith Munson Foundation

The Sumner T. McKnight Foundation



DONORS from page 31

Jay Redmond
Pasadena, MD

Stephen Rettig
Waynesboro, PA

Michael Reusing
Keedysville, MD

Peter Rieckert
East New Market, MD

Dave & Shirley Ritondo
Selbyville, DE

Mr. & Mrs. Daniel Roff
Frederick, MD

John Russell
Middletown, DE

Cynthia Saunders
Chestertown, MD

Madeleine & James Schaller
Rockville, MD

Bruce Setzer
Nazareth, PA

Charles Shaffer Jr.
Mechanicsburg, PA

Patrick Shea
Fairfax, VA

Bruce Sheppard
Winchester, VA

Kathleen Sheridan
Manassas, VA

Eric Smith
Red Lion, PA

Joseph Soares
Trappe, MD

Charles St. Clair
Charlottesville, VA

Karen Stansbury
Annapolis, MD

Charles Stegman
Salisbury, MD

John & Susan Stinson
Poolesville, MD

Theodore Stoddard
Silver Spring, MD

Suzon Strack
Queenstown, MD

Bruce Strathearn
Harpers Ferry, WV

Alan & Suzanne Sundburg
Arlington, VA

Barry Swartz
Mohnton, PA

Charles Sydnor
Heathsville, VA

Susan Titus
Richardsville, VA

Rollin Todd
Crofton, MD

Wesley Troup
Riverdale, MD

David Tynch
Portsmouth, VA

John Vaszko
Rockville, MD

Andrea Vernot
Trappe, MD

James Voshell
Parkton, MD

Charles Wachsmuth
Chester, MD

George & Tracey Waite
Bel Air, MD

Carroll Waltz
Rising Sun, MD

Willis Ward
Mathews, VA

Joe Watson Jr.
Virginia Beach, VA

Patricia White
Gaithersburg, MD

Donnie Wilfong
Lutherville Timonium, MD

Norris Williams
King George, VA

Kerry Wilson
Harrisburg, PA

Douglas Wion
State College, PA

Mary & Michael Wojnowski
Preston, MD

Mark Wynn
Arnold, MD

Maisy & W. Brooke Yeager
Wilkes Barre, PA

FRIEND

Kelly Adams
Jarrettsville, MD

John Alexander
Lutherville, MD

Irene Allen
Washington, DC

Linda Allen
Lusby, MD

William & Joyce Anderson
Red Lion, PA

Judy Armstrong
Churchville, VA

**Carol Armstrong
& Bernard Grove**
Royal Oak, MD

Ben Arnold
Chambersburg, PA

Susan Aubrey
Woodbridge, VA

Duke Austin
Gaithersburg, MD

David Bagwell
Silver Spring, MD

Orrin Baird
Chevy Chase, MD

Anna Belle Baker
Towson, MD

Francis Baker
Chesapeake Beach, MD

Mr. & Mrs. John Bareis
New London, MO

Peter Barnum
Glen Arm, MD

**Brooke Batchler
& Frederick Turner Jr.**
Onancock, VA

Alec Baugus
Ephrata, PA

Robert Beam
Henrico, VA

Cynthia Bech
Fishing Creek, MD

C. Allen Becker
York, PA

Louis & Mary Lou Bercheni
Dillsburg, PA

Mitchell Bernard III
Harrisburg, PA

Anthony & Karen Biddle
Rock Hall, MD

Paul Bockenbauer
Catonsville, MD

Diana Boettger
Manheim, PA

Alice Boller
Beaverdam, VA

Philip Bowman
Hanover, PA

Leo Boyer
Tower City, PA

Jane Brandenburg
North East, MD

Catherine Brennan
Baltimore, MD

Gregory Brennan
Annapolis, MD

Ronald Bridge
Shermans Dale, PA

Kenneth Bright
Madison, MD

Ronald Browning
Havre de Grace, MD

Robyn & Klaus Burckhardt
Spring City, PA

Nelson Burkholder Jr.
Harrisonburg, VA

Lawrence Bush
Frederick, MD

Rebecca Byrd
Annapolis, MD

Glen Caldwell
Virginia Bch, VA

Philip Carey
York Springs, PA

John Carlock
Virginia Beach, VA

Frank Carollo
Saint Michaels, MD

Elliott Carroll
Cape Charles, VA

Paul Carroll
Ridge, MD

Heather Chen
Columbia, MD

Arnold Ching
Mechanicsville, MD

John Clatterbaugh
Midlothian, VA

Carroll Clatterbuck
Beltsville, MD

Evaline Cousler
Mount Wolf, PA

Joan & Troy Cowan
Lexington Park, MD

Arthur Cox
Warsaw, VA

Barbara Crain
Baltimore, MD

Steven Crouch
Henrico, VA

**Deana Crumblin
& James McGlone**
Alexandria, VA

Mickey & Sue Culp
Ellicott City, MD

Wayne Cupp
Bridgewater, VA

Deborah Davis
Church Road, VA

W. Beale Delano Jr.
Columbus, IN

Eileen Deymier
Easton, MD

Patrick Di Stefano
Centreville, VA

Randy Dissinger
Drumore, PA

Gus Dorn
Harrisburg, PA

James Downs Jr.
Clements, MD

Robert Dunn
Columbia, MD

Joseph Dyson
Baltimore, MD

Dr. Darrel Earhart
Odenton, MD

Earle Edwards
North East, MD

Charles Elfman
Newport News, VA

Susan Elfstrom
Falls Church, VA

Barbara Jean Engelke
Baltimore, MD

Donna Engle
Westminster, MD

James Etheridge III
Norfolk, VA

Theresa Fitzpatrick
Falling Waters, WV

Debbie Flinchbaugh
Waynesboro, PA

James Florentine Jr.
Westminster, MD

Jim Foard
Rosedale, MD

Charles Fogg
Lindenwold, NJ

Susan French
Kingston, PA

Frank Galosi
West River, MD

Karen Gartside
Dillsburg, PA

Robin Gay
Disputanta, VA

Mary Frances Gerhardt
Culpeper, VA

Jeffrey Gerhart
Robesonia, PA

Chip Glasgow
Potomac, MD

Mrs. Marlo Godfrey
Freeland, MD

Jim & Lisa Golle
Lebanon, PA

Sue & Jim Grady
Lutherville, MD

J. A. Grant
Chaptico, MD

Monica Greene
Bowie, MD

John Gregory
Joppa, MD

Michael Grim
Henrico, VA

Penny Gross
Alexandria, VA

Karen Grumbine
Annapolis, MD

Thomas Gull
Baltimore, MD

Jong-On Hahm
Silver Spring, MD

Anne Hairston-Strang
Tilghman, MD

William Haller
Baltimore, MD

David Hanold
Pasadena, MD

Janet Hartka
Rosedale, MD

Charles Haslup
Annapolis, MD

Anne Hasselquist
Hampton, VA

Charles Henkel
Hampstead, MD

Richard Henry
Annaville, PA

Joyce Herman
Springfield, VA

Lester Herman
East Berlin, PA

Rachel Hexter-Fried
Port Republic, MD

Eugene Higgs
Henderson, MD

Jim Hoffman
Halifax, VA

Mary Holtzman
Timonium, MD

Michael Horst
Columbia, PA



Yes! I want to help the *Bay Journal* maintain and expand environmental reporting in the Bay region.

