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ECCA | 2025 Table of Contents

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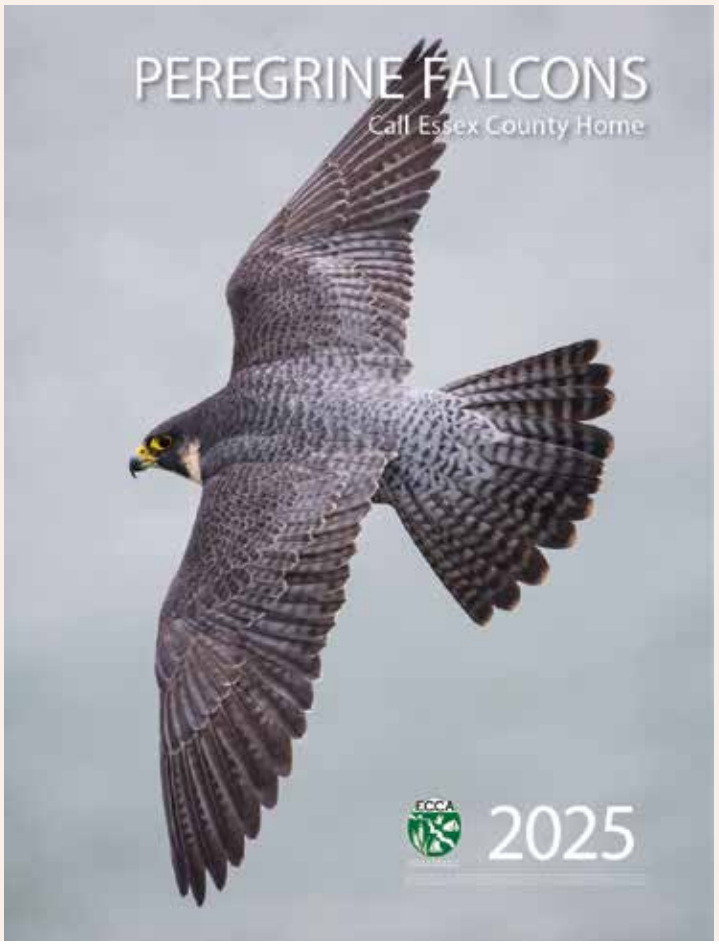
Photo by Bryan Watts.



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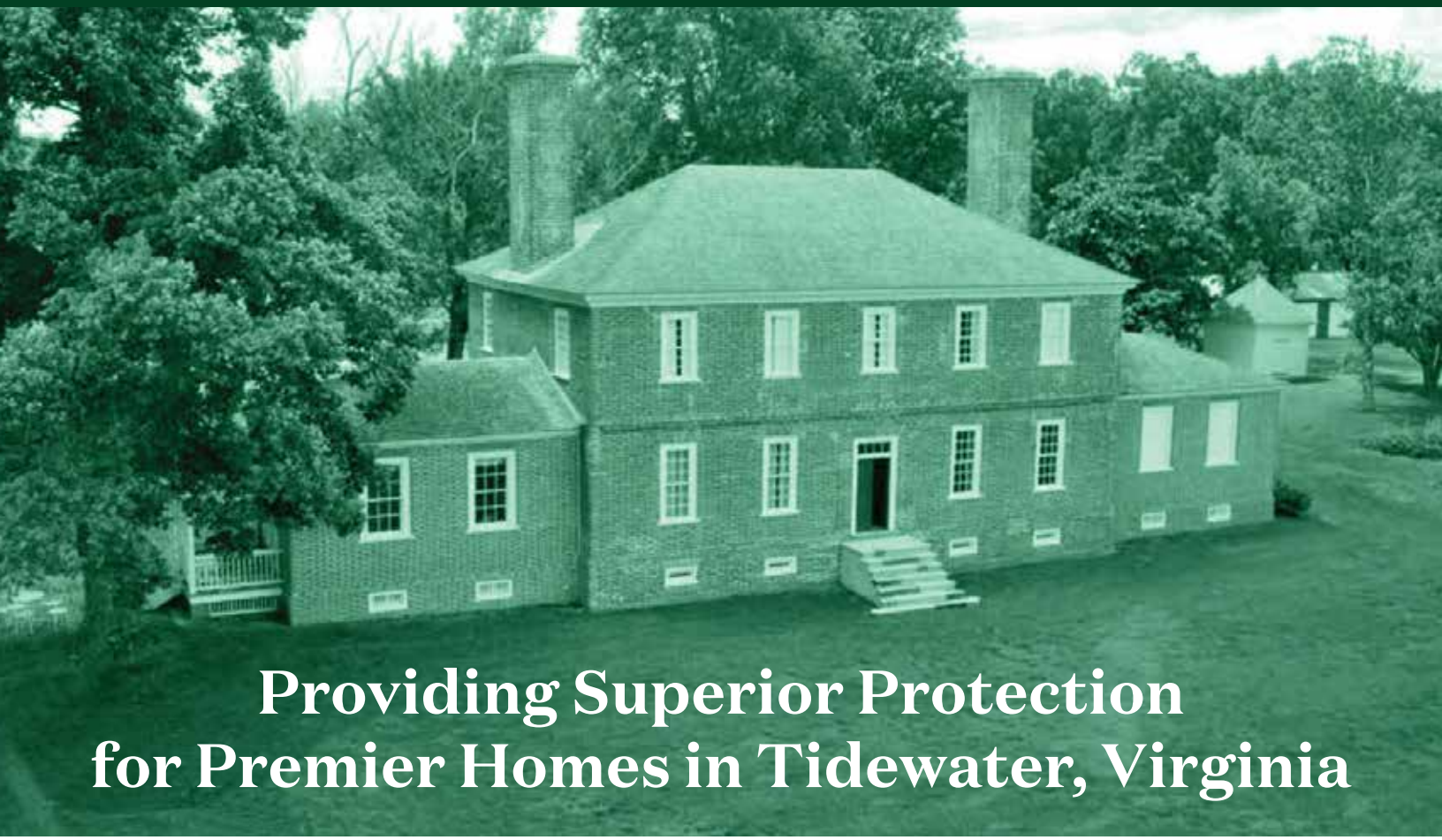

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A LETTER FROM THE PRESIDENT

Dear Friends and Supporters,

When I think of Essex County, I am reminded of how deeply our land and waters are tied both to our history and our future. From the banks of the Rappahannock River to the rolling farmland and woodlands that stretch across our county, this is a place where natural beauty and cultural heritage are woven together. Generations have lived from these lands – farmers, watermen and families whose traditions are carried forward today. The fields, forests, and shorelines are not only the backdrop of our lives, but the foundation of our community's identity.

But with that rich heritage comes responsibility. The Rappahannock, which sustained the earliest settlements, faces increasing danger from the lack of comprehensive water supply planning. For this reason, American Rivers, a national non-profit, has designated the Rappahannock as the 6th most endangered river in America. The most intense threats are from data center development. To date, there are thirty-one data center projects in the works in the Rappahannock River watershed. We at ECCA are certain that it is only a matter of time before our county is faced with such a threat. We had success in our advocacy efforts in Caroline County and are prepared to show the same resolve for Essex should that threat materialize.

We also continue to see threats from industrial solar developers. We believe in solar – in the right place – not where it displaces productive farm and forest lands, or threatens environmentally sensitive areas. Across the country, too much farmland has been replaced with solar panels. We don't want that for Essex County and will continue to monitor any new developments.

This annual magazine is both a celebration and a call to action. It celebrates the beauty and history that make Essex County unique, and it calls on all of us to take part in protecting it. Whether through conservation easements, community partnerships, or education, we are working to ensure that our county continues to be defined by its rural nature, abundant wildlife and open spaces.

Our work would not be possible without your unwavering support. We are immensely grateful for the continued dedication and generosity of our members, advertisers and partners. Your contributions have enabled ECCA to make some positive changes in 2025. We were able to hire a part time Executive Director, local resident Leslie Rennolds, who brings a new level of skills to our organization. And, we are now located solely in Essex County.

I invite you to reflect with me on all that Essex County has given us – and all that we give back. Together, with care and commitment, we can face today's threats and preserve the promise of tomorrow for future generations.

With gratitude and resolve,

Lisa Mountcastle
President, Essex County Conservation Alliance

A LETTER FROM THE EXECUTIVE DIRECTOR

Dear Friends and Supporters,

Have you ever had the realization that each of your life experiences has somehow prepared you for your next venture? That's how I feel each time a new challenge or opportunity comes my way, and is certainly the case for my new position as Executive Director with the ECCA.

I spent a lot of my career in the advertising business, learning valuable skills such as project management, design, print production and budgeting. I took these skills with me as I later branched out into positions outside of the agency realm.

The ECCA is the third non-profit I have worked with as a paid staff member. They are, in order, the APVA (Association for the Preservation of Virginia Antiquities), now known as Preservation Virginia. Though my job was in Richmond, where I lived at the time as a new college graduate, my boss, Richard Rennolds, was from Tappahannock. This became my first tie to Essex County, which I would eventually call home.

I also served as the Assistant Director and Director of Marketing for the Menokin Foundation in Warsaw. Some of the richest knowledge, deep insight into the human experience, and appreciation for natural resources and preservation came to me during those years. I eventually served an 18-month stint as the Interim Executive Director which gave me a totally new perspective on responsibility. But I learned from the best, Sarah Dillard Pope, and still consider her a very dear friend and teacher.

During the pandemic, I was without work, which is when I turned my attention to volunteering at the Tappahannock Art Gallery (TAG). The creation and appreciation of art has always been important to me, and once again I found myself with a new collection of interesting and accomplished people from whom I have learned much. I spearheaded the branding of the organization (which I also did at Menokin) and became a Guild Artist Member, which I still maintain, though my participation has been cut a bit short with new work responsibilities.

Through TAG I was called to participate as a volunteer in a new initiative being introduced by the National Park Service called Chesapeake Bay Gateway Communities. During the process of working with community members, town and county officials and staff, NPS personnel, conservationists, and artists, I have been a lead in developing a mural trail for Essex County. A successful grant application has begun the work on the first mural which you'll be seeing and hearing a lot about in the coming months.

So my natural journey through time has brought me to holding the position of Executive Director for the ECCA; one which I am approaching with my whole heart and mind. I would love to listen to your ideas and welcome your feedback. Never know where that next group of learning partners is coming from.

Respectfully,

Leslie S Rennolds

Leslie S. Rennolds
Exeuctive Director, Essex County Conservation Alliance

PEREGRINE FALCONS IN TAPPAHANNOCK

Bryan Watts (R) and Dana Brashaw banding baby peregrine falcons in their boat under the Downing Bridge in Tappahannock. Watts is a professor and director of the Center for Conservation Biology at the College of William and Mary, a research group that conducts primary research of high conservation concern, with an additional focus on policy, ecological requirements and management solutions.

Photo courtesy of *The Rappahannock Times*, 2025

By Bryan Watts

If bald eagles are the B-52s of the bird world, peregrine falcons are the fighter jets. Peregrine falcons are revered throughout the world for their aerial acrobatics and high speeds during stoops to catch prey on the wing. Their unmatched prowess in the air has made them prized possessions for falconry by royal families for thousands of years. Most residents of Essex County may not be aware that an aerial show plays out daily over the Rappahannock River and surrounding farms as our own resident falcons hunt.

Falcons appeared on the Downing Bridge during the spring of 2013. The Center for Conservation Biology (William & Mary) and the Virginia Department of Transportation placed a nest box on the bridge in 2014, and the birds nested for the first time in 2015. Both the male and female were hatched in Washington, D.C. and are resident in Tappahannock throughout the year. This pair has nested on the bridge every year since 2015.

Virginia has never supported a large population of peregrine falcons. Prior to the 1950s, twenty-five nesting locations were known in the state. Virtually all of these were on cliffs in the southern Appalachians. Places like Barney's Wall, Riven Rock, Jump Mountain, Nichol's Knob and Stony Man. The historic population was certainly impacted by egg collectors and gunners but it was the widely used and persistent pesticide DDT that would extinguish the population in the state. In fact, of the 350 eyries known east of the Mississippi River, none were occupied by 1964.

In recognition of ongoing impacts to wildlife, the U.S. Environmental Protection Agency issued a cancel order for DDT in 1972. This landmark decision would initiate a period of recovery for many bird species. However, for the eastern peregrine there were no remaining pairs to mount such a recovery. After much discussion, a successful captive breeding program was established with the intention of releasing birds into the wild and re-establishing a viable population. Virginia participated in this program releasing 115 birds in coastal sites (1978-1985) and 127 birds in the mountains (1985-1993).

The first nesting of peregrine falcons in Virginia during the modern era was on the hack tower on Chincoteague National Wildlife Refuge in 1982. Since that time, the population has shown a slow but steady recovery. When the pair first nested on the Downing Bridge it was one of only twenty-three pairs known in the state. The state population is now hovering around thirty-five breeding pairs.

The Tappahannock pair has played an important role in our ongoing efforts to recover the state's breeding population. The pair has produced 33 young falcons since 2014. A typical brood size for peregrines is two to four young with broods larger than four being rare. The Tappahannock pair produced five young in both 2021 and 2023.

Although the statewide peregrine population is now larger than the known historic population, most

OPPOSITE PAGE: Female peregrine falcon turns eggs in nest box. Adults attend eggs continuously during the incubation period to maintain a constant temperature for optimal development.

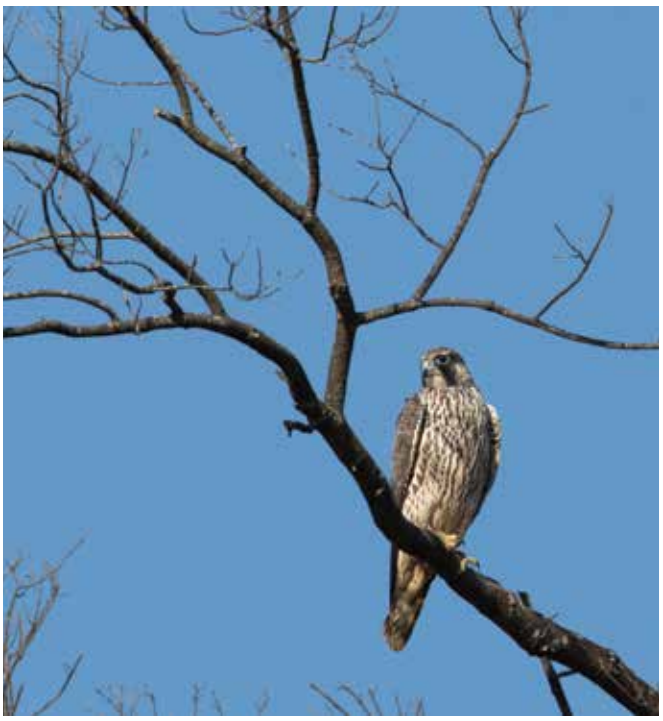
TOP: Peregrines are among the most spectacular fliers in the bird kingdom capable of high top-end speeds and remarkable maneuvers.

BOTTOM: Clutch of eggs just beginning to hatch. Incubation in peregrines is around 30 days.

All Photos by Bryan Watts unless otherwise noted.

breeding pairs currently nest on artificial structures on the Coastal Plain. One of the continuing conservation objectives for Virginia is to restore pairs within the historic mountain range. Beginning in 2000, we have moved young falcons produced on coastal structures to the mountains for release. To date, eleven falcons produced on the Downing Bridge have been moved and released in Shenandoah National Park. The birds are placed in a "hack box" and held until they are old enough to fly. Once old enough, the front of the box is removed and the birds are allowed to come and go on their own. Food is provided within the box until the young disperse from the site.