Enclosed is my tax-deductible gift of \$ _____

My check made payable to "Bay Journal Fund" is enclosed. OR Charge my Visa / MasterCard / Discover / AMEX.

Card #: _____ Expires: _____ Security Code: _____

Name(s): _____

Address: _____

City: _____ State: _____ Zip: _____

Is this a memorial? Write name here: _____

Is this in someone's honor? Write name here: _____

Please check here if you would like your gift to remain anonymous and not be recognized in the *Bay Journal*.

Please mail your donation to the Bay Journal Fund, P.O. Box 300, Mayo, MD 21106

\$15-\$49

\$50-\$99

\$100-\$149

\$150-\$249

\$250-\$499

\$500-\$999

\$1,000-\$2,499

\$2,500-\$4,999

\$5,000 & Up

Friend

Supporter

Sponsor

Benefactor

Advocate

Booster

Champion

Guarantor

Philanthropist

The Bay Journal Fund does not share the names of its donors or their addresses with other organizations.



A tug pushes a barge up the Bay past Elk Neck State Park in Cecil County, MD. (Michele Danoff)

- | | | | | | | |
|---|--|---|--|---|---|---|
| Franklin Horstman
Columbia, MD | John Klunk
Dover, PA | Joseph Massey
Chestertown, MD | Pat Painter
Newport News, VA | Dale Reiner
Dalmatia, PA | Richard & Sarah Sinsabaugh
Richmond, VA | Julie Trimble
Glen Burnie, MD |
| Allen Houser
Dillsburg, PA | Michael Knable
Chevy Chase, MD | Christine McCormick
West Chester, PA | Al Palutke
Stephens City, VA | Maxine Rice
Glen Allen, VA | Cheryl Smith
Columbia, MD | Diane Truhan
Zion Grove, PA |
| Douglas & Renee Howard
White Hall, MD | Sister Betty Koehn
Timonium, MD | Virginia McCreery
Yorktown, VA | Robert Pawlowski
West Mifflin, PA | James Roberson
Hampton, VA | Gordon Smith
Bel Air, MD | David Turay
Glen Rock, PA |
| John Huennekens
Washington, DC | Ira & Valerie Kolmaister
Silver Spring, MD | Michael McDavid
Arlington, VA | LeMaine Payne
Chesapeake Beach, MD | Carol & Roger Robinson
Elkton, MD | Jack & Susan Smith
Rockingham, VA | Howard Turner
Chester, VA |
| Angela Hunter
Churchton, MD | Paul Koschara
Nellysford, VA | Chuck McDonald
Carrollton, VA | James Payne Jr.
Manassas, VA | Glenn Robinson
Peach Bottom, PA | Larry & Louise Smith
Williamsburg, VA | Gregory Uditis
Etters, PA |
| Norton Hurd
Deltaville, VA | Steve Kosiak
Ardmore, PA | William McDonnell
Baltimore, MD | Richard Pazdalski
Burke, VA | Cindy Rogers
Mechanicsburg, PA | Michael Smith
Halethorpe, MD | Peter Van Allen
Catonsville, MD |
| Cind & Tom Jameson
Alexandria, VA | Bruce Kozlowski
Midlothian, VA | Lennie Mears
Spotsylvania, VA | Eric Peltosalo
Annapolis, MD | Livia Rose
Baltimore, MD | Sandy Smith
Gardners, PA | Evangeline Van Tries
Waynesboro, PA |
| Dianna Javier
Stevensville, MD | J. Krutzler
Edison, NJ | Frank Melhus
Newton, NJ | Jane Pennington
Glen Arm, MD | Ronald Royer
Marietta, PA | Neil Snodgrass
Chesapeake City, MD | Alan & Carol Visintainer
Denton, MD |
| Fred Jennings
Saint Petersburg, FL | Ronald Landis
Chesapeake Beach, MD | Melanie Merkle
Newburg, MD | Pat Pennington
North Chesterfield, VA | Carl Rulis
McDaniel, MD | June Sappington Spiess
Winchester, VA | John Walker
Ellicott City, MD |
| Yvon Jensen
Georgetown, TX | Elder Lash
Portsmouth, VA | Herman Meusel Sr.
Edgemere, MD | Peter Penoyar
Arnold, MD | Thomas Russell
Fairfax, VA | John Stevens
Alexandria, VA | Justin Warner
Delaware, OH |
| Carol Johanningsmeier
Suffolk, VA | Richard Lefebure
Frederick, MD | Joe Mihalovich
Glen Arm, MD | Michelle & John Person
Arlington, VA | Sheryl Ryan
Middletown, PA | Jeff Stevenson
Lusby, MD | Brad Weaver
Savage, MD |
| Douglas Jones
Erie, PA | Myrl & Roberta Lemburg
Virginia Beach, VA | Peter Milenkovic
Baldwin, MD | Paul Pitera
Montross, VA | Henry Schaffer
Perry Hall, MD | Karen & Robert Stickel
White Stone, VA | Lynn Wenger
Schaefferstown, PA |
| Gary Jones
Mechanicsburg, PA | Ron Lewicki
Midlothian, VA | Mable Miller
Kennett Square, PA | Les Powers
Telford, PA | Donald Schappell
Deltaville, VA | Sarah Stolte
Trappe, MD | Michael Wickham
Spring Grove, PA |
| Neal & Patricia Jones
Trappe, MD | Mary Lewis
Silver Spring, MD | Timothy Miller
Finksburg, MD | Paul Prevost
Carlisle, PA | John Scheinman
Baltimore, MD | Warren Strobel
Edgewater, MD | Susan Wilder
Mechanicsburg, PA |
| W. Grason Jones Jr.
Crosswicks, NJ | Mary Lewis
Catonsville, MD | Lorraine & Richard Moale
Taneytown, MD | William Putland
Havre De Grace, MD | Raymond & Virginia Scher
Staunton, VA | Larry Sutton
Hellertown, PA | John Wilkinson
Colonial Beach, VA |
| Augusta Jones-Stokes
Baltimore, MD | B. Arylene Linker
Hampstead, MD | Montgomery Co. Soil Conservation District
Derwood, MD | Joan Quigley
Baltimore, MD | Mary Schroeder
Rock Hall, MD | Zachary Sutton
Gaithersburg, MD | Christiane Williams
Cambridge, MD |
| Thomas Kelley
Springfield, VA | Michael Locke
York, PA | Jeffery Munson
North Chesterfield, VA | Janice Radford
Gambrells, MD | Brenda Schwartz
Kilmarnock, VA | Peter Swinehart
Boysds, MD | Richard Williams
Hellam, PA |
| Pat & Jim Kelly
Towson, MD | Marynelle Losin
Springfield, VA | Suzanne Myers
Dover, PA | Karen Randall
Hughesville, MD | Joe Scriptunas
York, PA | Norma Swope
Williamsburg, VA | A.W. Wintz
Ashton, MD |
| Robert Kies
Virginia Beach, VA | Peggy Ludwig
Marriottsville, MD | John Newton
Baltimore, MD | DiAnn Ray
Pocomoke City, MD | Mary Seidel
Tracys Lndg, MD | Jule Szabo
Fairfax, VA | Thomas Womble
Bridgewater, VA |
| Alfred Kirby
Westminster, MD | James Lyle
Providence Forge, VA | Dennis Obermayer
Fairfax, VA | Nanci Reaves
Cardinal, VA | John Seitz
Hyattsville, MD | Dale Taylor
Hollywood, MD | David Yingling Jr.
Timonium, MD |
| John Kirby
Parkville, MD | Robert Magee
Halethorpe, MD | Chris O'Conner
Arlington, VA | Jessamy Rebeck
Leck Kill, PA | Pat Sellars
Baltimore, MD | Erwin Taylor
Woodstock, VA | Edward & Janet Yost
Charlottesville, VA |
| Lyn Kirby
Springfield, VA | Doug Marshall
Damascus, MD | Roland Olson
Winchester, VA | Janet Redfern
Harrisburg, PA | Andrew Shettle
Joppa, MD | R. Thomas
Charlottesville, VA | Tom Zeender
Washington, DC |
| | Mary Hare Living Trust
Wingina, VA | | James Reed
Halifax, PA | Richard Siciliano
Waldorf, MD | Annie Todd
Odenton, MD | Melissa Zentz
Friendship, MD |