The Rappahannock River remains one of the more pristine tributaries of the Chesapeake Bay. The high number of bald eagles, osprey and winter waterfowl reflects the productivity of the river. The diverse assemblage of warblers, vireos, sparrows and other passerines reflects the beautiful forests and diversity of the landscape. Although a newcomer to the Rappahannock, the peregrine falcon adds a unique element to life along the river.



TOP: Brood of young falcons in a nest box. Young are unable to maintain their own body temperature until they are around two weeks old. Broods huddle together and rely on adults for warmth.

MIDDLE: Banding day. All young falcons produced on the Downing Bridge have been banded to allow researchers to identify them in the future.

BOTTOM: A falcon perches in a tree near the Rappahannock River. Photo by Tig Tillinghast.

All Photos by Bryan Watts unless otherwise noted.

Revitalizing a Historic Waterway: The Hoskins Creek Development Project

By Janine Rigg

Once a quiet expanse of marshland, Hoskins Creek has long played a crucial role in Tappahannock's economic and cultural history. From the early 20th century, when schooners loaded with lumber docked along its banks, to the rise of industry in the 1950s, the creek has evolved alongside the town itself. Now, a new chapter is unfolding with the Hoskins Creek Development Project—a revitalization effort aimed at preserving the waterway's environmental integrity while transforming it into a premier waterfront destination.

Photo Courtesy of the Town of Tappahannock

11

A Vision for the Future

The Hoskins Creek Project officially began in October 2024 with a commitment to restoring and stabilizing the shoreline, enhancing the natural landscape, and protecting the community's waterways. The multi-phase initiative, spearheaded by the Town of Tappahannock, will create a new entrance road, public docks, a fuel station, and a restaurant with lodging, further establishing the creek as a vibrant hub for residents and visitors alike.

Phase 1: Restoration and Accessibility

Currently underway, the first phase of the project focuses on environmental preservation. Shoreline stabilization efforts will protect against erosion while landscape enhancements will support local wildlife and native vegetation. The construction of an entrance road—expected to be completed by the end of 2025—will provide vital access to the waterfront development.

Future Amenities and Economic Growth

The project's long-term vision includes:

- **Docks and Fuel Station**

Scheduled to be operational by late 2026, these additions will serve recreational boaters and enhance connectivity to the Rappahannock River.

- **Restaurant and Lodging**

In partnership with Pack Brothers Hospitality, a restaurant with four lodging units above it will open by the end of 2026. Known for their work with Smithfield Station and The Surry Seafood Company, the Pack Brothers aim to create an unforgettable dining experience, celebrating local flavors and scenic waterfront views.

A Destination for Locals and Visitors

When completed, the Hoskins Creek Development Project will provide much-needed public boating access, fulfilling a long-standing desire within the community.

Local leaders envision the site as a place where visitors from Richmond and beyond can explore the river's beauty, enjoy locally sourced cuisine, and stay in charming accommodations. As Essex County continues to attract travelers seeking small-town charm, the revitalized Hoskins Creek will stand as a testament to Tappahannock's rich history and promising future.

With its blend of environmental restoration and thoughtful development, the Hoskins Creek Project is more than a revitalization effort—it's a celebration of the town's heritage and a step toward a thriving waterfront community for generations to come.

Janine Rigg lives in Warsaw, Virginia, and is originally from South Africa. She worked as a teacher for six years before relocating to the United States with her husband, Bryant Rigg, a U.S. Navy veteran who grew up in King George. Janine now serves as the Communications Manager and Executive Assistant to the Town Manager of Tappahannock. Her work reflects a passion for community engagement and preserving the unique character of the region she now calls home.

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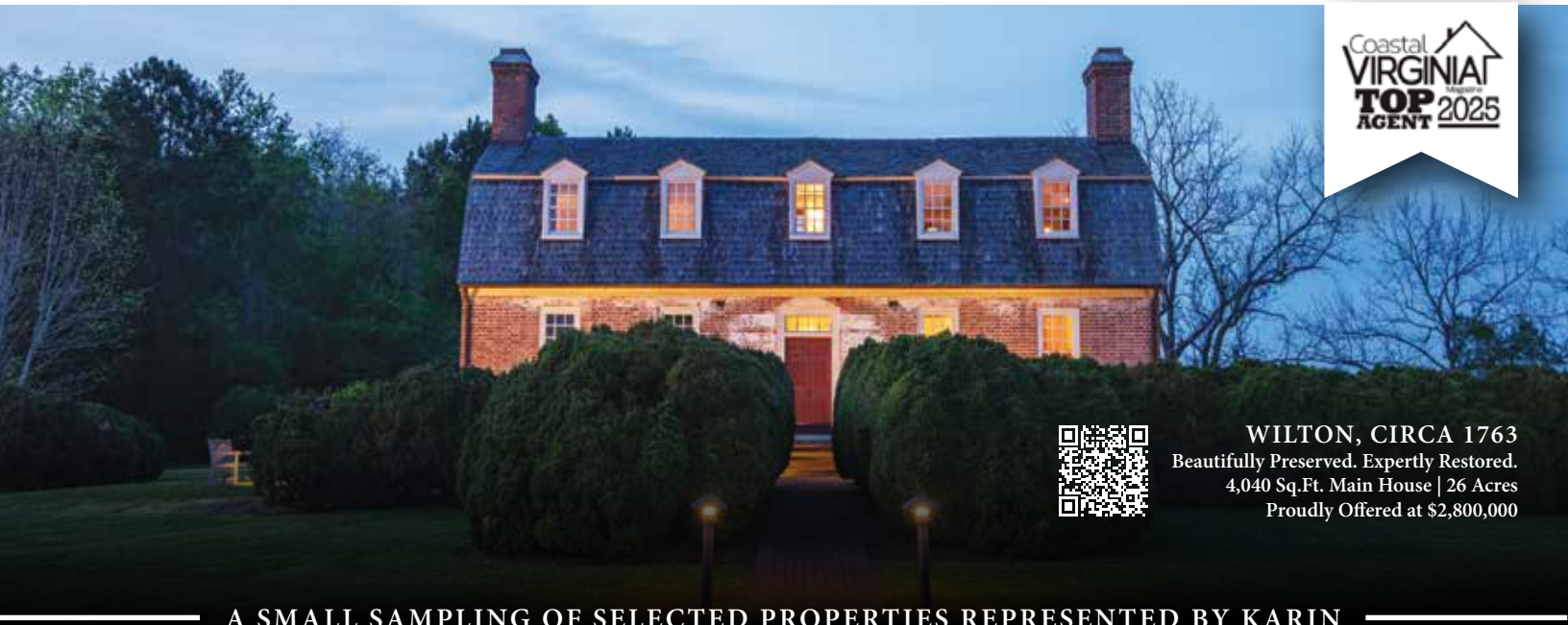
Karin Andrews



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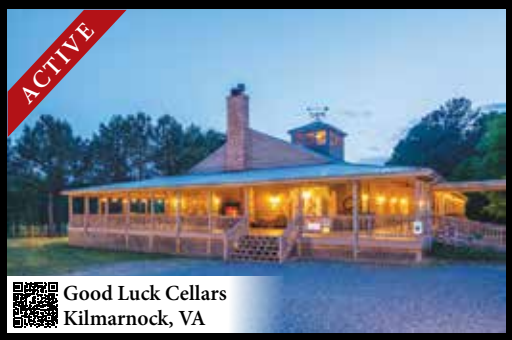

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Karin Andrews specializes in the representation and sale of Historic, Waterfront, Large Land Parcels and Architecturally Significant Properties throughout Eastern Virginia. With a deep appreciation for timeless design, historic preservation and land conservation, she connects extraordinary homes and farms with discerning buyers who value their unique stories. Karin is married to Essex County native, William Forrest Andrews. They reside in Upper Essex County, at Oakland Farm and have two grown daughters, ages 35 and 23, with two grandsons. She is a strong advocate for historic preservation, land conservation and all things Essex!

If you are considering selling or searching for a property with character and legacy, reach out to Karin for expert guidance at 804-445-5500.

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All photos courtesy of the Smithsonian Environmental Research Center; (Above) Alewife captured using a gillnet by Jack Ryan (Rappahannock Tribe.)

Swimming from Virginia to Maine and Back Again:

A coastal journey that begins and ends in your neighborhood creek.

By Henry Legett and Robert Aguilar

Alewife, also known as Branch Herring, migrate into the Rappahannock River to spawn every spring. A hundred years ago, creeks and streams in the Rappahannock teemed with these fish. Salting festivals were held from Tappahannock to Culpeper, and salted herring and roe were eaten year-round. However, over the last few decades, Alewife have all but disappeared from the river, and their numbers are < 1% of what they once were. Conservation actions have been taken to restore Alewife in the Rappahannock through fishing moratoriums and the removal of dams that block fish from reaching areas upriver to spawn (like the 2004 removal of Embry Dam in Fredericksburg). Yet, despite these efforts, the number of Alewife in the Rappahannock River remains low.

Why are there still so few Alewife in the Rappahannock? Scientists at the Smithsonian Environmental Research Center (SERC) in Edgewater, MD, in collaboration with the Rappahannock Tribe, may have uncovered one piece of this mystery. During the spring, Alewife can be found spawning in rivers and streams, but until now, it was not known where these fish went for the rest of the year. Using a method called "acoustic telemetry", these researchers tracked the migrations of Alewife from the Rappahannock River to offshore ocean habitats along the coast of Maine and Canada. Areas where there exist numerous commercial fisheries targeting an array of different fish species.

From March to April 2023, 100 Alewife were captured in Cat Point Creek using gillnets and dipnets. A small pill-sized chip ("acoustic tag") was surgically implanted into the fish, and their location was monitored using a network of underwater microphones deployed throughout the Rappahannock River and along the Atlantic coast.

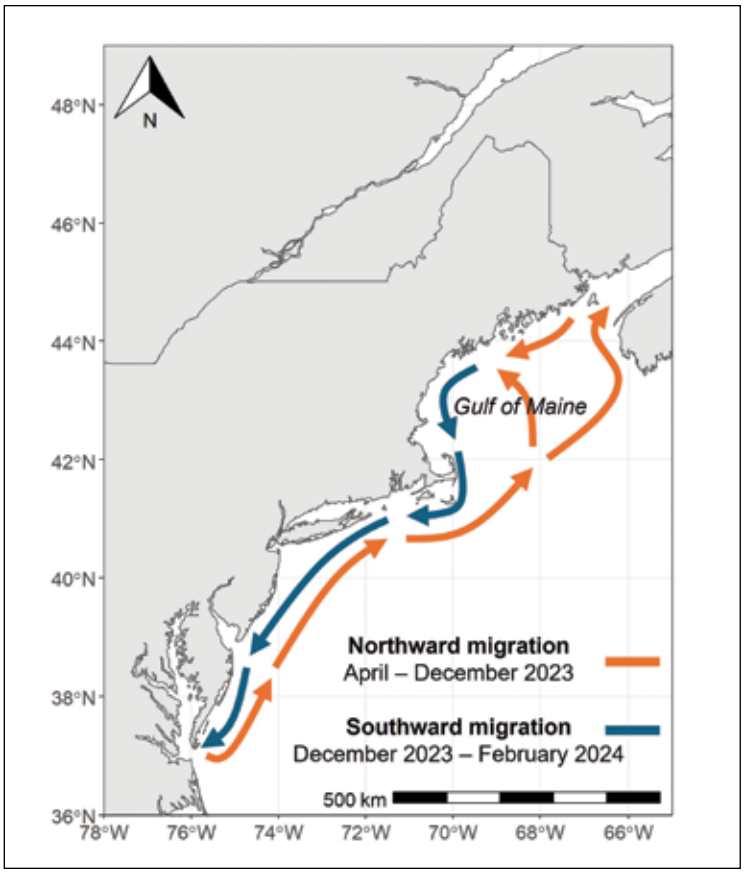
After they finished spawning in Cat Point Creek, the tagged Alewife left the Rappahannock River by mid-April. The fish quickly swam out the mouth of the Chesapeake Bay and then turned north along the Atlantic coast. By June 2023, the tagged fish had reached Georges Bank, an elevated area of the sea floor in the Gulf of Maine. After spending June on Georges Bank, the fish migrated to nearshore habitats along the coast of Maine for the rest of the summer and fall. A few fish even ventured as far north as the Bay of Fundy in Canada.

In December 2023, the fish started making their way back south out of the Gulf of Maine, staying close

to the coast as they rounded Cape Cod. By the end of January and through February, tagged fish were detected re-entering the mouth of the Chesapeake Bay. Out of the original 100 fish that were tagged in spring 2023, 14 fish survived the full annual trip and returned to the Rappahannock River in spring 2024. Most of these survivors migrated back to Cat Point Creek, but a few wandered to other nearby creeks instead, like Occupacia.

This study is one of the first to investigate where Alewife go when they leave spawning rivers for the open ocean. Critical to the conservation of these imperiled fish, this study revealed that the Alewife migration in the ocean overlaps with commercial fisheries, putting them at risk of becoming "bycatch" (unintentionally caught). In particular, the timing of Alewife presence in the Gulf of Maine during the summer and fall coincides with the peak of the Atlantic Herring fishery (May to October), while their migration south also coincides with the Atlantic Herring and Atlantic Mackerel fishery season in southern New England (January to May). Warmer spring temperatures due to climate change are also a concern, as Alewife migrate and spawn based on seasonal water temperature patterns. It takes almost 1.5 months for these fish to travel between the Chesapeake Bay and Gulf of Maine. Increases in temperatures in the Bay or along the Atlantic coast (e.g., from spring heat waves) could prevent Alewife from reaching creeks in the Rappahannock River before temperatures get too hot to spawn.

This project is still ongoing. In the spring of 2024 and 2025, Blueback Herring, also known as May Herring, a species closely related to Alewife, were acoustically tagged using the same methods in Cat Point Creek. Researchers aim to understand if these two species are migrating to similar habitats in rivers and oceans. Overall, the hope is that this science will be used to better conserve and restore Alewife and Blueback Herring in the Rappahannock River, and that one day, future generations may again see rivers and streams teeming with these fish.



(Top) Map of Alewife migration from the mouth of the Chesapeake Bay to the Gulf of Maine and back. Adult Alewife were tagged in the Rappahannock River in April 2023 and returned in February 2024.

(Bottom - Left to Right) Robert Aquilar, Henry Leggett and Jack Ryan, Director of Environmental Programs, The Rappahannock Tribe, prepare to place herring tracking equipment in Occupacia Creek.

Smithsonian Environmental Research Center

Henry Legett, PhD (L) and Robert Aguilar (R) are scientists in the Fisheries Conservation Lab at the Smithsonian Environmental Research Center, located in Edgewater, MD. They work to conserve and restore animals all over the world, but most of their research focuses on the fish and crabs of the Chesapeake Bay. On Wednesdays, they team up with other scientists to win trivia at their local German pub.