Russ Baxter leaves lasting legacy for VA natural resources

By Roy Hoagland
& Rich Batiuk

“I really hate cancer,” Russ Baxter wrote in an April 2019 blog posting. Our friend and colleague, and longtime advocate for the Chesapeake Bay, received a diagnosis of appendix cancer in September 2008. Fifteen years later, in July 2023, nine days after his 67th birthday, Russ lost his battle with cancer.

Russ spent more than three decades working on the restoration of the Chesapeake Bay and the protection of Virginia’s other natural resources. Russ would laugh when we joked with him that he couldn’t keep a job over those 30-some years. Witness his career timeline:

- Grassroots coordinator for the Virginia office of the Chesapeake Bay Foundation
- Virginia director of the Chesapeake Bay Commission
- Director of the Virginia Environmental Network
- Once again, Virginia director of the Chesapeake Bay Commission
- Virginia deputy secretary of Natural Resources for Chesapeake Bay (under Secretary W. Tayloe Murphy, Russ’s mentor and friend)
- Deputy director of the Virginia Department of Conservation and Recreation
- Chesapeake Bay coordinator for the Virginia Department of Environmental Quality
- Once again, Virginia deputy secretary of Natural Resources for Chesapeake Bay (under Secretary Molly Ward, and his favorite four years of his career)
- Virginia secretary of Natural Resources (for one brief but pride-filled month)
- Once again, deputy director of the Virginia Department of Conservation and Recreation

Russ’ career, and his bounce back and forth from one leadership position in Virginia to another, reflected not only the every-four-year turnover that occurs with Virginia’s governors but also multiple administrations’ recognition of his strong policy knowledge and experience as well as his well-earned respect in Virginia and beyond its borders.



Russ Baxter sits at the Virginia governor’s desk during his 2018 swearing-in as deputy secretary of Natural Resources for former Gov. Terry McAuliffe. Standing (left to right) are William Baxter, Sharon Baxter, Gov. McAuliffe and Ian Baxter. (Michaele White/Governor’s Office)

Russ loved the work he did. Russ once said, “I’m a good bureaucrat.” And he was: His career in public service was his calling. No one ever doubted Russ’s commitment to public service or to natural resource protection.

As a high-level, long-term Virginian partner within the watershedwide Chesapeake Bay Program restoration partnership, Russ represented Virginia’s interests with expertise, consistency and insight. He was well known and well respected as a strong proponent for both Virginia and the larger partnership, often working to ensure that everyone was represented at the table, engaged in collaborative decision-making and fully accountable to carrying out their shared commitments.

The true nature of the person we knew was revealed by his battle with cancer in his third decade of public service. While cancer hardly defined Russ, it was a pervasive presence in his life over the last 15 years. Diagnosed with a very rare form of cancer, doctors were not optimistic about his chances for long-term survival. In fact, the initial diagnosis gave him only two years.

Russ lived – not merely survived – 15 more years. His multiple surgeries and rounds of chemotherapy would have fully defeated most of us. Not Russ. He bounced

back more than once, each time perhaps a bit more worn around the edges than the time before, but nonetheless fully alive. Time and time again, Russ beat the odds and returned to his family, his cycling and his work. We all saw Russ’ quiet strength throughout his cancer battle.

Russ’ strength came from his family and his cycling. He wrote in the 2019 blog, “I’ve ridden as much as possible during the last 10 years with depressingly long breaks as I recovered from surgery or fended off the effects of chemo. I have to say, cycling, in many ways, gave me reason to live (after my loving wife and children, my extended family, my valued colleagues and good friends). When I am on a bike, I am not a cancer patient; I’m a cyclist, I’m a racer, I’m fit and I’m happy.” Russ rode up until a month or two before his death.

When we remember Russ, what predominantly comes to mind is not the high expectations he placed on himself or the courage and strength that drove his amazing ability to work for more than a decade beyond his initial cancer diagnosis. Instead, we remember his repeated jokes, wisecracks and snickers; his wry smile and twinkling eyes; his ever-present, always ready-to-release chuckle.

What Russ displayed and shared with us was something highly intangible: He was a genuine, funny, sincere, caring individual whose simple presence alone reflected what is innately good in a human being.

Former Virginia Gov. Terry McAuliffe, upon receiving notice of Russ’ entry into hospice, made a personal call to Russ from Singapore to share his concern. Upon hearing of Russ’ death, the governor wrote that he was “heartbroken” at the loss. The governor added that “no one outworked Russ, and no one fought harder for cleaner air, cleaner water and a vibrant Chesapeake Bay. He will be so sorely missed, but there is no doubt his legacy will have an impact on the lives of Virginians and all who call the Chesapeake Bay basin home for generations to come.”

As the governor noted, Russ’ legacy will certainly have an impact on our lives. We are grateful to have counted him among our friends and colleagues. Perhaps he is now cycling across the heavens on an eternally joyful bike ride. ■

Roy Hoagland is a senior program officer at the Virginia Environmental Endowment and former vice president of Environmental Protection and Restoration for the Chesapeake Bay Foundation. Richard Batiuk is the former associate director for Science, Analysis and Implementation at the U.S. Environmental Protection Agency’s Chesapeake Bay Program Office.

SHARE YOUR THOUGHTS

The *Bay Journal* welcomes comments on environmental issues in the Chesapeake Bay region. Letters to the editor should be 300 words or less. Submit your letter online at bayjournal.com by following a link in the Opinion section, or use the contact information below.

Opinion columns are typically a maximum of 900 words and must be arranged in advance. Deadlines and space availability vary. Text may be edited for clarity or length. Contact T.F. Sayles at tsayles@bayjournal.com, 410-746-0519 or at P.O. Box 300, Mayo, MD, 21106. Please include your phone number and/or email address.

High school students on the rise, sturgeons on the brink



CHESAPEAKE BORN

By Tom Horton

“We just want you to leave us the river you enjoyed.”

I’ve had reason to recall that statement by a child to Maryland legislators, related by my late friend Tom Wisner, the singer and Bay champion. Decades ago, he had accompanied a group of students from Southern Maryland, testifying for their native waterway, the Patuxent River.

It shouldn’t have been that big an ask.

But all these years later the once clear, clean, seafood-rich Patuxent remains murky and degraded, emblematic of the wider problem of restoring its estuary, the Chesapeake Bay.

By spending billions on sewage treatment, Maryland has done a lot for the 110-mile waterway that drains the DC and Baltimore suburbs before sweeping down through St. Mary’s and Calvert counties.

A lot, but not enough, as agriculture and development intensified and population exploded. There were pollution reduction goals that might have been enough, but never a way to actually say to pollution: “Enough!”

Which brings me to Montana, far from the Chesapeake’s watershed but a place of hopeful reckoning with a version of that Maryland student’s simple plea.

This summer a Montana court, petitioned by students ages 5–22, ruled that the state must honor its constitutionally enshrined obligation to ensure a “clean and healthy environment ... for present and future generations.”

This despite Montana’s passing at least two laws since 2011 to forbid even considering the impacts of fossil fuel mining, a big part of its economy, on climate change.



This sturgeon was caught in a pound net on Maryland’s Nanticoke River, downstream from the river’s confluence with Marshyhope Creek. (Dave Harp)

“Absurd” was how the state attorney general’s office described the judge’s decision. “Montanans can’t be blamed for changing the climate,” they said.

Interesting thinking from a state of about 1.1 million people, whose greenhouse gas contributions are the equivalent to those of the Netherlands, population 17 million — equal also to Pakistan, population 231 million.

Only Montana, Massachusetts and Pennsylvania have state constitutions explicitly recognizing citizens’ right to a healthy environment, though at least eight other states, including West Virginia and New York (parts of which drain into the Chesapeake) are in stages of discussing or implementing such rights.

Maryland 50 years ago passed the Maryland Environmental Policy Act (MEPA), which declared “each person’s fundamental and inalienable right to a healthful environment.” MEPA’s intent was to lead to all state agencies figuring out how to make that happen. They didn’t.

For the last five years, the nonprofit Maryland Campaign for Environmental Human Rights has struggled to amend the state’s constitution to one similar to Montana’s. But as of the most recent legislative session, even a mild resolution to reaffirm the existing MEPA law could not get to a vote.

Legislators appear to fear giving up control to the courts. That’s not unreasonable but, given our decades of struggle to restore the Chesapeake, I’d be willing to give the courts a shot.

The latest wrinkle, says Nina Beth Cardin, co-founder and director of the Maryland campaign, is that two Howard County high school students are gathering signatures on a petition for presentation to Gov. Wes Moore.

They will ask the governor to create an office or position of an ombudsman for the environment, an advocate for what today is termed “intergenerational equity” but which comes down to what that student asked long ago. Shouldn’t be that big an ask.

The last time sturgeon made news, it was joyous — the defeat of a proposed mammoth salmon aquaculture operation on tiny Marshyhope Creek, a Nanticoke River tributary on the Eastern Shore of Maryland. The plant would have inundated the creek with millions of gallons of “purge” water daily — a very real threat to the precious few endangered Atlantic sturgeon now known to spawn in the shallow creek.

The fish, which can reach 14 feet and several hundred pounds, were not even confirmed to still exist there, or anywhere in Maryland, until recent years.

They are so few, and they take so long to

reproduce, that news of a dead one, nearly 8 feet long and likely a female returning to spawn, is especially sad.

Neil Halsey, a retired Hopkins medical researcher who lives on the lower Nanticoke River, said his wife found the carcass in July, stinking and attracting vultures. A slash to the side of the fish’s head betokened a possible boat strike as the cause of death.

It was badly decomposed. “Basically a bag of goo held together by its skin. It was impossible to determine much,” said Chuck Stence, a biologist with Maryland’s Department of Natural Resources.

Stence and his crew have been capturing and tagging sturgeon since their rediscovery. Implanted microchips tell biologists when a fish passes any of the telemetry buoys along the Nanticoke and Marshyhope. The dead fish was a new one, Stence said, never captured and chipped.

The biologists continue to piece together a fascinating story about this most endangered of fish. The Nanticoke sturgeon are genetically distinct from those in the Hudson, in Maine and in Virginia’s James River. They are the only summer-fall spawners among all migratory Bay fish, from striped bass to shad, which run upstream from the oceans in spring.

Maybe that’s why they weren’t wiped out decades ago in the Nanticoke during the bad old days of overfishing, when the river each spring was almost fenced off with legal and illegal nets.

Stence said that males, which grow up to around 6 feet, usually come in from the Atlantic continental shelves as early as June. They appear to hang at what biologists call “the singles bar,” a 55-foot deep hole.

As the females enter, heading without pause for little Federalsburg up the Marshyhope, the males dutifully fall in line.

By early October, when a cold front cools water temperatures, as if summoned by Neptune, every sturgeon clears out of the river virtually overnight. ■

Tom Horton has written about the Chesapeake Bay for more than 40 years, including eight books. He lives in Salisbury, where he is also a professor of Environmental Studies at Salisbury University.



BULLETIN BOARD

VOLUNTEER OPPORTUNITIES

WATERSHEDWIDE

Project Clean Stream

The Alliance for the Chesapeake Bay, through its Project Clean Stream, provides supplies for stream cleanups anywhere in the watershed. To volunteer, register an event, report a site needing a cleanup: Lauren Sauder at Isauder@allianceforthebay.org.

Potomac River watershed cleanups

Learn about shoreline cleanup opportunities in the Potomac River watershed. Info: fergusonfoundation.org. Click on "Cleanups."

Citizen science: butterfly census

Friend of the Earth's *Global Butterflies Census* raises awareness about butterflies & moths, their biodiversity. Collect data to participate: See a butterfly or moth? Take a close picture without disturbing it, then send it by WhatsApp message to Friend of the Earth along with your position's coordinates. The organization will reply with the species' name, file the information on the census' interactive map, database. Info: friendoftheearth.org. Click on "Projects."

Citizen Science: Creek Critters

Use Nature Forward's *Creek Critters* app to check the health of local streams by identifying small organisms living in them and reporting your findings. Download the free app from Apple App Store or Google Play. Info: natureforward.org/creek-critters.

PENNSYLVANIA

Tree plantings

The Alliance for the Chesapeake Bay needs volunteers to plant trees in riparian buffers. Events are rain or shine. Wear long pants that can get dirty, closed-toe shoes (boots best), hat, gloves (if you have them). Bring bug spray, water for yourself. The exact address, reminders will be sent upon registration.

■ 4:30-7:30 pm Oct. 13. Manheim in Lancaster County. Info: <https://htru.io/SEIH>.

■ 10 am-1 pm Oct. 14. Manheim in Lancaster County. Info: <https://htru.io/SEIH>.

PA Parks & Forests Foundation

The Pennsylvania Parks and Forests Foundation, a Department of Conservation and Natural Resources partner, helps citizens become involved in parks and forests. Volunteers learn about park or forest needs, then join or start a friends group. Info: paparksandforests.org.

State park, forest projects

Help with Department of Conservation and Natural Resources' projects at state parks and forests: clear and create trails, habitat; repair & install plants, bridges, signs; campground hosts; interpretation programs and hikes; technical engineering, database assistance; forest fire prevention programs; research projects. Web search: "PA DCMR conservation volunteers."

VIRGINIA

Hoffler Creek

Remove invasive plants, rake, prune, pull weeds 10 am-1 pm Oct. 21 at Hoffler Creek in Portsmouth, VA. Registration required. Web search: "volunteer Hampton Roads," put "Hoffler" in key word search box.

Strange green organisms in ponds?

Those with concerns about strange greenish organisms in Prince William Conservation Soil & Water Conservation District ponds or lakes should email: waterquality@pwsacd.org. To learn about green algae, cyanobacteria, visit vdh.virginia.gov.

Prince William Bandalong

Help to empty trash out of *Bandalong*, Prince William County's trash trap on Neabsco Creek, every Friday. Participants also collect data. Info: Tim Hughes at thughes@pwcgov.org.