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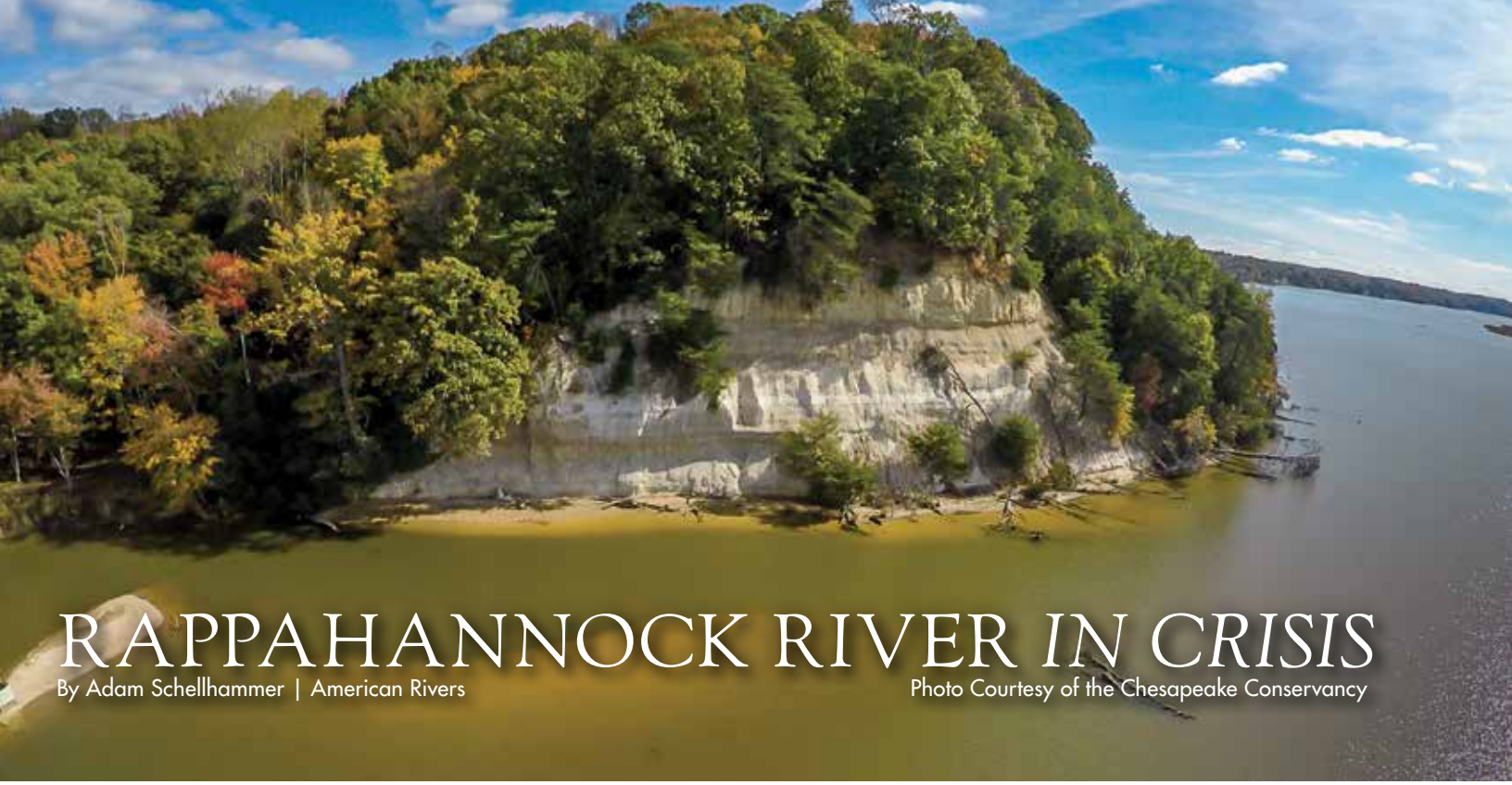


RAPPAHANNOCK RIVER *IN CRISIS*

By Adam Schellhammer | American Rivers

Photo Courtesy of the Chesapeake Conservancy

The Rappahannock River has sustained life in Virginia for thousands of years — from the early-archaic period, to the farmers and watermen who rely on its resources to earn a living.

The River cuts a path from the Blue Ridge Mountains all the way to the Chesapeake Bay, providing drinking water and food for all communities that lie within its footprint. The Rappahannock has always been the bedrock on which communities in the area have been built, and remains so to this day. Whether you're a "come here" or a "from here" the river provides all the same.

The Rappahannock People recognized the importance and balance of the river, understanding that it could support all if treated with respect and care. Oysters, shad, and striped bass, along with corn, squash, and beans could all be harvested in the fertile river basin. Unfortunately, not all relationships with the River were based on thoughtful stewardship, and over time the Rappahannock became a resource to be exploited for economic gain. The River is no stranger to challenges and threats, and some communities stand at the ready to meet those challenges. Champions like Chief Anne Richardson of the Rappahannock Tribe and Richard Moncure, a former river steward for the Friends of the Rappahannock, were among the conservation advocates who fought development projects and secured the protection of Fones Cliffs. That pivotal transfer of 465 acres into the ownership of the Rappahannock Tribe exemplifies the dedication and persistence of the residents and their commitment to safeguarding the lands and waters of the region.

Yet today, the river faces a new generation of threats. The rapid pace of development in the region, especially the explosive growth of the data center industry, combined with declining groundwater reserves and a warming climate, is creating a perfect storm. As more localities move away from groundwater and seek permits to withdraw surface water from the Rappahannock, the river's flow is being stretched thinner and thinner. With extreme weather worsening droughts and reducing flows for extended periods, overextraction poses a serious risk to the people, farms, and businesses who rely on the river every day. If this pressure continues unchecked, we face the real possibility of saltwater intrusion, degraded ecosystems, and a future in which the Rappahannock can no longer meet the needs of all who depend on it.

Fortunately, solutions are within reach, but they require coordinated, proactive planning. The Virginia Department of Environmental Quality has taken an important first step by requiring regional water supply plans. But in the Rappahannock watershed, these plans remain fragmented across five separate regions. Without a unified, basin-wide strategy that considers the cumulative impacts of all water withdrawals, we risk undermining the health and sustainability of the river. State agencies, local governments, and residents must work together to craft and implement a water supply plan that respects the carrying capacity of the river, ensures clean and abundant water for all users, and safeguards the Rappahannock for future generations. Community voices must remain strong in this effort because no one understands what's at stake better than the people who call this river home.

Woodie Walker | Economic Development Authority

Brent Hunsinger | Friends of the Rappahannock

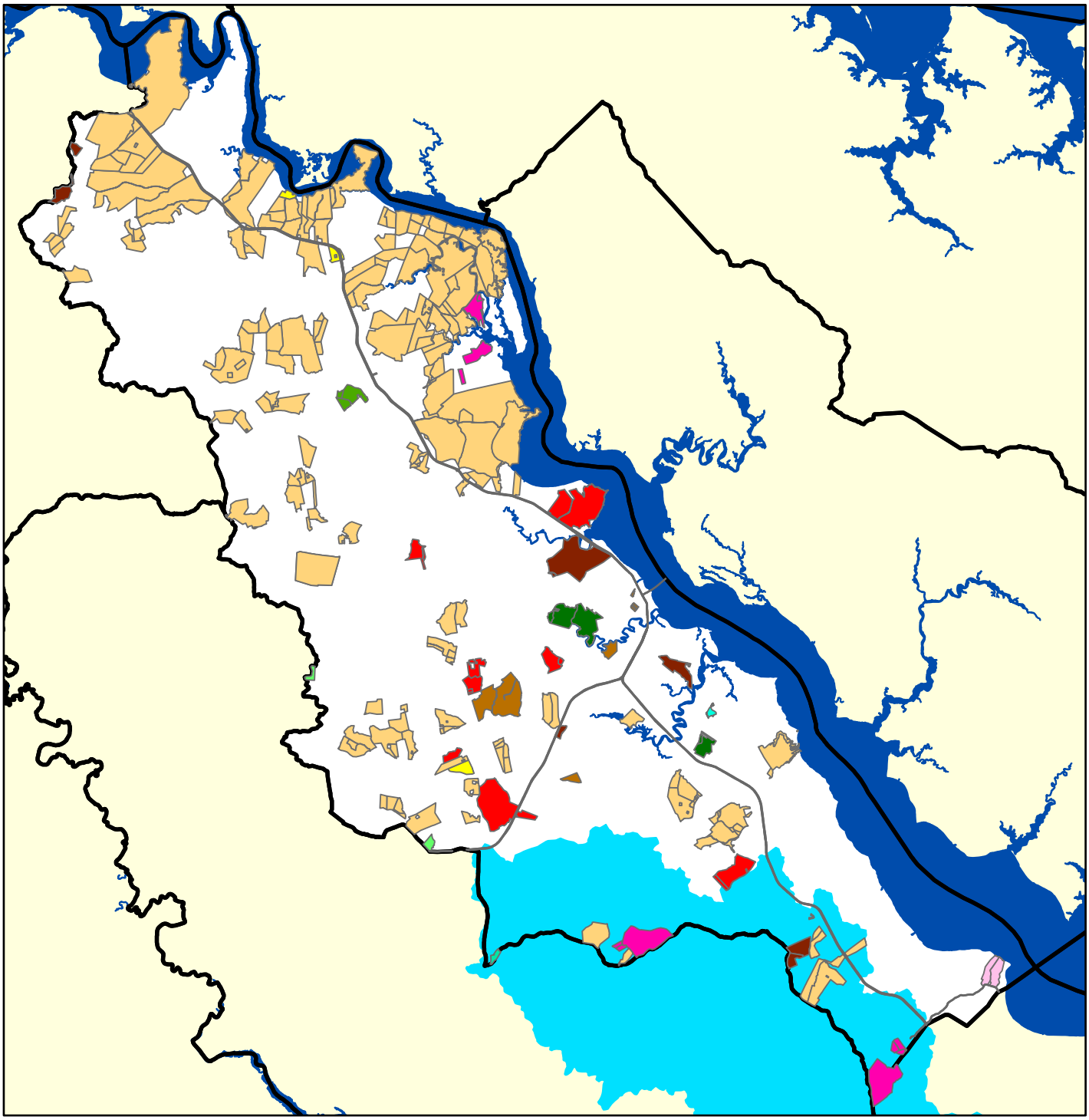
Adam Schellhammer | American Rivers

All Photos by Leslie Rennolds, 2025 | Local conservationists met with representatives from American Rivers on May 16th in Tappahannock to strategize about reducing the potential for harm, and implementing a long-term plan for overall watershed management.

The meeting was hosted by St. Margaret's School, which facilitated a kayak trip and hosted lunch afterward. Representatives from the Essex County Conservation Alliance (ECCA), Friends of the Rappahannock (FOR), Essex County Economic Development Authority (EDA), and students from the school met staff and regional council members from American Rivers.

Protected Lands as of January 2025

Essex County, Virginia



ECCA

ESSEX COUNTY CONSERVATION ALLIANCE

- County Boundaries
- Water Bodies
- Dragon Run Watershed
- Department of Historic Resources (DHR)
- Fish & Wildlife Service (FWS)
- Friends of Dragon Run (FDR)
- Middle Penninsula Land Trust (MPLT)
- Northern Neck Land Conservancy (NNLC)
- Tax Exempt (Essex County)
- Tax Exempt (Federal/State/Region)
- The Nature Conservancy (TNC)
- Virginia Department of Forestry (VDOF)
- Virginia Outdoors Foundation (VOF)
- Wetland/Stream Mitigation Banks
- Ever Green Team

ESSEX COUNTY VIRGINIA

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Created by the Essex County GIS Department
August 28, 2025

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Miles

Remembering Randy Rouse

December 30, 1916 - April 7, 2017

By Hill Wellford

There are a few people you meet in life who, long after their death, occupy a special place in your memories. The quality times you spent with them are easy to recall, and the friendship you shared enriches your life and is never forgotten. For many members of the ECCA, and the large collection of regular guests at Paynes Island, Randolph D. Rouse (or Randy, as he was known to us) was such a person. For readers of the ECCA magazine who didn't have the privilege of a close association with Randy, this article and the photos that accompany it will help you understand our continuing affection for this remarkable man.

Any article about Randy Rouse should start with recognition of the personal qualities that defined him, and which guided the decisions he made throughout his life. He was an unpretentious person, who was modest about his business success and financial wealth, and comfortable in any social setting. Randy was a good judge of character, who chose his friends and business associates carefully, based on their honesty and integrity not their social status. When asked about his business success, Randy would often say he was just lucky to be in the right place at the right time. Randy's life story, if published in a book, would require a series of chapters, each chapter leading to the next but never really ending. This article can only skim the surface of his amazing life.

Randy's Early Years: World War I, the Roaring 20s, the Great Depression to the end of World War II

To put Randy's life in historical context, it is important to realize that he grew up in a period of extreme turbulence and uncertainty. At the time of Randy's birth in Smithfield, Virginia, on December 30, 1916, World War I, which started in 1914, was raging in Europe but the U.S. had not yet entered the War. That changed on April 7, 1917, when the United States joined Great Britain, France and the allied forces in the war against Germany, Austria-Hungary, and their allies. World War I continued for another 19 months but finally ended when an armistice agreement was signed on November 11, 1918, a date we now called Veterans Day. The end of the war should have been a time for celebration, but in 1918 another crisis simultaneously emerged that threatened our nation. It was the Spanish flu pandemic of 1918-1919, one of the worst health crises in our country's history, which killed 675,000 people in the U.S. and 100 million worldwide. When the Spanish flu pandemic ended, the U.S. could finally turn its attention to rebuilding the post-war economy. This ignited a period of optimism known as the Roaring 20s. It was a period of cultural change, jazz music, and economic prosperity

in which the stock market soared to new highs. The Roaring '20s continued into the summer of 1929. This was an exciting time for Randy, but he would soon learn that the glitter of the Roaring '20s was illusory. On October 24, 1929, the stock market began a steep and prolonged decline that would continue into the summer of 1932 until it lost 90 percent of its pre-crash value. This was the time of the "Great Depression," when banks failed, mass layoffs occurred, and unemployment reached 25% of the nation's workforce. The Rouse family was not spared the pain of the Great Depression. Randy contributed to his family's finances by working any job he could find, yet still managed to maintain an academic standing that in 1935 gained him admission to Washington & Lee University. Aided by a Rotary Club University loan, Randy attended Washington & Lee where he earned a Bachelor of Science Degree in Commerce and graduated with the W&L Class of 1939.

Happiness in the Rouse family over Randy's graduation from college would be short-lived. Adolf Hitler, leader of the Nazi Party, had risen to power in Germany and had no intention of honoring the territorial boundaries of other nations. On September 1, 1939, only a few months after Randy's graduation, Germany invaded Poland. When Hitler refused to withdraw his troops, World War II officially commenced. The United States provided arms and supplies to Great Britain and France but did not enter the war until Japan, then an ally of Germany, bombed Pearl Harbor on December 7, 1941. Realizing he was about to be drafted, Randy acted quickly to enlist in the Navy. His service in the Navy would continue throughout World War II. In Europe, the war ended with the surrender of Germany and the Axis alliance in May 1945. In the Pacific, it dragged on into the summer, finally ending on September 2, 1945. World War II is estimated to have caused up to 25 million military deaths and 40 million or more civilian deaths.

Randy's Real Estate Career

Massive government spending on the war effort during World War II had brought the United States out of the Great Depression. Randy was now faced with a career choice. He could stay in the Navy, where, by the war's end, he had attained the rank of Lt. Commander, or embark on a career in the private sector. He chose the latter, moved to Arlington, Virginia, and with the assistance of an architect friend began building houses in the Northern Virginia area. His entry into the real estate business was a great success as Northern Virginia experienced substantial growth during the post-war period. Randolph D. Rouse Enterprises, the name Randy selected for his business, would soon become known as one of the area's premier real estate firms. By the early 1950s, he had become a successful and wealthy businessman. One of the properties Randy bought at this time was an historic 26-acre estate with the manor home situated on the crest of a hill in Arlington. The home known as the Fabrey-Lothrop House dated back to 1855, and had been purchased and remodeled by Alvin Lothrop, co-owner of Woodward & Lothrop department stores. During World War II, Lothrop leased it to Howard Hughes who hosted extravagant parties for famous guests that included movie star Jane Russell and the owner of the Washington Redskins, George Preston Marshall. Randy upgraded the manor house for his residence keeping 10 acres and the outbuildings that surrounded the house. He developed the remaining 16 acres to create the Cresthill community subdivision.

In the mid-1950s, Randy met Audrey Meadows, an aspiring actress, at a social event in Annapolis. Audrey's sister, Jane Meadows, was a successful actress and Audrey had the same aspirations but had enjoyed limited success. That changed when Audrey was selected by Jackie Gleason for the role of "Alice", Gleason's deadpan wife on his TV show "The Honeymooners." Audrey's performance as "Alice" became a fan favorite of The Honeymooner's audience. Randy and Audrey were married on May 26, 1956, at a time when the show was beginning to gain wide viewership. Jane Meadows, Audrey's sister, was matron of honor at Audrey's marriage to Randy, and Steve Allen, Jane's husband, and star of "The Tonight Show," was an usher. The news coverage of their marriage described Randy as a "wealthy real estate man of Washington D.C." Randy and Audrey lived at Randy's home in Arlington, which resulted in weekly commutes by Audrey to New York for rehearsals and filming. At first their marriage seemed to work, but it fell apart in two years as they pursued very different careers. They were divorced in 1958.

Randy's success in the real estate business continued to grow over the next 30 years, expanding into the Tidewater area of Virginia where he had grown up. His building ventures were not confined to residential homes. One of his early and most profitable real estate developments was the Seven Corners Shopping Center in Arlington. In Newport News, two of his most notable real estate projects were the Rouse Tower and the King James Hotel, which he built and managed.

The Honeymooners cast. Audrey is second from the right.

Foxhunting, Steeplechase Racing, and Legendary Horseman

Although Randy's keen eye for real estate opportunities would continue throughout his life, his interests could never be described as one-dimensional. Randy's success in real estate ventures became an avenue to relationships with other successful people in the D.C. and Northern Virginia areas. One such relationship was with A. Smith Bowman, owner of Bowman Distillery, who loved foxhunting and had established the Fairfax Hunt Club. As a child, Randy loved riding horses at his grandparents' farm near Smithfield and decided to start riding again. He joined the Fairfax Hunt Club and became an avid participant in foxhunting events. By the mid-1950s, he had become Master of Fox Hounds, a title he retained until his death. Randy's passion for foxhunting led him to build a clubhouse for the Fairfax Hunt in Reston. He also developed a love for the sport of steeplechase racing and built steeplechase courses in Reston and at Belmont.

Randy bought and trained many horses to race in steeplechase events and excelled as an amateur

jockey. His most beloved and successful horse was Cinzano. Randy saddled and rode Cinzano (below) in eleven steeplechase events, winning all eleven races. In addition to Cinzano, Randy owned and trained many other winners, including Ricacho, winner of the 1960 Virginia Gold Cup, Fields of Omagh (bottom right), winner of the 2005 and 2007 National Sporting Library Chronicle Cup, and Hishi Soar, winner at the Foxfield

races in 2016 and the Orange County Point-to-Point races in 2017.

Described in news articles as "one of the winningest amateur steeplechase and point-to-point jockeys of this era" and "a legend in the world of foxhunting," Randy will be long remembered in Virginia's horse history not only for his success as a rider and owner, but also for his financial support of the equestrian sports he so dearly loved. In 1973, when the steeplechase sport was struggling due to the cost and inconsistency of the fences horses jumped, Randy helped rescue the sport by designing and building a less costly, standardized fence that became the "national" fence used in steeplechase events.

In 1983, Randy married Michele O'Brien, who shared Randy's love of horses and who enjoyed her own success as a jockey in steeplechase racing. Randy and Michele were married for 34 years and, until Randy's death in 2017, lived at the ten-acre estate Randy maintained in Arlington. In a photograph of Michele (top right) on her horse, Anxious Talker, she is clearing a jump in a race she would go on to win. Michele is the rider wearing Randy's blue and red colors. In Randy's later years, he continued to support steeplechase racing through his sponsorship of the Gold Cup races at Great Meadows and at Colonial Downs.

In 2016, the National Steeplechase Association honored Randy with the F. Ambrose Clarke award. Created in 1965, this award is the NSA's highest honor reserved for "those individuals who have done the most to promote, improve, and encourage the growth and welfare of American Steeplechasing." This is also the year that Randy donated the Middleburg Training Track, which he had owned since 2006, to the Thoroughbred Retirement Foundation.

Randy's Love of Essex County

Throughout the last 50 years of Randy's life, there was another passion he would pursue which frequently brought him to Essex County where he established lifelong friendships. As a child Randy had grown up hunting waterfowl with his father in Back Bay. He loved the whole experience, being on the water, putting out decoys, seeing ducks respond to the decoys, shooting, and watching his dogs retrieve. Through his participation in equestrian activities, Randy met an owner of horses who shared his passion for waterfowl hunting and was a member of the Blandfield duck club in Essex

County. Initially invited to hunt as a guest, Randy became friends with William Beverley, Blandfield's owner, and when a membership opening arose in the club, William Beverley offered it to Randy. Randy joined the club and hunted waterfowl in the Blandfield marsh until Blandfield was sold after William Beverley's death in 1983. During this period, Randy met another Essex County landowner, Fielding Dickinson, owner of Wheatland, with whom he became close friends and would occasionally fish and hunt as Fielding's guest in other marshes in Essex.

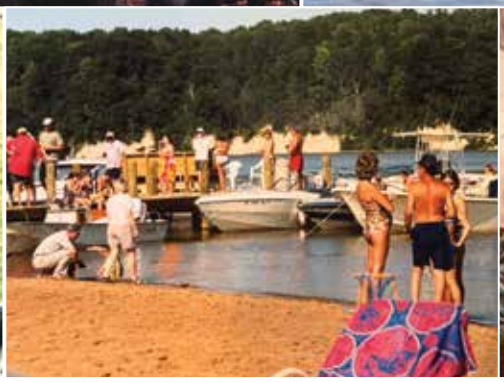
Following Blandfield's sale, Randy's hunting opportunities on the Rappahannock were sporadic. That changed in December 1987, when Thomas Meehan, Randy's real estate business partner and close friend in Newport News, learned that Sinclair Selden, who owned Paynes Island, might be willing to sell his property. Discussions with Selden in 1987 led to a sales agreement whereby title to Paynes Island transferred from Selden to a partnership formed by Randy and Thomas Meehan called Paynes Island Farm Associates. Title to the property was subsequently transferred to Paynes Island LLC, which is now under the control and management of the trustees of the Randolph D. Rouse Trust.

During the last 30 years of his life, Randy spent many days at Paynes Island with old and new friends enjoying the unspoiled habitat and tranquility of the Island. He loved duck hunting in the fall and winter months and fishing during the spring and summer. Randy's down-to-earth personality was a perfect fit for Paynes Island and the people of Essex County. The rustic yellow cottage at the Island built years ago by a former owner became Randy and Michele's home away from home and was always amply stocked to satisfy the thirst of any guest. Visitors to the Island in the summer might find Randy sitting at a kitchen table outside the old cottage, with a black lab at his feet, eating hard crabs or snacking on the chicken livers he purchased at Hick's Landing. On several occasions in the summer months Randy and Michele hosted beach parties at Paynes Island for their Essex friends. On other occasions Randy, who held season tickets to the Washington Redskins football games, invited groups of his Essex friends to join him when the Redskins played at RFK Stadium. Randy had been a close friend of Jack Kent Cooke, who owned the Redskins from 1974 to 1999. He often sat with Cooke in the owner's box at the team's home games and occasionally traveled on the Redskins' plane with Cooke and the players to away games.

We hope this travel through history with Randy, and the photos we selected, serve to capture the essence of his remarkable life. Randy Rouse was a Virginia gentleman in every sense of the word. He lived his life to the fullest and leaves a legacy of values and ethics that will long serve as a model for others to follow.







INDEX OF PHOTOGRAPHS BY PAGE NUMBER

PAGE 21
(1) Randy on Cinzano, (2) Randy and his lab, Rudy, on jetski.

PAGE 22
Clockwise (1) Randy and Tommy Meehan, Randy's real-estate partner and trustee of the Randolph D. Rouse Trust, (2) Tommy, Randy, and lab, Buddy, (3) Randy and Hill Wellford after early season duck hunt with Hill's flat-coated retrievers, Pounce and Ruffian, (4) Randy at Paynes Island beach with Fones Cliffs in the background, (5) Randy and Duane Coghill, Paynes Island farm manager, (6) Randy and Pat Stafford, co-trustee of Randolph D. Rouse Trust, and Duane Coghill with catch of stripers, (7) Randy in Navy dress uniform.

PAGE 23
(1) Randy in Navy uniform with other servicemen, (2) Photo of historic Fabrey-Lothrop House estate, which was Randy's residence in Arlington, VA.

PAGE 24
(1) Photo of Jackie Gleason, Audrey Meadows, and The Honeymooner's cast, (2) Formal photo of Randy dressed as the Master of Fox Hounds.

PAGE 25
Clockwise (1) Randy on Cinzano in snowy steeplechase event, (2) Michele Rouse riding her horse, Anxious Talker, to victory in steeplechase event, (3) Randy receiving the 2007 National Sporting Library Chronicle Cup, (4) Randy winning the Times Mirror Trophy at the Oatlands Point-to-Point races in Leesburg,VA.

PAGE 26
Clockwise (1-2) Randy duck hunting in the Beverley Marsh at Kendale, (3) Pat Stafford, Randy, and Tommy Meehan with their catch of stripers, (4) Randy hooks a large striper with unnecessary verbal support from Duane Coghill, (5-6) Randy duck hunting in Bridge Creek at Paynes Island.

PAGE 27
Clockwise (1) Charlie Powell, a regular guest at Paynes Island events, with Duane and Randy, (2) Randy with lab Rudy cooling off on a hot day, (3) Tom Quinn, long-time friend of Randy's, Duane Coghill, and Randy, (4) Randy, Michele and the rest of their welcoming committee, (5) Terry and Craig Brooks at party in the yellow cottage, (6) beach party at Paynes Island (can you identify attendees?), (7) Shep Rouse, Randy's nephew and vintner, sampling his own wine at Paynes Island.

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In Appreciation of the Sweetgum

BY TIMOTHY MANLEY

"Really? That's too bad."

This was an all-too-common reaction last year whenever I shared the good news that the Essex County Museum had been selected to receive one of NASA's Artemis I Moon Tree saplings. A unique moment of cooperation between NASA and the Forest Service, the first Moon Tree seeds were carried into space on Apollo 14 in 1971 by astronaut Stuart Roosa. While Alan Shepard was famously hitting golf balls on the lunar surface, Roosa was piloting the Command and Service Module in orbit and performing scientific experiments. On board were about 500 seeds which had been given to Roosa by Edward P. Cliff, the Chief of the United States Forest Service.

Five different species were chosen for the flight: redwood, Douglas fir, loblolly pine, sycamore, and sweetgum. Once back on Earth, the seeds were germinated by the Forest Service and then distributed to state forestry organizations, national parks and monuments, and foreign dignitaries. Many were planted in honor of the nation's bicentennial. I happened to come across one of the original Moon Trees a few years ago when my family and I were in North Carolina and visited the Cradle of Forestry Museum located in Pisgah National Forest. On a trail outside of the main building, there's a large sycamore tree with a small plaque that explains its significance. I was unfamiliar with the Moon Tree program up until that point, but I was immediately struck by the first sentence on the plaque:

"You may never go to the moon, but if you touch this tree, you will be touching something that has."

And that was exactly what I did. I've gotten to hold meteorites before, and I've seen the amazing exhibits at the Smithsonian's Air and Space Museum, but that memory really stuck with me, the tangible experience of having actual physical contact with a living thing that had traveled into space and then returned to Earth. It was one of those rare moments that makes you look up at the sky with wonder and a newfound appreciation and reminds you just how fragile our little blue sphere is as it hurtles through space.

The Moon Tree was educational lightning in a bottle. When I learned that NASA had decided to launch a second batch of seeds into space as part of their new Artemis program, I immediately set about filling out the application to bring one to Tappahannock.

Artemis I launched in November of 2022 and carried with it the unmanned Orion spacecraft. This launch marked NASA's first return to lunar exploration since the end of the Apollo program fifty years earlier. The eventual goal of the program is to bring astronauts back to the Moon. The Orion orbited the Moon, traveled into deep space, then completed another lunar orbit before returning to Earth. On board were around 1,000 seeds for the second incarnation of the Moon Tree program. The spacecraft and the cargo onboard traveled a total of over 1.4 million miles. Through NASA's Office of STEM Engagement (OSTEM) and NASA's Artifact Module, museums, universities, federal agencies, including NASA Field Centers, and K-12 organizations were eligible to apply for ownership of a Moon Tree seedling.

The application process was thorough, and even though I was hopeful that the Essex County Museum would be chosen, I didn't tell anyone about what I was doing. The disappointment of not being chosen was something I didn't want others to bear should the application have failed. Several months later, I learned that we were chosen as a "tentative recipient", and shortly after that, my caller ID showed an incoming call from Houston, Texas, at which point my inner kid took over and I started jumping up and down in the Museum's back hallway. It's not every day you get a phone call from NASA. The Essex County Museum was one of only three locations in Virginia to be chosen as a recipient for the first round of Moon Trees in the spring of 2024, along with the Virginia Living Museum in Newport News and the Virginia Zoo in Norfolk.

With everything finally confirmed, I was finally able to share the good news with our board members, docents, and Museum supporters. Just like the first time on Apollo 14, there were five species that were sent into space: Douglas fir, loblolly pine, sycamore, sweetgum, and the giant sequoia. The Museum was chosen to receive a liquidambar styraciflua, also known as a sweetgum.

"Really? That's too bad."

The initial excitement over being selected was often coupled with the disappointment over the variety that had been chosen for us.

"Can't you reach out to NASA and see if they'd switch it?"

That was one I heard more than once. And I get it. Nobody likes a sweetgum. They make a mess—the gumballs go everywhere—and just forget about walking barefoot anywhere near one once they start dropping. But I refused to let the less-than-stellar reactions dampen my spirits. For the official planting of the tree that was held on June 1st of 2024 in the Museum's Max Silver Memorial Courtyard, I wanted to have some positive information to share, so I set about finding out more about this species. If it was so hated, why would it have been chosen not once, but

twice for a mission around the Moon?