Check out cleanup supplies

Hampton public libraries have cleanup kits that can be checked out year-round, then returned after a cleanup. Call your local library for details.

Virginia Living Museum

Virginia Living Museum in Newport News needs volunteers ages 11+ (11-14 w/adult) to work alongside staff. Some positions have age requirements. Adults must complete background check (\$12.50). Financial aid applications available. Info: volunteer@thelvm.org.

Pond cleanup programs

Join a Prince William Soil & Water Conservation District's *One-Time Pond Cleanup* in the fall or spring. The district needs kayaks to support this effort. Volunteers are also needed to take on longer-term commitments on a variety of waterways. Info: waterquality@pwsacd.org.

MARYLAND

Anita C. Leight Estuary Center

Meet 9-11 am Oct. 15 at the Anita C. Leight Estuary Center in Abingdon for an *Invasinators Workday*. Ages 14+ (12 & younger w/adult). Remove invasive plants, install native species. Wear sturdy shoes, long sleeves, work gloves. Weather permitting. Registration recommended. Info: 410-612-1688, 410-879-2000 x1688, otterpointcreek.org.

Streamlink tree projects

The Maryland Department of Natural Resources' Streamlink Education program needs volunteers of all ages to plant trees at Tom's Creek in Emmitsburg: 9-11 am Oct. 14, 21, 28 & Nov. 4, 11. Info, registration: streamlineducation.org/volunteer.

Lower Shore Land Trust

The Lower Shore Land Trust in Snow Hill is looking for volunteers to help with their events. Info: Beth Sheppard at bsheppard@lowershorelandtrust.org.

Severn River Association

Volunteer at the Severn River Association. Visit severnriver.org/get-involved, then fill out the "volunteer interest" form.

Annapolis Maritime Museum

The Annapolis Maritime Museum & Park needs volunteers. Info: Ryan Linthicum at museum@amaritime.org.

Patapsco Valley State Park

Volunteer opportunities include: daily operations, leading hikes & nature crafts, mounted patrols, trail maintenance, photographers, nature center docents, graphic designers, marketing specialists, artists, carpenters, plumbers, stone masons, seamstresses. Info: 410-461-5005, volunteerpatapsco.dnr@maryland.gov.

Oyster growers sought

The Marylanders Grow Oysters program is looking for waterfront communities or property owners to grow oysters. Participants must own a pier or wharf with at least 4 feet of water at low tide and enough salinity to support oyster survival in one of the selected creeks, coves, inlets. They will provide maintenance for up to four cages of oysters for up to 12 months. Once oysters grow to about an inch, they will be planted on local sanctuaries to filter water; enrich aquatic ecosystems; provide habitat for fish, crabs. There is no cost to participate. Web search "Marylanders Grow Oysters."

National Wildlife Refuge at Patuxent

Volunteer in Wildlife Images Bookstore & Nature Shop with Friends of Patuxent Research Refuge, near Laurel, for a few hours a week or all day, 10 am-4 pm Saturdays; 11 am-4 pm Tuesdays-Fridays. Help customers, run the register. Training provided. Visit the shop in the National Wildlife Visitor Center and ask for Ann; email wibookstore@friendsofpatuxent.org.

Ruth Swann Park

Help the Maryland Native Plant Society, Sierra Club and Chapman Forest Foundation remove invasive plants 10 am-4 pm the second Saturday in October, November and December at Ruth Swann Memorial Park in Bryans Road. Meet at Ruth Swann Park-Potomac Branch Library parking lot. Bring lunch. Info: ialm@erols.com, 301-283-0808, (301-442-5657 day of event). Carpoolers meet at Sierra Club Maryland Chapter office at 9 am; return at 5 pm. Carpool contact: 301-277-7111.

Chesapeake Bay Environmental Center

Volunteer at the Chesapeake Bay Environmental Center in Grasonville a few times a month or more often. Volunteering more than 100 hours per year earns a free one-year family membership. Info: volunteercoordinator@bayrestoration.org.

Maryland State Parks

Search for volunteer opportunities in state parks at ec.samaritan.com/custom/1528. Click on "Search Opportunities."



SUBMISSIONS

Because of space limitations, the *Bay Journal* is not always able to print every submission. Priority goes to events or programs that most closely relate to the environmental health and resources of the Bay region.

DEADLINES

The *Bulletin Board* contains events that take place (or have registration deadlines) on or after the 11th of the month in which the item is published through the 11th of the next issue. Deadlines are posted at least two months in advance. November issue: October 11
December issue: November 11

FORMAT

Submissions to *Bulletin Board* must be sent as a Word or Pages document or as text in an e-mail. Other formats, including pdfs, Mailchimp or Constant Contact, **will only be considered if space allows** and type can be easily extracted.

CONTENT

You must include the title, time, date and place of the event or program, and a phone number (with area code) or e-mail address of a contact person. State if the program is free or has a fee; has an age requirement or other restrictions; or has a registration deadline or welcomes drop-ins.

CONTACT

Email your submission to kgaskell@bayjournal.com. Items sent to other addresses are not always forwarded before the deadline.

Answers to CHESAPEAKE CHALLENGE on page 27

1. E
2. C
3. Spiders appear to like classical music but not rap and techno.
4. B



BULLETIN BOARD

EVENTS / PROGRAMS

PENNSYLVANIA

York County Parks

Events offered by the York County Parks and Recreation Department are free, do not require registration and take place at Richard R. Nixon Park, near Jacobus, except where noted. Info: NixonCountyPark@YorkCountyPA.gov or 717-428-1961. When registering, include number of participants, names, children's ages, phone number.

■ **Hawk Watch at Rocky Ridge:** 10 am–3 pm through October. North Overlook at Oak Timbers parking lot in Rocky Ridge Park, York. Teens, adults. ID raptors in flight. If it's not raining, volunteer birders will be present on days when winds have east or north components. Bring binoculars, field guides, lawn chairs.

■ **Fall Foliage Walk:** 2–3:30 pm Oct. 22. All ages. Groups of 10+ are asked to register.

■ **Night at the Nature Center:** 6–8 pm Oct. 28. All ages. Explore the center, learn about nocturnal animals with the lights off. Bring flashlight. Spooky costumes optional. Registration required.

■ **Turtles Story & Craft:** 2–3:30 pm Oct 29. Children. Story, short walk, craft. \$5/child. Registration required.

■ **Stream Discovery:** 2–3:30 pm Nov 12. Ages 5+ w/adult helper. Look under rocks for aquatic creatures. Bring extra water shoes or rain boots to walk in creek.

■ **Intro to Mushrooms & Fungi:** 2–4 pm Oct. 15. Teens, adults. Program begins indoors, includes short walk outside. Registration required.

■ **In Search of the Old Ones: An Odyssey among Ancient Trees:** 2 pm Nov 5. Teens, adults. Author Anthony Fredericks will discuss his book about 10 of the oldest trees in the US. His books will be available for sale, signing. Registration required.

VIRGINIA

Early Bird Walk

Stroll with a birding expert or on your own around Lake Ballard at Hoffer Creek Park in Portsmouth, 7:45–10 am (before it's open to public). Oct. 14. All ages, skill levels. Binoculars, spotting scope recommended. Gates open 7:45 am, close 8 am. Free, donations appreciated. Register: web search "hoffer bird walk."