For starters, they are native to the Americas, and more specifically, to Virginia. Sweetgums have a long history throughout the South, having been used by the Cherokee, Choctaw, and the various tribes of the Powhatan Confederacy for both medicinal and ceremonial purposes. Sweetgums get their name from the sweet, sticky, resin that will ooze out from the tree if it is injured or if the trunk is cut. The sap, or 'gum' has many different uses, including being used as chewing gum. A salve could be made by mixing the gum with animal tallow for application to wounds, cuts, sores, bruises, insect bites, and ulcers. The sap and inner bark were used to treat diarrhea, colic, and dysentery. Tea can be made from both the fruits (gumballs) and the bark. Sweetgum branches can even be used as toothbrushes. A study published in Pharmacognosy Review highlights the plethora of natural remedies provided by this often maligned local:

"The sap, known as storax, has been used for centuries to treat common ailments such as skin problems, coughs, and ulcers. More recently, storax has proven to be a strong antimicrobial agent even against multidrug resistant bacteria such as methicillin-resistant Staphylococcus aureus. In addition to the sap, the leaves, bark, and seeds of sweetgum also possess beneficial compounds such as shikimic acid, a precursor to the production of oseltamivir phosphate, the active ingredient in Tamiflu®—an antiviral drug effective against several influenza viruses. Other extracts derived from sweetgum trees have shown potential as antioxidants, anti-inflammatory agents, and chemopreventive agents. The compounds found in the extracts derived from sweetgum sap suppress hypertension in mice. Extracts from sweetgum seeds have anticonvulsant effects, which may make them suitable in the treatment of epilepsy. In addition to the potential medicinal uses of sweetgum extracts, the extracts of the sap possess antifungal activity against various phytopathogenic fungi and have been effective treatments for reducing nematodes and the yellow mosquito, Aedes aegypti, populations thus highlighting the potential of these extracts as environment-friendly pesticides and antifungal agents. The list of value-added products derived from sweetgum trees can be increased by continued research of this abundantly occurring tree." [1.]

Pretty impressive for a tree most people consider to be a nuisance. Beyond medicinal uses, sweetgum wood, known for its durability and workability, is used to make furniture, cabinetry, flooring, and musical instruments. Sweetgums are a notoriously fast-growing species, which contributes to their reputation as a nuisance, yet also makes these trees a sustainable resource. Something else I think people forget about sweetgums, they are absolutely stunning in the fall. Red, orange, purple, yellow, a virtual kaleidoscope of fall colors. And they are one of the favorite host plants of the beautiful luna moth.

Are the gumballs annoying? Yes. Are the roots invasive? Yes. Are they prolific to the point of being problematic? Also yes. But these maligned trees also have a deep connection to this place and to the people who have called it home.

I applaud NASA for their vision and for bringing back this unique and inspiring program. The students and field trips who have visited the Museum over the last year have been absolutely fascinated by our new addition, and as we move forward, the Museum hopes to add our own plaque, along with some new educational workshops. So stop by the Essex County Museum if you get a chance and take a stroll through the Max Silver Memorial Courtyard. You can touch something that has been to the Moon and beyond, and allow yourself to marvel at the science behind space travel and the extraordinary accomplishments of humanity. And remember, a government that operated as a business would likely dismiss such endeavors as too costly. Not everything can—or should—be measured in profit, because the value of such inspiration is truly beyond calculation.

1. Lingbeck JM, O'Bryan CA, Martin EM, Adams JP, Crandall PG. Sweetgum: An ancient source of beneficial compounds with modern benefits. Pharmacogn Rev. 2015 Jan-Jun;9(17):1-11. doi: 10.4103/0973-7847.156307. PMID: 26009686; PMCID: PMC4441155.Rev. 2015 Jan-Jun;9(17):1-11. doi: 10.4103/0973-7847.156307. PMID: 26009686; PMCID: PMC4441155.

Timothy Manley grew up in a few different states and one or two different countries, eventually settling in South Carolina. After graduating from the College of Charleston with a degree in history, he worked for many years as a professional tour guide, storyteller, and historian in the historic district. Seeking to escape the rising tide, traffic, and cost of living, he recently moved to Virginia along with his wife and their two children and now serves as the Executive Director of the Essex County Museum and Historical Society.

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VIRGINIA'S TURTLES

Ecologically Important and Dangerously Threatened

By Kevin Howe

Turtles are certainly one of the easiest groups of animals to recognize and are incredibly valuable to our ecosystems. Turtle fossils as old as 220 million years have been found and are known to have played a role in human culture stretching back 400,000 years. There are over 350 species of turtles in the world with 57 species in the United States; this includes seven species of ocean-living sea turtles, five of which can be found in Virginia's marine waters. Sadly, 60% of the world's turtles are considered threatened or endangered, and in the U.S., 40% are either threatened or endangered. All seven species of sea turtles are threatened or endangered, and recent research indicates that about 44,000 sea turtles are poached annually despite laws designed to protect them in most countries. The Southeastern United States, including Virginia, is one of two global biodiversity "hotspots" for turtles in the world; that means the Commonwealth has more turtle species than nearly all other regions in the world. But even our Virginia turtles are in decline. Hopefully this article will enlighten you such that you can do your part, not only to gain a new appreciation for turtles, but also assist in limiting their decline.

VIRGINIA'S TURTLES CAN BE CLASSIFED IN THREE CATEGORIES:

TERRESTRIAL AND SEMI-AQUATIC TURTLES: Woodland (Eastern Box), Wood, Bog, Spotted, Southeastern Mud, Striped Mud, and Eastern Chicken

FRESHWATER/BRACKISH TURTLES: Pond Slider, River Cooter, Northern Red-bellied Cooter, Eastern Painted, Northern Map, Snapping, Eastern Musk, Striped-neck Musk, Northern Diamond-backed and Eastern Spiney Softshell

SEA TURTLES: Loggerhead Sea, Kemp's Ridley Sea, Leatherback Sea, Green Sea, and Atlantic Hawksbill Sea

Detailed Information of all turtles in Virginia can be found on the websites of the Virginia Herpetological Society (virginiaherpetologicalsociety.com), and the Virginia Department of Wildlife Resources, (dwr.virginia.gov).

The turtles pictured here include five that are state-listed to be at a high risk of significant decline. They are the Bog (Endangered), the Eastern Box, also called the Woodland Box (Threatened), the Wood (Threatened), and the Spotted and Northern Diamond-backed (Species of Greatest Conservation Need).

FROM TOP: (L-R) Spotted, Eastern Box, Northern Diamond-Backed, Eastern Musk, Snapping, Wood, Bog, Eastern River Cooter, Eastern Painted, Yellow Bellied Slider

Ecologically, turtles are a valuable asset to any wetland/aquatic ecosystem they occupy. Most of our turtles are omnivorous, consuming both plants, animals and even carrion. But there is variation with some species being carnivorous while young but omnivores as adults while others may be omnivorous as young but become herbivores as adults. Their omnivorous food habits are rather opportunistic such that they are not specialists on any one item. This is ecologically advantageous both for the turtle by providing a variety of food items and to the ecosystem by helping to keep any overabundance of a particular plant or animal in check as the turtles are not picky when it comes to food. Many, if not all turtles, are considered a "keystone" species because they have a disproportionately large impact on the ecosystem in which they occur and should they disappear (be removed, go extinct), there will be a dramatic negative change in the species composition (biodiversity) and functionality of that ecosystem.

Research has found that freshwater turtles, especially the omnivorous ones, are more abundant than one would casually observe. In fact, when their weight and population abundance are combined (called biomass), their biomass has been found to be greater than all other vertebrates in that ecosystem. This means that turtles have a greater impact on all ecosystem processes ranging from their diverse and non-selective feeding habits to seed dispersal from feeding on plants to the abundance of turtle eggs that become food for a wide variety of other species. Unequivocally, turtles are very important components of our wetland ecosystems. What has caused their decline, you may wonder? *Several factors play a role...*

1. Poaching & Traditional Medicine – The poaching of turtles in the U.S. for overseas markets is a major factor in the U.S., and a growing threat to Virginia's turtles. Between 1998 and 2021, over 24,000 illegally poached U.S. freshwater turtles comprising 24 species were uncovered by law enforcement. Exports of turtles between 2002 and 2012 totaled about 127 million turtles, with a significant portion taken from the wild according to the US Fish & Wildlife Service. The vast majority of exports were bound for Asia, where there is a huge demand for turtles as food and for Asian medicinal purposes. This Asian demand has increased substantially since 2008 due to the precipitous decline of native Asian turtles due to all the factors outlined herein. No other four-legged animal group is poached and traded as much as turtles and poaching is certainly a major cause of their decline.

2. Climate Change – This has a major impact on all plants and animals and on all life stages of turtles. While the omnivores, like turtles, may survive climate change better than other animals' food-wise, their slow activity rate and habitat requirements will be a detriment. Further, a little-known fact could have a dire impact on turtle population – sex determination in most freshwater turtles is temperature dependent during egg development. Generally warmer temperatures produce more females; cooler temperatures produce more males. Not all turtles have been studied and there is variation among species, for example, snapping turtles produce males at intermediate temperatures while females are produced at both warm and cool temperatures. Climate change will likely have profound effects on turtle sex ratios in some areas as well on the success of hatching-emergence which is determined on temperature and rainfall.

3. Pet Sales & Pet Release – Many readers may remember when "pet" turtles were common and sold in all pet and most variety (Five & Dime) stores. Much of that ceased in 1975, when the Food and Drug Administration banned the sale of turtles less than four inches in length due to transmittal of the bacteria *Salmonella*. But there is still a thriving market for pet turtles – Petco and PetSmart sell both domestic and foreign species. Most US pet stores sell turtles raised legally in Florida, Louisiana and Oklahoma. If you have a pet turtle, please never release it into the wild. The Red Eared Slider turtle is a popular pet. Historically, it was native to just a few counties south of the York River, but is now found in about half the counties in Virginia. Many pet owners probably released these pets innocently when they were no longer wanted, not realizing the damage this would cause. Other native turtle populations have declined sharply because the introduced Slider is larger, matures at a younger age and lays more eggs than others – thus out competing them. Compounding this, they can live for more than 40 years and are now recognized as one of the 100 most invasive species in the world.

4. Wetland Habitat Loss – The widespread loss of wetlands has had a major impact; it has been estimated that the U.S. has lost 50% of its wetland since 1780. Just since 2009, the loss rate is estimated to have increased 50%. The Chesapeake Bay Watershed loses about 70 acres per day to development or other losses, less so in our region but all of us can see the loss. Pollution and the draining of wetlands for development, dams, and groundwater extraction have all contributed to the decline in wetlands as the water table sinks. In our coastal plain, we are depleting our coastal aquifer at the rate of 155 million gallons per day. The average well level in our region in 1924 was 31 feet, and in 2024 it was 200 feet! As this water table sinks, our wetlands dry up or no longer hold water throughout the year.

5. Mortality on Roads – I always stop when I see a turtle on a road because I have sadly seen many turtles run over. Last year, a friend of mine in the Northern Neck moved 61 turtles off the road in the spring and summer. Freshwater turtles don't move much during the year because they like the water. But when spring-summer comes, they move around and encounter roads to cross – either to mate, lay eggs or when the young hatch and move to find water. Turtles form no family unit. It is inevitable that many turtles must cross a road and for this ground-hugging, slow animal, fatalities are common. One researcher made an educated guess that 10-20% of New York's turtle populations suffer vehicle fatalities every year. The Woodland Box Turtle is thought to have disappeared from many urban regions due to road fatalities.

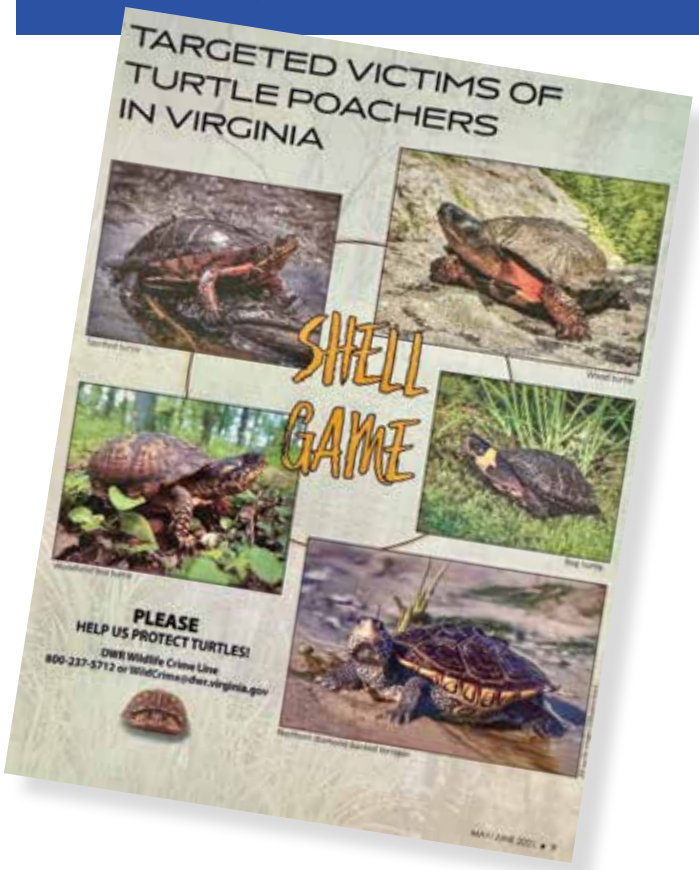
Some of the threats to our turtles, we have little control over. But turtle mortality on roadways is something we can help with. See a turtle crossing the road – stop safely and "move" it off the road in the direction it's headed. "Move" should be done with something other than your fingers – stick, boot, etc. as some turtles have long necks and can bite – like the Common Snapping Turtle. Saving a turtle is a good deed.

Protection of our wetlands is as good for us and for turtles. Wetlands help recharge our wells and our aquifer and filter the water for the wells. Further, they can absorb large amounts of rainfall during storms thereby protecting us from floods and erosion. Turtles need those wetlands along with frogs and salamanders and a host of other plants and animals like migrating birds. Without frogs and salamanders, we would be overrun with mosquitoes. Everything benefits from wetlands.

In our rural, forested region, poaching of turtles may be a real issue. While specific data is lacking, the Virginia Dept. of Wildlife Resources (DWR) recovered 650 poached turtles between 2021 and 2023 that were destined for illegal trade. In 2023, DWR passed a resolution to acknowledge that illegal trade is a significant threat to native species and to expand its efforts to stop poaching with the addition of four agents to the DWR Special Operations Unit. Their focus will benefit our turtles and the Commonwealth's environment and thanks to DWR for their efforts. Wildlife biologists and Virginia Conservation Police caution never to give out information about the areas where turtle populations may exist, as poachers are devious in their pursuits to learn of new turtle localities, so please protect what you have and realize what a blessing it is.

Turtles have survived well over 200 million years through three mass extinctions, worldwide volcanisms changing the landscape, rapid rises and decreases in global warming, the shifting of the continents and asteroid impacts. And yet, our direct human exploitation and indirect effects of human induced habitat alteration and degradation appear to be increasing their demise at a rapid rate.

This picture of turtles rescued from poachers by Virginia's conservation police is just one graphic image of this illegal activity. This is a growing conservation problem in Virginia which is hard to remedy because the illegal activity may go unnoticed by the public and is rarely reported to law enforcement. We hope this article will help sound the alarm and educate the public about this cruel and illegal practice.



Photos of turtles rescued from poachers by the Virginia Department of Wildlife Resources.

Photos courtesy of John Kleopfer, DWR State Herpetologist, John.Kleopfer@dwr.virginia.gov, and the Wildlife Center of Virginia, wildlife@wildlifecenter.org.

Interesting Turtle Facts...

Turtles are among the longest-lived animals. Wood turtles occur in Virginia but are usually seen in states north of us. They can live for 80 years and do not reach maturity until their teens – quite human like.

Our local Eastern Box Turtle is quite long-lived with one reported from Rockingham County reaching 111 years of age.

Turtle eggs are highly desired by many species including raccoons, foxes, crows, ravens, snakes and others. Research show that raccoons are able to smell buried turtle eggs and readily dig them up. Should you find evidence of a turtle nest on your property, cover it with some leaf litter to deter predators from recognizing a nest and eating the eggs.

Turtles, even though they are air-breathers, can 'sleep" for hours underwater by slowing their metabolism although they can absorb some oxygen through their skin and their cloaca. Some species can stay underwater an entire winter without ever surfacing for air.

The temperature of the egg during development will determine the sex of a turtle in some species. Generally warmer temperatures produce more females; cooler temperatures produce more males. In our own Snapping Turtle, more males are produces at intermediate temperatures while more females are produced at both warm and cool temperatures.

Turtles do make sounds ranging from croaks and grants to a dog-like bark or the cluck of a chicken.

MIDDLE PENINSULA & NORTHERN NECK FRESHWATER TURTLES			
COMMON NAME	SCIENTIFIC NAME	LOCATION	MAX SIZE
North American Snapping Turtle	*Chelydra serpentina*	MP & NN	14"
Eastern Painted Turtle	*Chrysemys picta picta*	MP & NN	6"
Spotted Turtle	*Clemmys guttata*	MP & NN	4.5"
Southeastern Mud Turtle	*Kinosternon subrubrum subrubrum*	MP & NN	4"
Northern Redbellied Cooter	*Pseudemys rubriventris*	MP & NN	12.5"
Woodland Box Turtle	*Terrapene carolina carolina*	MP & NN	6"
Striped Mud Turtle	*Kinosternon baurii*	In NN, possible in MP	4"
Eastern Musk Turtle	*Sternotherus odoratus*	In NN, possible in MP	4"
Eastern River Cooter	*Pseudemys concinna concinna*	In NN, possible in MP	12"
Northern Diamondbacked Terrapin	*Malaclemys terrapin terrapin*	Close to bay as they are estuarine waters dwelling	Male 5.5" Female 9"

FYI

The Virginia Herpetological Society maintains a phenomenal website for all of Virginia's frogs, toads, salamanders, snakes, lizards, skinks, and turtles. The website is a great source for information and photos. https://www.virginiaherpetologicalsociety.com

Virginia Conservation Police are in charge of enforcing laws relating to hunting, fishing, boating and all wildlife. They can be contacted regarding a violation via:
(P) 1-800-237-5712 or
(E) WildCrime@dwr.virginia.gov

Kevin Howe is a retired biologist who has taught and done research at various universities and worked for the US EPA, The Nature Conservancy, US Fish & Wildlife Service and the Smithsonian Institution. Presently he is an active volunteer in a variety of nature-oriented groups including Virginia Native Plant Society, Virginia Master Naturalists, Audubon Society, Friends of Dragon Run, among others. He lives in Kilmarnock with his botanist wife, Betsy Washington, and a hike-loving Yellow Lab named Marsh.

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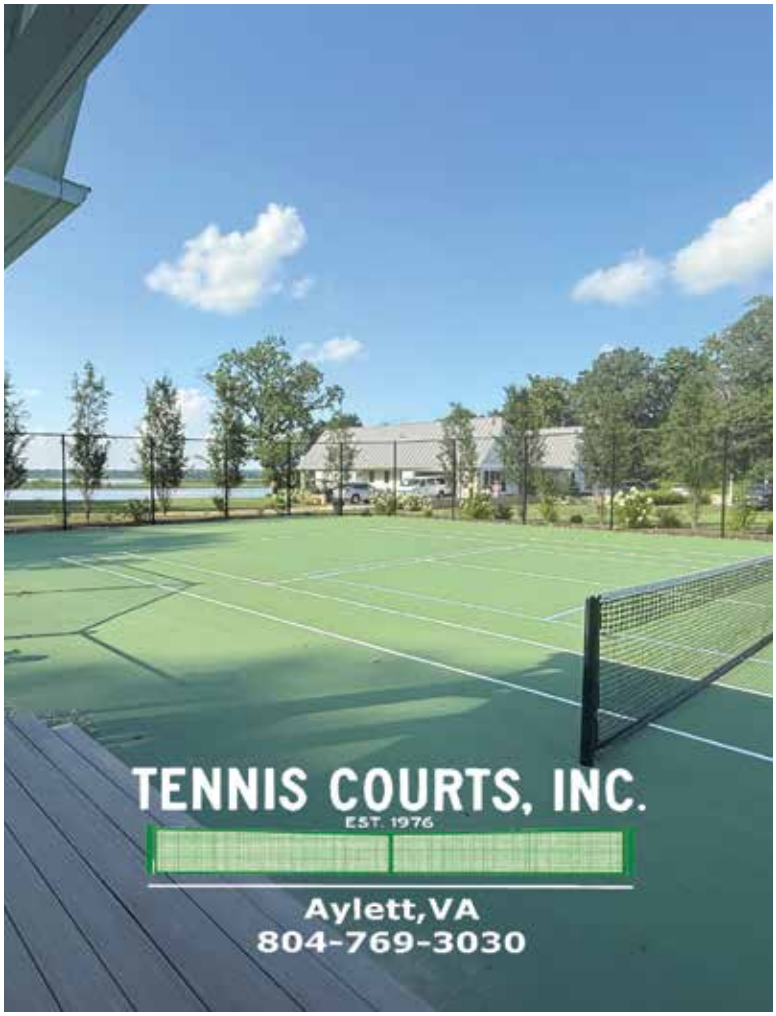

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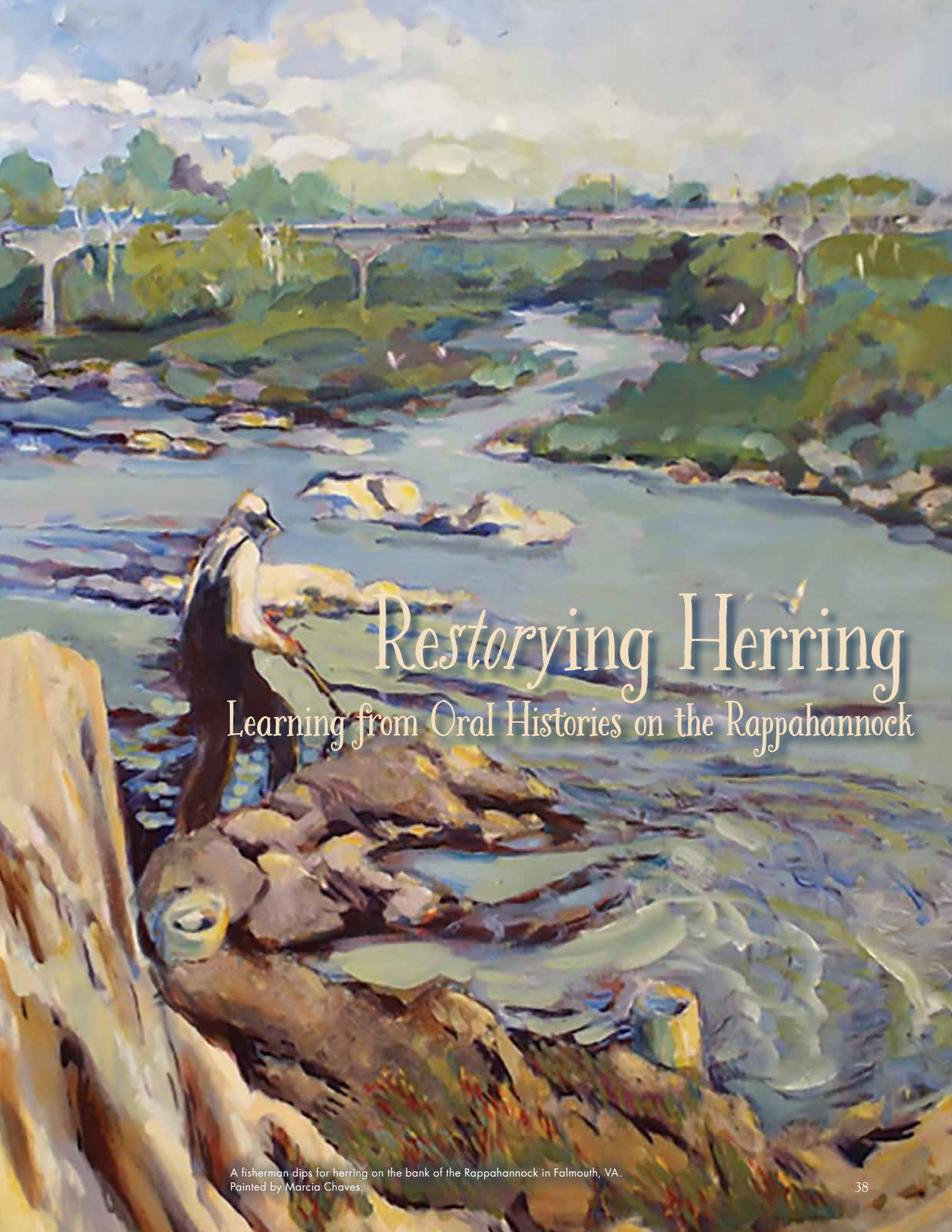


Restorying Herring

Learning from Oral Histories on the Rappahannock

A fisherman dips for herring on the bank of the Rappahannock in Falmouth, VA.
Painted by Marcia Chaves.

"Each year in late winter and spring, before the Rappahannock River had even fully thawed, the water used to come alive with silver. Thousands of small, scaly bodies would fight against the current, straining to reach the same creek or stream where they hatched years ago. And every spring, people up and down the Rappahannock would haul out their dip nets and don their waders to enjoy the bounty of the river herring run."

"You might have fond memories of filling the bed of a pickup truck with piles of fresh herring, anticipating the future salt fish breakfasts at church. If you're too young to remember, ask your father or grandfather about days spent dipping for herring in chilly creek waters, hauling piles of slippery fish into buckets while the aroma of grilled hot dogs, burgers, and freshly caught herring wafted on the breeze. Ask your mother whether she would be distracted the next morning at school by sunshine sparkling on her hands and arms, bouncing off a peppering of sticky herring scales left by cleaning the fish on the riverbank. Some people woke up to salty pops of herring roe in their scrambled eggs, others to fried herring with juicy melon and sweet corn bread. Your grandmother might even have canned the roe herself, guaranteeing months of savory breakfasts and crispy roe cakes."

Prepared by Elena McCullough*, Micah Dill*, & Luke Sahli*

With the expertise & guidance of Dr. Mara Dicenta**, Dr. Matthew Ogburn+, & Dr. Henry Legett+

With contributions from Emily Johnson* & Malvika Shrimali*

(*Student Researchers; **William & Mary Faculty Mentor; +SERC Partners)

Herring Stories: The Project

Memories, anecdotes, and personal histories have the potential to powerfully impact the fields of conservation and restoration ecology. The cultural, historical, and ecological knowledge contained in memories of the Rappahannock and river herring, generated by people living and working alongside and in the river every day, could fill in crucial pieces of the conservation puzzle. Since 2022, the Smithsonian Environmental Research Center (SERC) in Edgewater, MD has partnered with the Institute for Integrative Conservation (IIC) at the College of William & Mary in Williamsburg, VA to research the human-herring relationship, past and present. As student researchers on this project, our goals are to contribute to community efforts to preserve generational knowledge about river herring that might otherwise be lost due to the fish's population decline, and analyze this knowledge for applications in herring restoration. We aim to help people preserve generational knowledge about fishing techniques, herring-based foods, and emotional connections to the river to bridge gaps left by herring decline and the fishing moratorium, which have prevented younger generations from participating in local traditions.

For our project, we have conducted oral history interviews with people from a variety of backgrounds along the Rappahannock River. We spoke with local watermen, farmers, artists, conservationists, business owners and more with the goal of recording and sharing local knowledge surrounding river herring. Place-based knowledge, both experiential and observational, can help us understand river herring and the people that care about them in ways that challenge what we thought we knew. When placed in conversation with mainstream science, these different types of knowledge are able to enhance each other and collectively lead to more well-rounded, well-informed approaches to conservation.

Ultimately, our goal is to learn from these oral history interviews to understand the local story of river herring and its cultural relevance to local communities. Therefore, we emphasize the importance of local knowledge and local stories in restoring river herring, or as we have put it, Restorying Herring.

Herring History

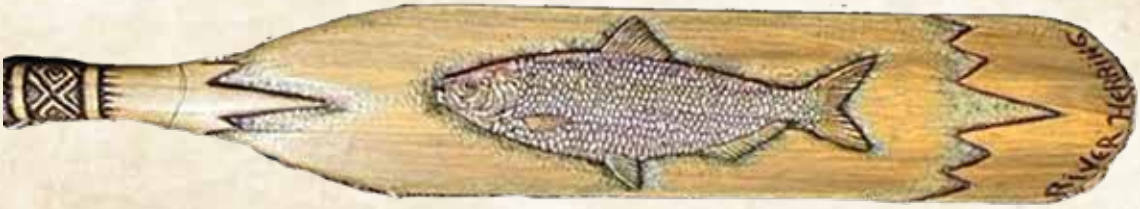
The name 'river herring' refers to two distinct fish species: alewife and blueback herring. You may know them as branch herring and May herring, respectively, due to their differing migration seasons. Alewife are slightly smaller and migrate upstream to spawn from February to April, while blueback herring migrate from March to May. River herring spend most of their lifetime in the Atlantic Ocean, migrating up rivers along the East Coast to spawn. These tiny silver fish are crucial to local food webs and have served as a major food source for many people along the Rappahannock throughout history. For centuries, the Rappahannock Tribe would use salt to preserve thousands of herring every spring. In an interview with Friends of the Rappahannock, Chief Anne Richardson explains that the creeks supplied plentiful herring as recently as her own childhood, and the community would gather to catch, clean, and salt the herring for subsistence through the winter months. In the northeast, other Indigenous tribes forged their own relationships with river herring. The Passamaquoddy people in Maine would smoke herring for preservation and use them to fertilize gardens. The Mashpee Wampanoag people in Massachusetts eat herring fried, grilled, smoked, salted, or pickled, and even celebrate the migration with Herring Day each year. Interactions between people and herring are not simply about consumption or resource management; they are also emotional connections that foster a sense of belonging in a particular place, like the Rappahannock River.

"Dipping was a way of life for my grandparents and my parents."

After European colonization, new relationships formed between settlers and river herring that developed and evolved over time. Fishing and culinary traditions like dip nets, salt fish, and herring roe recipes were preserved through generations. As Charles Belfield—a retired painter whose family has lived on Cat Point Creek since the 18th century—explains, "Dipping herring was a way of life for my grandparents and my parents" (personal communication, July 13, 2023). Once the herring were caught, cleaned, and salted, "my grandmother and mom…they would can every can of roe that they could can" (personal communication, July 13, 2023). Charles remembers eating salt herring with scrambled eggs, pancakes, and molasses for a filling breakfast in his youth. While younger generations may not remember a time when herring were plentiful, many people alive

today remember their abundance and the traditions that characterized herring season.