MARYLAND

Horn Point open house

The theme of the University of Maryland Center for Environmental Science's Horn Point Laboratory's Open House is *Science for All!* in celebration of the institution's 50th anniversary. The event, on the lab's campus outside Cambridge, is set for 11 am–4 pm, Oct. 14, rain or shine. Meet the lab's scientists and learn about their Bay work through interactive exhibits on healthy marshes, how oysters clean the water and build resilience to sea level rise and climate change, the largest oyster hatchery on the East coast. All ages. Free. Children who complete scavenger hunt get a free T-shirt. Info: umces.edu/hpl/openhouse or Carin Starr at cstarr@umces.edu, 410-221-8408.

Anita C. Leight Estuary Center

Meet at Anita C. Leight Estuary Center in Abingdon. Ages 12 & younger w/adult. Registration required for all programs; payment due at registration. Info: 410-612-1688, 410-879-2000 x1688, otterpointcreek.org.

■ **Meet a Critter:** 1:30 p.m. Oct. 15, 29. All ages. Live animal encounter. Free. Register at least 48 hours ahead.

■ **Family Feed:** Choose time between 10 am–3 pm. Oct. 17, 19, 24, 26, 31 or Nov. 2, 7, 9. Help feed animals. Free. Register at least 24 hours ahead.

■ **Friday Night Fires:** 6–7 pm Oct. 13, 27 or Nov. 3. Meet at Pontoon Pier fire pit. All ages. Treats. Up to 15 people per group. \$45/group. Register by Wednesday before.

■ **Critter Dinner Time:** 2:30–3:30 pm Oct. 14. All ages. Learn about turtles, fish and snakes while watching them eat. Free. Register by Friday before.

■ **Chesapeake Bay 101 – Senior Citizen Edition:** 9:30 am–12 pm Oct. 17 or 10 am–12 pm Oct. 24. Ages 55+ Each day offers a moderate activity that explores the Bay, such as hiking, seining, paddling or wading. \$15.

■ **Ollie's Not-So-Scary Halloween:** 3–6 pm Oct. 21. All ages. Live animal encounters, crafts, candy, costume photo booth, apple cider, campfire. Other activities, food for purchase. No registration for this event.

■ **Halloween Scavenger Hunt:** 12:30–3:30 pm Oct. 22. Ages 2+ Don costumes, look for clues to hidden creature stations in forest. Complete puzzle to earn prize. Once registered, come any time in listed timeframe. \$12/family. Register by Oct. 18.

■ **Autumn Colors Canoe:** 1–3:30 pm Oct. 22. Ages 8+ Paddle Otter Point Creek. \$15.

■ **Nature Tots:** 2: 9:30–10:30 am Thursdays, Oct. 26–Nov. 30 (but not on Nov. 23). Ages 0–5 w/adult. Stories, songs, simple crafts, discovery outings. \$35/child for 5-week series. Register by Oct. 18.

■ **Creepy Crawly Kiddie Campfire:** 2–3 pm Oct. 28. Ages 3–8 w/adult. Come in costume, search for creepy crawlies, play along shoreline, Eat a marshmallow snack at the campfire. \$10/child. Register by Oct. 25.

■ **Bye-Bye Breakfast Paddle Canoe:** 8:30 am–11 am Oct. 29. Ages 8+ Bring thermos of hot beverage to sip while exploring marsh. Tuck into quiet curve of the creek to share breakfast. \$17.

■ **Herp Hibernation:** 1:30–2:30 pm Nov. 5. Ages 5+ Search trails for turtles, snakes, lizards. Finish with hot chocolate, herp-inspired craft. \$10/family. Register by Nov. 1.

Home energy workshop

The University of Maryland Extension is offering a free *Home Energy Workshop* 5:30–7:30 pm Nov. 8 at the Main Library in Hagerstown. Extension specialists and industry representatives will present cost-effective and innovative strategies to improve a home's energy performance or design a solar power system. Explore financial resources. Participants receive fact sheets, informational resources. Registration required. Info: go.umd.edu/HomeEnergy. Need reasonable accommodations to participate? Contact Drew Schiavone at dschiavo@umd.edu, 301-432-2767.

Sowing native seeds for winter

Join the Queen Anne's County Master Gardners 10 am to 11:30 am Nov. 8 at the county's 4-H Park's main building to learn about benefits of native plants, how to sow them for winter so that they break dormancy and germinate. \$10 fee includes supplies, two to three, 4-inch pots with with variety of native species for different growing conditions. Register:<https://winternativeseed.eventbrite.com>. Info, including reasonable accommodations: contact Rachel J. Rhodes at 410-758-0166, rjrhodes@umd.edu by Oct. 25 or visit the Queen Anne's County Master Gardners Facebook page.

CBMM's Her Helm exhibit

The Chesapeake Bay Maritime Museum's new exhibit, *Her Helm*, showcases Kristin Rutkowski's photos of more than 50 women who captain vessels on the Chesapeake Bay. Rutkowski encountered a network of recreational power boaters and sailors, charter boat and tug captains, maritime and environmental educators, and delivery boat and ferry operators who experienced challenges as they built capability on the water. The exhibit, which runs through September 2024, is included with general admission. At 5:30 pm Oct. 23, Capt. Judy Bixler will discuss her experiences at the helm of the Oxford-Bellevue Ferry over the past two decades. Register for her talk at bit.ly/FerryTale. Suggested cost is \$8. In-person, virtual options available.

Patuxent Research Refuge

Patuxent Research Refuge's National Wildlife Visitor Center on South Tract [S], and the refuge's North Tract [N], both in Laurel, offer free public programs. Preregistration required, except where noted. Note special accommodation needs when registering. Registration 301-497-5887. Info: 301-497-5772; <https://fws.gov/refuge/patuxent-research/visit-us>. List: timothy_parker@fws.gov.

■ **Kids' Discovery Center - Bats:** 9 am–12 pm (35-minute slots, on hour) Tuesdays–Saturdays [S]. Ages 3–10 w/adult. Crafts, puzzles, games, nature exploration; free booklet. Group special arrangements possible. Registration recommended (301-497-5760 for this program only).

■ **Monarch Magic Center:** 9 am–4:30 pm Tuesdays–Saturdays [S]. All ages. Sign up in person at info desk for noon butterfly releases; call to check. See all monarch butterfly life stages, live. No registration.

■ **Urban Wildlife Conservation Day:** 10–2 pm Oct. 14 [S]. All ages. Live animals, crafts, games. Dedication of new Wisdom Trail and renovated Dr. Chandler S. Robbins Outdoor Education Center. Some events require registration.

■ **Screech Owl & Kestrel:** 11 am–11:30 am Oct 14 and Nov. 11 [S]. All ages. Meet live birds.

■ **Family-Fun/TREE-mendous Trees!** Drop in 10 am–1 pm Oct. 20, 21 [S]. Activities, crafts, games show trees' benefits. No registration.

■ **North Tract Bicycle Trek:** 10 am–12:30 pm Oct. 21 [N]. Ages 10+ See wildlife, plants, historical sites on 12-mile guided ride. Weather-dependent. Road may be unsuitable for narrow tires. Bring bike, snack, water bottle, helmet.

■ **Holiday Bazaar - Friends of Patuxent at National Wildlife Visitor Center:** 9 am–3 pm, Nov. 4 [S]. All ages. Stories, bingo, live animals, local author book-signings, door prizes, native plant seeds. Free. Sales from Baldy's Bargains Thrift Shop, 30+ vendors, Crane Cafe lunch & bake sale; adopt a houseplant help to support refuge and science center environmental education, outreach & recreation programs. No registration. Info: friendspr@friendsofpatuxent.org, 301-497-5772.