Beginning in the late 60s, river herring populations declined precipitously due to damming, habitat degradation, and industrialized fishing. Dams were the primary driver of population loss since they blocked crucial migration pathways to the herring's upstream spawning grounds. An individual herring will return to its birthplace every few years to spawn—dams block this step in the life cycle, preventing the fish from reaching a safe space to lay their eggs. Since the early 2000s, many dams along the Rappahannock—most memorably the Embrey Dam—have been demolished thanks to concerted efforts by local conservation organizations and government environmental agencies. In 2012, the VMRC placed river herring under a moratorium, banning the majority of recreational and commercial fishing while leaving some allowances for subsistence. Despite these and other conservation measures, herring populations have not seen substantial regrowth. We spoke with watermen whose theories for this restoration difficulty include advanced habitat degradation, unsustainable offshore commercial fishing, and the introduction of invasive, predatory blue catfish to the Rappahannock River in the 1970s. Insights like these provide a more holistic perspective on local ecological relationships, opening doors to new connections and ways of understanding how people interact with herring and their shared environment.



Local artist Hal Wiggins carved this canoe paddle with a river herring design to commemorate the 20th anniversary of the Embrey Dam removal.

What We Learned

Three major themes emerged from our analysis of the 20 interviews (with 23 individual participants) conducted from 2023–2024. Each theme is multifaceted and the borders between them melt and blur as the human-herring relationship defies simple classification. However, we found that dividing our findings into Care, Change, and Collaboration helped make them digestible while retaining much of their nuance.

Care

There are many varying dynamics and relationships of care between people, river herring, and the river. Our interview analysis raised questions about what it really means to care about and for river herring,

> "We're Just Big Walking Fish."

and whether river herring can care for people too, in their own way. While this may seem counterintuitive, catching and eating river herring is one way that care and love manifest in the human-herring relationship. This sort of care is not about individual fish, but about river herring as a collective cultural presence and stakeholder in ecological and social interactions. Even now, with herring runs reduced to "a trickle" (Jessie Thomas-Blate, personal communication, June 27, 2024) of their former glory, commercial fisherman Wayne Morris still receives calls from customers who wonder when the moratorium will lift. "You wouldn't believe the number of people that call all the time," he says. "What really hurt me the most was all them people coming over here, and they couldn't get them anymore. 'What are we going to eat now?' The older people, I feel bad for them" (personal communication, June 27, 2023). Canned herring roe also has a select few stalwart fans remaining; Lake Cowart, who runs Cowart Seafood Corp in Lottsburg, VA, has a list of hundreds of customers who are always at the ready to buy up his limited herring roe stock each year (personal communication, June 22, 2024). He ships all over the country, but most of his out-of-state customers grew up locally, along the Rappahannock. People are emotionally invested in herring for their role in treasured memories of after school fishing and nostalgic, albeit salty, childhood foods. Having access to the familiar flavor of canned roe connects Virginians to their home, despite geographic distance. In a way, river herring provide and care for people, even if they don't know it.

However, care can also be expressed in the opposite way, though this is far less common. For Hal Wiggins, an artist and retired member of the Army Corps of Engineers, loving fish is about letting them swim free. "I don't eat fish, but I love fish," Hal says. "I think that we are fish. We're just big, walking fish, evolutionary-

wise… I believe fish can feel pain, so I don't like to catch fish, even to catch and release" (personal communication, June 22, 2023). Hal prefers interacting with herring through an artistic lens: for the 20th anniversary of the Embrey Dam's destruction, he carved commemorative canoe paddles with intricately rendered river herring and shad. These contradictory angles of care are equally important to understand and learn from, and both can help contextualize the significance of herring restoration.

Care does not only exist between people and herring; interaction with herring through traditions and passing down knowledge can also foster connections between people. Herring season promoted familial and community gatherings, providing the opportunity to nurture important relationships between loved ones, friends, and neighbors. Catching, cleaning, salting, and eating herring were often family activities and traditions were passed from generation to generation, providing continuity and connection to family and local history. As communities evolve, other gatherings and activities can develop to fill gaps in tradition left by the moratorium, but despite enduring care for herring, these traditions can still be lost to time.

Change

Oral histories allow us to gain unique ecological insights about how the Rappahannock River has changed by learning from the people who spend immense amounts of time on and around the river. The perspectives of watermen and recreational fisherman provide insights into when decline started, and possible explanations as to why. For example, many members of the community believed blue catfish to be a massive issue facing herring restoration. Watermen have observed blue catfish that they have caught and processed, having juvenile river herring inside them. Our project has allowed us to explore new and different ideas from the community that may be overlooked in scientific research, allowing for conservation efforts to better reflect the needs, concerns, and knowledge of the community.

We were also able to learn interesting information about the attitudes toward change that exist in the community. Many people shared a deep sense of sadness and nostalgia for the time when river herring were abundant. These individuals, like Charles Belfield, wished to be able to pass down the fishing techniques and recreate the enjoyable experiences and good food with their kids, carrying on a tradition that had been in their family for many generations (personal communication, July 13, 2023).

Some felt that the decline of herring had a profound impact on younger generations and how they relate to and connect with the river. This was concerning for many residents who felt that younger generations cared less about their local environment due to a lack of connection. Sara Beam shared frustration over how the Rappahannock was treated like "a swimming pool" by people visiting today (personal communication, June 19, 2023). Therefore, the most concerning change identified by many community members was with the attitudes of younger people towards herring and the river, rather than the actual state of the river.

"Yeah, because I'm ready, I got the nets. They hang in there and I wait, just wait for change."

Collaboration

A major goal of this project is to foster collaboration between scientific organizations and local and concerned community members by collecting and sharing local knowledge. Many people in the community are hopeful for the work of scientists, and excited by the fact that Smithsonian researchers are spending time on their land to try and gather fish stock data. However, while people appreciate efforts to restore herring, this doesn't mean that everyone in the community is happy about the government and fishing regulations. People like Bryan Oliff, Charles Belfield and others shared their disappointment when the moratorium was announced. Many felt that other factors were much more to blame and the decision to force them to stop fishing was unfair.

Despite the complex relationship between the community and government conservation efforts, there is a lot of energy throughout the area for conservation. Organizations like the Friends of the Rappahannock and the Essex County Conservation Alliance are locally based conservation groups that have been making a meaningful impact on local ecosystems and communities. However, this energy doesn't necessarily apply to river herring conservation. Brent Hunsinger, a river steward for Friends of the Rappahannock, believes that a big reason for this is because river herring lack the

iconic status that energizes conservation around species like oysters and blue crabs.

This relates to the concerns of older residents about the lack of connection or interest in river herring from younger generations. As Hill Wellford put it, "the young people have never experienced it, and so they don't have the passion for it because it's not something they even think they lost" (personal communication, June 24, 2024). For local communities, particularly younger generations, to have energy for river herring conservation, this connection needs to be restored along with the fish populations. This energy will contribute to community interest strengthening the collaboration between science, conservation, and local communities.

Moving Forward

Collecting and sharing local knowledge about river herring is essential for both the preservation of history, and for the future restoration of river herring. As we have seen in our interviews, knowledge of river herring is typically held by members of older generations while many younger people know little about the species. This history and these traditions are disappearing over time, and our project helps to preserve this lost knowledge. All of our interviews are available online along with a collection of artifacts and artwork from the Rappahannock river. These interviews tell the lost story of river herring and preserve a lost tradition.

Additionally, our project makes local ecological knowledge publicly available for anyone working in conservation who hopes to know more about the concerns of the local community, and the history of river herring in the region. In this way, our findings help to enrich the collective knowledge around river herring, the Rappahannock River, and how people relate to and care for the nature around them. This collective knowledge allows conservation efforts to proceed with new insights and information that will contribute to future river herring restoration.

Our study, of course, has its limitations. Most notably, the oral histories were collected and analyzed by students, who are not local residents and cannot fully appreciate the nuance or emotions behind these stories because they are not from the same cultural context. Additionally, certain voices are left out of our study due to the nature of how we identify people to interview. Many of the people we talked to are landowners, leaving out people who used to travel to the river to fish, without owning land directly on it. We are also largely missing the voices of POC due to limitations in our institutional connections, which leaves out a crucial piece of the story. We hope these gaps can be filled by future research and by sharing our findings on our website.

Moving forward, we hope that this project preserves the history of river herring, while also contributing to future restoration efforts. Additionally, we hope that local residents who are interested in better understanding and connecting with their local environment can use our findings to experience river herring and learn about how past generations interacted with the species. Finally, we invite all members of the community who have thoughts, stories, or artifacts to share to reach out to us on our website, and continue the project of Re*Story*ing Herring.

https://sites.google.com/view/herringstories

A label from a can of herring roe, containing a recipe for roe cakes—this was one of the more common ways to prepare herring roe. Courtesy of Gary Sisson.

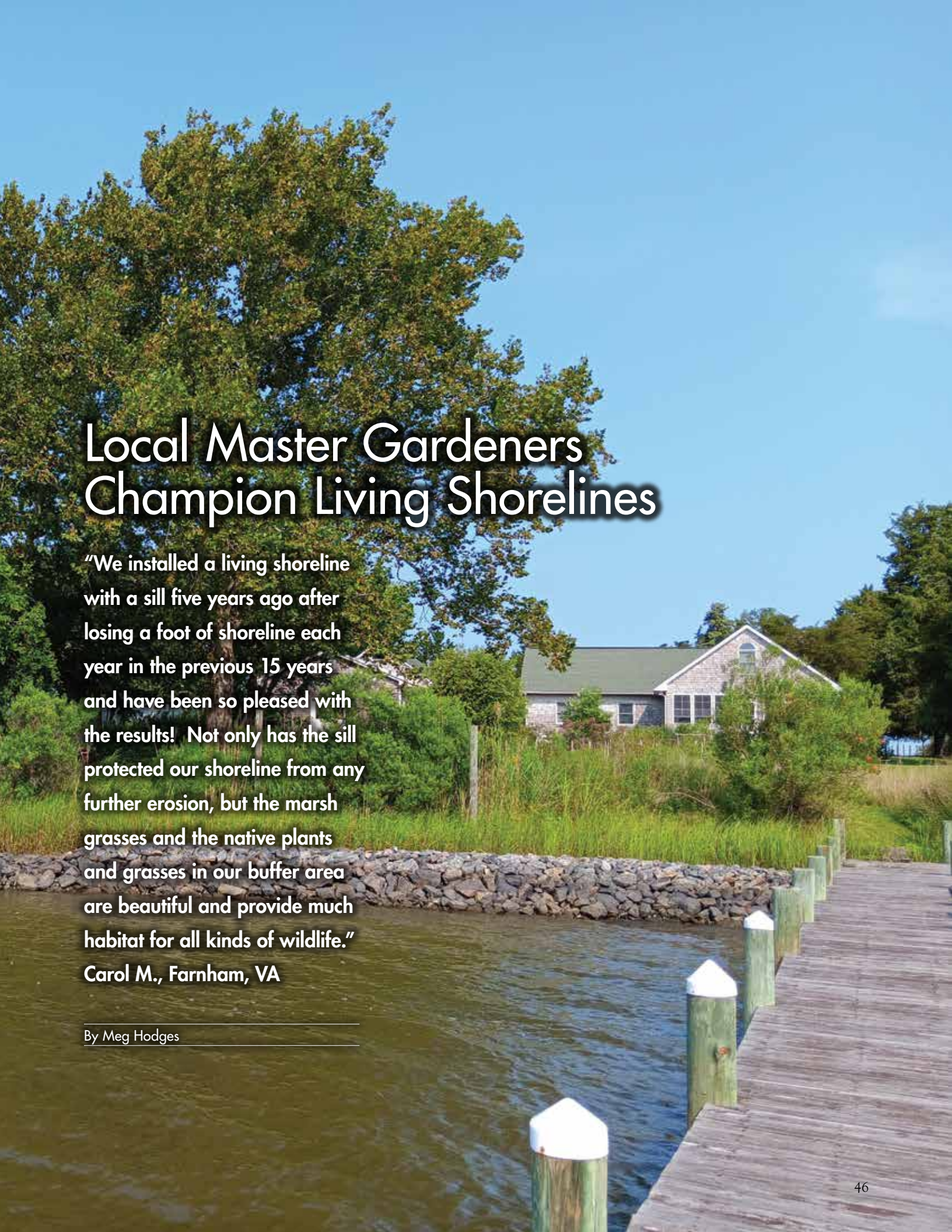
Micah Dill is a junior at the College of William & Mary studying Integrative Conservation and Philosophy. Micah is involved with the Institute for Integrative Conservation as a researcher in the Conservation GIS Lab while also working on an honors thesis about the philosophy of nature. He is interested in how local communities can be better involved in conservation.

Elena McCullough graduated from William & Mary in 2025 with a B.S. in Integrative Conservation and a Marine Science minor. She is passionate about science communication, aquatic ecology, and ethnographic research. In her spare time, Elena enjoys creating art and poetry that express her love for nature.

Luke Sahli is a junior at the College of William & Mary studying Integrative Conservation. He is interested in history and aquatic restoration, including dam removal efforts.

Mara Dicenta is an Assistant Professor of Anthropology and Integrative Conservation at William & Mary. Born in Madrid with most of her family in Argentina, she moved to Williamsburg in 2021. Mara teaches courses such as Conservation Ethics, Multispecies Worlds, and Ethnographic Methods, and works closely with students both in and outside the classroom. Her research explores environmental politics in Southern Patagonia and more recently, in Virginia's own ecosystems. She's especially invested in rethinking how human and nonhuman animals can live well together, moving beyond conservation models that separate nature from people.

This photograph of some of the last herring dippers in Falmouth, VA inspired Marcia Chaves' painting. Courtesy of Sara Beam.



Local Master Gardeners Champion Living Shorelines

"We installed a living shoreline with a sill five years ago after losing a foot of shoreline each year in the previous 15 years and have been so pleased with the results! Not only has the sill protected our shoreline from any further erosion, but the marsh grasses and the native plants and grasses in our buffer area are beautiful and provide much habitat for all kinds of wildlife."
Carol M., Farnham, VA

By Meg Hodges

The Chesapeake Bay watershed covers six states and 64,000 square miles. It comprises a region that supports 18 million people and a diverse economy valued at over one trillion dollars. The rivers, creeks, and tributaries that flow through the Middle Peninsula and the Northern Neck are part of this vast system that impacts the water quality of the Bay, which for many years has been listed as seriously endangered. Here in Essex County, the Rappahannock River as well as our creeks, tidal wetlands, and freshwater ponds are all subjected to the effects of sediment and pollutants that are carried into the waters of the Bay from stormwater runoff. In addition, our shorelines are impacted by the erosive forces of waves and tides that further undermine water quality.

Living Shorelines

Living shorelines are nature-based approaches for shoreline protection that not only protect shorelines and infrastructure, but conserve, create, or restore natural shoreline habitats and ecosystems. Using marsh grasses and other wetland plants, these shorelines act as a sponge for stormwater runoff and a buffer against erosive forces such as tide, current, and waves. Sand fill and protective structures such as oyster bags, fiber coir logs, and a stone sill may also be incorporated.

Unlike man-made hardened structures, like revetments, which can be an effective method of shoreline stabilization in the short term but cannot adapt to a changing landscape, living shorelines grow over time. They provide erosion prevention tactics that adapt to changing water levels and increased storm activity resulting from climate change. In addition, living shorelines offer additional benefits to the environment like providing marine habitats or filtering storm water runoff. According to the Virginia Institute of Marine Science (VIMS), research indicates that living shorelines can be more resilient than bulkheads in protecting against the effects of hurricanes.