■ **Winterize Your Butterfly Garden:** 2–3:30 pm, Nov. 11 [S] All ages. Learn to extend blooms; help pollinators overwinter, provide native seed heads for winter wildlife; learn seed collection/storage for next year.

Free museum passes at libraries

In a partnership with the Annapolis Maritime Museum, each of the 16 branches of the Anne Arundel County Public Library have added family admission passes to their *Library of Things* catalog. The passes, good for the general admission for up to four people during regular museum public hours, can be checked out for free with a library card for seven days and can be picked up or returned at any Anne Arundel County public library.

We can each make a difference with conscious consumerism



By Cathleen Anthony

It can be exhausting to exist in a consumerist economy and be bombarded with constant decision making. I'm about to make it even more tiring by adding the lens of conscious consumerism.

In general, to be a conscious consumer is to be aware of what you buy or use and the impact it has on the world. It sounds simple enough but, in the last few hundred years, the rise of globalism has meant that the line from production to consumption is full of twists, turns and knots.

Learn some of the terminology. Five minutes in a grocery store will inundate you with buzz words: all-natural, fair-trade, organic, cage-free, superfood, antioxidants and many more. Some of these terms actually mean something when it comes to the standards of the food, but others are just marketing ploys.

It can be like learning a new language, but it's worth it if you really want to know more about where your purchases come from and how they impact the world you live in. Sometimes I just stand there for a minute searching the web, looking things up in my search engine. There is zero shame in that.

Invest in higher quality. If the jeans are half the price, but only last for half the lifespan of the more expensive pair, have you really saved money? Fast fashion is a rapidly growing problem. Things are made cheaply, wear out faster and are destined for the garbage can even sooner. Finding the money up front to invest in something is a legitimate challenge. However, when it comes to finding affordable quality, there is a tried-and-true method: buying second-hand.

Buy second-hand. My phone, car and some of my favorite clothes were previously owned by others. Not only is this easier on my budget, it's also easier on my conscience. Once I discovered some of the dangerous practices that go into some



Buying and consuming locally produced goods reduces your carbon footprint and supports the local economy. (Stephen Little/CC BY-NC 2.0)

smartphone production and recycling, I resolved to avoid buying brand new devices. A second-hand product means that my footprint is smaller.

Reduce, reuse and recycle, but also refuse, repurpose and repair. Last month, one of the high-quality wool socks I owned developed a hole. So I taught myself how to darn. The time between looking up the first YouTube video to having a completed patch wasn't long. The materials to fix the hole were far cheaper than replacing the sock. Being self-sufficient and having personal investment in my possessions provides me with a feeling of satisfaction that no impulse purchase has ever come close to. I try to be mindful about what comes into my home, and I take care of the things that surround me.

Look beyond the product itself. Sure, it says it's made from something like recycled school buses, but how much plastic packaging is it wrapped up in? How far did it travel to get to the shelf? How does that company treat its workers? That single product does not exist in isolation, and neither does your decision to buy it or not.

Divest when it doesn't align with your values. I recently learned that the credit card companies I have accounts with don't have good track records when it comes to their practices. They invest in environmentally damaging projects, and they have predatory lending practices, among other things. I opened those accounts when I was young and thought one company was the same as any other. Now that I know more, I want to make some changes in how my money

flows. There are plenty of other companies out there more deserving of my business.

Recognize when you're being manipulated. Folks who work in marketing are very good at what they do. They tap into the human psyche and use our basic needs and desires to sell us things we don't always need. This is the exact opposite of conscious consumerism. Ads show us what we want to see. Each time we're presented with one, we need to tune into the little voices in our heads that remind us of that. Try to be aware of where the impulse to buy comes from.

Close to home is a good place to start. Because globalization is at the heart of all this, consider eliminating the global aspect where possible. Buying and consuming locally produced goods, first and foremost, reduces your carbon footprint — the greenhouse gases added to the atmosphere by having those nail clippers shipped from South Korea. And you are investing money in the businesses that make up your community. We will always be a global society, but we can also be a locally invested community.

There is no one easy place to turn to help you make a conscious consumer decision. And beyond that, there isn't one clear-cut, right or wrong answer to the choices that present themselves. An organic product might use a ton of water, or a cookware set full of "forever chemicals" may come from a unionized factory. If you read this article looking for an easy solution, I'm afraid I don't have it — although I do recommend you start by looking up B Corporations. These are businesses that meet verifiable high standards of social and environmental performance, public transparency and legal accountability.

Does my "unconscious" consumerism harm the planet and exploit people? Well ... the short answer is, yes. It simply can't be avoided in the modern world. But that doesn't mean we can't make small changes that over time and magnified across a population, drive change. Remember how the world banded together in the 1980s and '90s to reduce CFC use and save the ozone layer? Just because something is hard, doesn't mean we can't try to make a start.

"Do the best you can until you know better," wrote Maya Angelou. "Then when you know better, do better." ■

Cathleen Anthony is a Pennsylvania projects associate for the Alliance for the Chesapeake Bay.

Where there are berries, there might be cedar waxwings



By Alonso Abugattas

Cedar waxwings are beautiful, gregarious birds that can be here one day and gone the next, depending on the fruit production of their favorite food plants.

If you do see one, it will likely not be by itself. Especially outside their breeding season, you can see flocks of hundreds and even thousands at a time.

There are three species of waxwings (genus *Bombycilla*) worldwide. Two are “New World” species — our own cedar waxwing (*B. cedrorum*) and the Bohemian waxwing (*B. garrulus*), with a far more northerly range. The other is the Japanese waxwing (*B. japonica*), found in Japan, Korea and eastern China.

The word *Bombycilla* translates to “silky tail” and refers to the birds’ silky-looking plumage. Cedar waxwings’ species designation, *cedrorum*, means “of the cedars” and refers to one of their favorite foods: the fruit of red cedars (even though what we call red cedars are in fact junipers, not cedars).

The name “waxwing” refers to the red, waxy, droplet-like appendages these birds develop at the tips of their secondary (innermost) flight feathers. The color is presumed to come from the abundance of astaxanthin, a carotenoid pigment, in their diet. While the purpose of the wingtips is debated, many believe they attract the opposite sex. For males and females alike, the waxier the wingtips, the more likely they will find a mate, nest earlier and produce more offspring.

These birds range across of most of the U.S. into southern Canada when breeding (mid-June to mid-August) and south to Mexico and Central America in winter, occasionally even as far as northwest South America. They can be nomadic and irruptive, following the fruits that make up 70% of their adult diet. No other North American birds depend more on fruit than waxwings.

The remainder of their diet consists of insects, flowers and sap. While they have



A small flock of cedar waxwings gathers on a winter crabapple tree. (Paul Cooper/CC BY-NC 2.0)



A cedar waxwing hovers alongside a bonanza of berries on a *Juniperus virginiana* tree, the “cedar” that gives the bird its name. (Stan Lupu/CC BY-NC-ND 2.0)

adapted to a specialized diet based on fruit, they need more than one type to meet their nutritional needs. Their ideal diet contains a variety of fruit, flowers and pollen, plus insects, which supply the protein vital to very young birds.

When adults feed on insects, they usually do so over water, hawking them like large swallows.

Favorite fruits depend on where the birds are at a given time, but chief among them are the berries of red cedars — as well as dogwoods and cherries. This has led to their other common names: cherry birds or cedar birds.

Waxwings are recognized as great dispersers of seed from the fruits and berries they consume.

This mostly frugivorous diet plays into their life cycle in many ways, from being nomadic to giving them a natural defense against brood parasites like cowbirds. The interloping newborn cowbirds often can’t survive on the waxwing’s insect-meager diet. Waxwings are also known to eject cowbird eggs from their nests, or even build a new nest on top of it.

Their dependency on fruit can also be harmful. Some nonnative berries can be deadly to waxwings. The bright red berries of nandina, an Asian native also known as heavenly or sacred bamboo, contain cyanide, especially before they ripen. These berries can kill waxwings that eat too many — which they often do. The berries can also sicken dogs, cats and horses.

Unfortunately, nandina remains widely available at nurseries. If you want to feed waxwings and other berry eaters, go with natives instead: serviceberries, winterberries, dogwoods or junipers.

Other effects of eating nonnative plants are not as clearly understood. When waxwings feed on nonnative bush honeysuckle, especially while molting, the normally yellow tail tips turn various shades of orange instead.

Waxwings have been called gluttons because they don’t always find fruiting plants in great numbers and must stuff themselves when they do. If they overindulge on overripe, fermented berries, the birds can actually get drunk and behave accordingly — sometimes to comic effect but other times with fatal consequences, such as flying into windows.

Breeding success also depends on finding large numbers of fruiting trees and shrubs. Because fruits often occur later in the warm season and can vary from year to year, these birds are among the latest of nesters.

Pair bonding consists of food sharing, beak rubbing and hopping about as though dancing. Once they form a pair, both participate in building their loose bulky nest, anywhere from 6 to 50 feet high in a tree. The nest is built with twigs, rootlets, pine needles, hair, moss and grass.



A pair of cedar waxwings gobbles winter berries in Newport News, VA. (Watts/CC BY 2.0)

The female is solely responsible for incubation, laying three to five bluish-gray eggs with fine dark spots. The young hatch in 10–16 days and are first fed insects by both parents before switching to berries and fruits.

The young fledge in 14–18 days. A pair typically raises one brood per year but occasionally will immediately rear a second clutch.

Waxwings have several calls (often a trilling “iseee”) but, unlike many other passerine species, they do not sing.

In the most favorable conditions, waxwings have been known to live for 8 years and 2 months — all the while digesting and dispersing seeds of the plants that their descendants will depend on. ■

Alonso Abugattas, a storyteller and blogger known as the Capital Naturalist on social media, is the natural resources manager for Arlington County (VA) Parks and Recreation. His blog is at capitalnaturalist.blogspot.com

More than ever, we like to go where the wild things are



BAY NATURALIST

By Kathy Reshetiloff

Even as our society increasingly depends on technology for everyday activities and recreation, our love of nature and connection with the outdoors remains an integral part of our identity as Americans. Whether we're participating in a particular activity or merely observing, wildlife and nature evoke a sense of wonder and appreciation for our world.

Tracking a white-tailed deer through a forest, hooking a smallmouth bass or rockfish, feeding ruby-throated hummingbirds in your backyard, or just watching a beautiful butterfly visit flower after flower in your garden — these are all activities that connect us not only to nature but to each other. And a growing body of research shows that we are healthier and happier when we spend more time outdoors.

This passion for wildlife and wild places is reflected in the preliminary findings of the 2022 *National Survey of Fishing, Hunting and Wildlife-Associated Recreation*, coordinated by the U.S. Fish and Wildlife Service. First conducted in 1955 — and every five or six years since — this survey is based on interviews with thousands of citizens from all walks of life.

In 2022, more than 259 million Americans participated in some form of wildlife-associated recreation including fishing, hunting, birdwatching, photography and more. Watching wildlife was most popular (148 million), followed by fishing (almost 40 million) and hunting (14 million). This translates into 57% of Americans spending time observing wildlife. About 15% fished, and 6% hunted. The Mid-Atlantic region mimicked this trend with 17.8 million (54%) citizens engaged in wildlife watching, while 4 million fished (13%) and 1.5 million hunted (5%).

The survey defines wildlife watching primarily as taking a special interest in wildlife around homes or taking a trip for the primary purpose of seeing animals of



Children try their hands at fishing from a pier at Masonville Cove off the Patapsco River in Baltimore. (U.S. Fish & Wildlife Service)

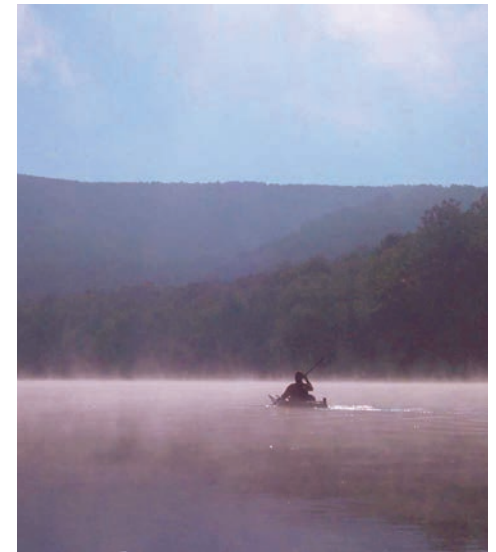
one kind or another. But it also includes feeding animals (mainly birds), photographing them and maintaining or planting natural areas for the benefit of wildlife. Most people did these things around or near their homes (146 million). A comparison of results from the 2022 survey with those of the 2016 survey revealed there was a 72% increase in the number of Americans engaged in wildlife watching.

When it came to fishing, freshwater fishing was the most popular type, with 35 million anglers devoting 559 million days to the sport. Saltwater fishing attracted 12 million anglers and 123 million total days on the water. The two combined represent an 11% increase over the 2016 numbers.

Hunters in the U.S. spent an average of 134 million days pursuing wild game.



Families enjoy a lakeside campground at Douthat State Park in Bath County, VA. (Virginia State Parks)



A lone kayaker paddles through the morning mist on the Potomac River. (Bureau of Land Management)

Big game like elk, deer and wild turkey attracted 11 million hunters. More than 5 million hunters pursued small game — squirrels, rabbits, quails and pheasants — accounting for 37 million days. Migratory birds, such as geese, ducks and doves, attracted 2.8 million hunters. Hunting for other animals such as coyotes, groundhogs and raccoons attracted 2.3 million hunters. Overall hunting participation increased by almost 22% from 2016 to 2022.

These kinds of pastimes — whether watching, fishing or hunting — are, of course, good for local economies. In 2022, Americans spent an estimated \$394 billion on equipment, travel, licenses and fees to enjoy some of their favorite outdoor activities. That money creates and maintains thousands of jobs, supporting families and communities. This is not only good for the economy; it's good for the environment. Revenue from licenses, tags and excise taxes supports vital wildlife and habitat conservation efforts.

The final results of the survey had not been published as of this writing, but the results of the 2016 survey are available and offer detailed data on outdoor recreation and expenditures, as well as information about other newly included activities such as target shooting, archery and recreational boating. To see that data, visit [fws.gov](https://www.fws.gov) and search for "FHWAR survey." On the resulting page, scroll down to the survey link. ■

Kathy Reshetiloff is with the U.S. Fish and Wildlife Service's Chesapeake Bay Field Office in Annapolis.