Living shorelines are a relatively new approach for addressing shoreline erosion and protecting marsh areas. The process of creating a living shoreline is referred to as "soft engineering", which utilizes techniques that incorporate ecological principles in shoreline stabilization. The natural materials used in the construction of living shorelines create and maintain valuable habitats. While this may be the best approach for many shorelines, it may not be appropriate for all situations. A long fetch (the distance wind-driven waves can travel), water depth, and inadequate sunlight will rule out some locations, but unless these factors apply, the Virginia General Assembly has passed legislation requiring living shorelines as the default option for stabilizing tidal shorelines.

NNMG Shoreline Evaluation Program Created

In 2009, the members of the Northern Neck Extension Master Gardener Program decided that a shoreline education and evaluation program was needed to help homeowners learn how to manage their shorelines. Over the next three years, members began to design a program and educate themselves on the basics of shoreline management including living shorelines.

The Virginia Institute of Marine Science (VIMS) enthusiastically embraced the idea of the NNMGs providing this service to their community. Marine scientists at VIMS had always offered on-site evaluations to waterfront property owners, but the funding had dried up and priorities had been realigned. With the trained Shoreline Evaluation Program (SEP) team, homeowners could continue to receive research-based information and advice. VIMS provided training, mentoring, and supervision to support the development of this fledgling program. This partnership continues and the SEP team now assists VIMS in developing and testing new technologies to improve understanding of coastal dynamics and the best management practices that help enhance water quality in the Chesapeake Bay.

Since 2012, the SEP program has conducted between 30-35 evaluations per season (April-October) for a total of 375 properties in the past 13 years. Demand for the program is high and there is a waiting list for the service. As concerns over climate change and a desire to protect our natural resources increase, more homeowners are eager to learn how they can help make a difference while at the same time providing better protection for their property.

How to Register for a Shoreline Evaluation

The Shoreline Evaluation Program is available to all residents of the Northern Neck and is now available for residents in Essex County. The program offers homeowners an on-site assessment of their shoreline protection. During an evaluation, protection issues are addressed

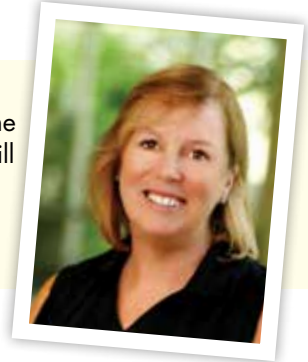
across the entire property from upland to shoreline. Living shorelines are discussed and resources provided to homeowners. The current and projected effects of climate change are also taken into consideration.

Registration forms can be found online at www.nnmg.org/sep and are available at local farmers markets, SEP Team shoreline presentations, and other community events. Many homeowners find out about the SEP program through other means, such as newspaper articles and referrals from neighbors and friends.

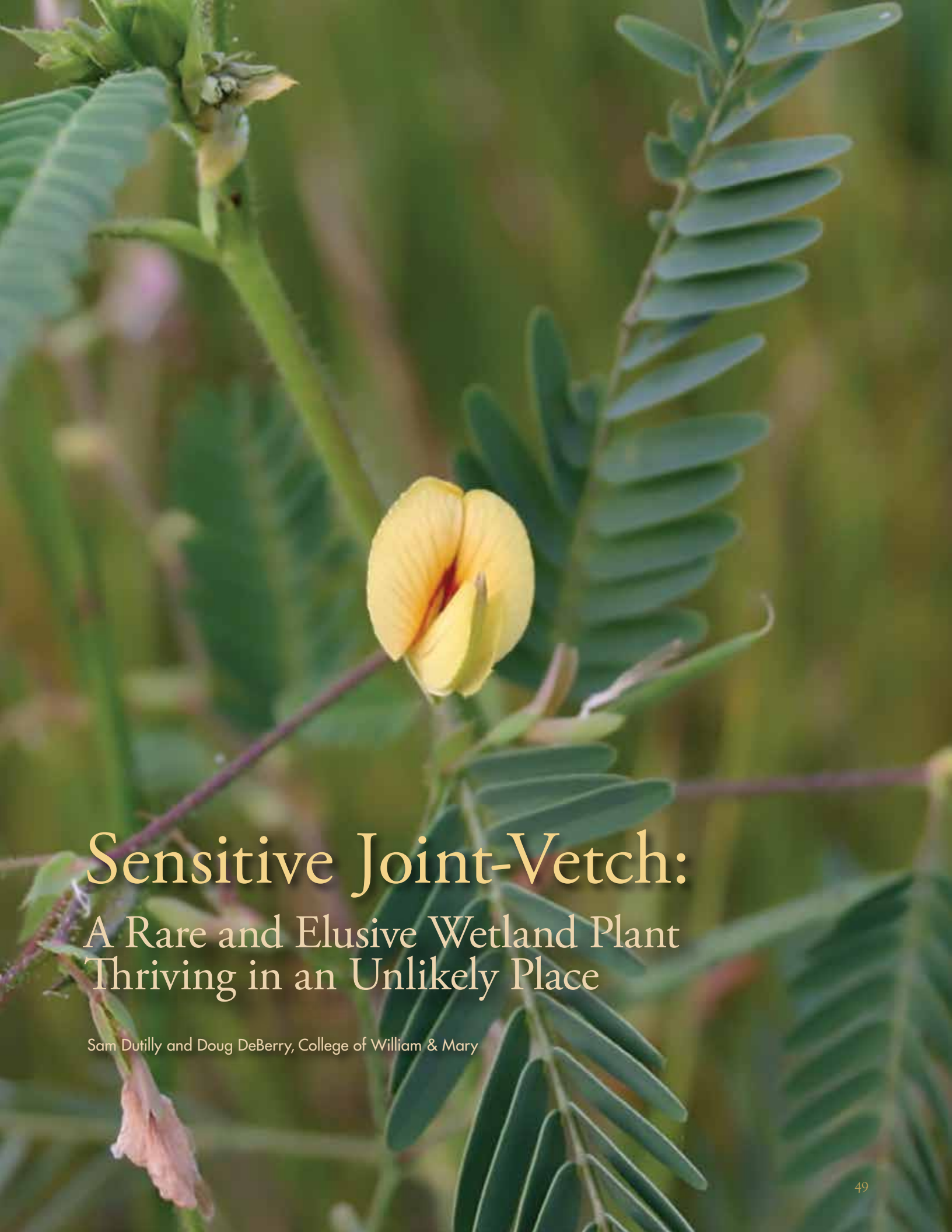
Protecting our Watershed – a Work in Progress

Feedback from homeowners who have installed living shorelines has been overwhelmingly positive, however there is still much work to do. According to Sue Lindsey, a charter member of the SEP Team, "The early days were challenging. There was so much to learn – and the science keeps evolving as knowledge of shoreline dynamics grows and the technology related to shoreline management expands. Today we have a core group of individuals who can help homeowners protect their properties while helping to improve the water quality of the Chesapeake Bay. We have come a long way – and we gain in experience with every property we visit. We are proud of our program and the service we can offer to our community."

For more information on the Shoreline Evaluation Program, visit the Northern Neck Master Gardner website at www.nnmg.org/sep. Special thanks to Sue Lindsey and the SEP Team for sharing information about the SEP program as well as providing the photos that appear here. Virginia Cooperative Extension is a partnership of Virginia Tech, Virginia State University, the U.S. Department of Agriculture (USDA), and local governments, and is an equal opportunity employer. For the full non-discrimination statement, please visit ext.vt.edu/accessibility.



Meg Hodges Born and raised in Richmond, Meg spent a good bit of her childhood outdoors on her grandparents' farm in Dinwiddie County or at the family place on the Poquoson River near the Chesapeake Bay. Meg and her husband Rob now live on the Rappahannock River where she still spends most of her time outside in the garden, on the water or hiking with their Labrador Abby. Last year she completed the Virginia Cooperative Extension Master Gardener Program and is a new member of the Northern Neck Master Gardener's Shoreline Evaluation Program team.



Sensitive Joint-Vetch:

A Rare and Elusive Wetland Plant Thriving in an Unlikely Place

Sam Dutilly and Doug DeBerry, College of William & Mary

SJV is an annual plant that grows 3-6 ft tall, with divided leaves that resemble a partridge pea plant. True to form, it is a member of the legume family and grows best in direct sunlight. However, unlike most legumes, it prefers the saturated soils of marshes. The plant is most notably known to grow in freshwater tidal wetlands, in higher elevation areas within the marsh (USFWS, 1994; USFWS, 2012; Griffith & Forseth, 2003). SJV is easy to spot from July-September, when the vibrant yellow and red flowers are in bloom. The elongated, segmented fruits that develop from these flowers in the mid-summer to early fall resemble flattened pea pods. The seeds break free from the pods in one-seeded fruit segments and can notably float to new sites, remaining buoyant for several days (Griffith & Forseth, 2002). Often these seeds float along the river until they eventually settle in areas of disturbance, where competing plants have been removed by muskrats, storms, flood events, or anything else that destroys vegetation (USFWS 1994, USFWS, 2012). SJV plants seem to thrive in these disturbed areas until they are outcompeted by other species. Although the species is threatened and extremely rare, SJV can grow in locally large patches where there is open space and an adequate seed supply. However, in the classic "boom and bust" cycle that is common among annuals (Stott et al. 2010),

the plant can often disappear for years when outcompeted until an open spot becomes available.

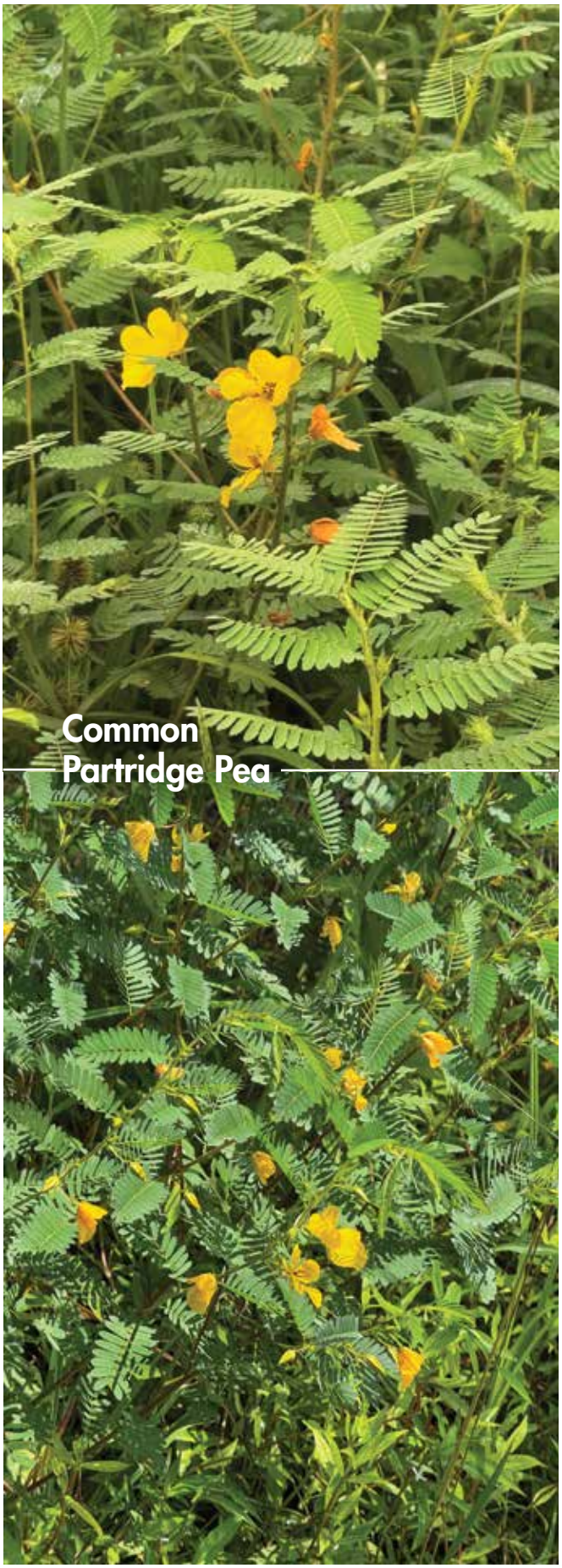
Even when a population of SJV plants disappears from the marsh, they may not be out of the fight completely. The greatest magic trick performed by this plant is its ability to reappear in the form of large populations after several years of either few or almost no plants growing in an area. Populations have been known to go from zero to over 450 plants from one season to the next (Bailey et al., 2006). Like all annual plants, SJV completes its life cycle within one year, but in that time the species can drop almost a hundred seeds per plant, with about 5% being deposited into the soil seedbank (Griffith, 2005). The seedbank can be thought of as the storage area in the soil for seeds that may germinate and contribute to the aboveground plant community in future years. Banked seeds from SJV can stay viable in the seedbank for up to 8 years, biding their time until a good spot becomes available and environmental conditions are favorable. This means that populations can "disappear" from a site for years and suddenly reappear without a warning; but when the curtain is pulled back on the magic trick, it turns out that they were just using the seedbank like any annual plant would do – the rabbit was in the hat all along. While this adaptation

allows SJV to survive in a dynamic environment, the magic trick can give the scientists studying this species a real headache.

Although SJV can be difficult to study, field studies conducted in 2024 along the Rappahannock in Essex, Richmond, and Westmoreland Counties revealed some of the largest populations in the state (Virginia DCR, 2025). Thanks to the vigilant observations of Hill and Alice Wellford, who were familiar with the species and noted some plants coming up on their Essex County farm, our research team at W&M was able to home in on several new sites where the plant had never before been known to occur. Three of the populations found were growing in freshwater tidal marshes, accounting for about 115 individual plants. These populations represent the "natural" location for SJV. However, over 37,000 plants were found growing in areas saturated by the tide but right next to agricultural fields. The largest population was found at Wellford's farm (Kendale), in a dense stand of approximately 28,000 plants in an area of only about a half-acre. The plants were growing so densely that it was basically impossible to walk through the population. It was incredible to see these plants thriving less than 8 feet away from active soybean and corn fields, when most of the SJV populations in Virginia are found in natural marshes along the river.

This discovery in 2024 was a unique find for Virginia but aligns with the habitat preference for the plant in its broader range (USFWS 1992; USFWS 1995; USFW 2013). These SJV populations were in sunny areas next to the fields, in depressions with more saturated soil and often standing water. Populations growing in ditches next to agriculture fields have been documented in states like North Carolina previously, but not to the same scale as the populations along the Rappahannock in 2024 (USFWS 1992; USFWS 1995; USFWS 2013). It made sense that the plants were growing well in these open areas next to the fields, but there was still the question of disturbance: how did these plants end up growing here? These fields are close enough to the river that floods may have pushed the floating seeds up onto the fields. But just getting there isn't enough. It seemed like there was something causing a disturbance that allowed these plants to take over. Therefore, it is likely that there was an overspill effect from the herbicide treatment on the fields that would have removed competing plants in the spring. Thus, when the SJV plants started to germinate and grow in the summer, there was more available sunlight, more nutrients, and less competition. This finding was the basis for the work that will be done on the plant in 2025 by our research team at William

Sensitive Joint Vetch



& Mary. If we can understand why SJV is thriving in these conditions, we can figure out a way to harness this knowledge to preserve and enhance populations of this federally threatened species.

The W&M team plans to test how competition removal, using either mechanical means or herbicide, will help to increase the number of plants growing in these populations. Both methods will open available habitat for the plants, hopefully bolstering current populations. Field experiments will be set up and observed in the summer of 2025 to test this hypothesis. The work will support the conservation and enhancement of current populations in the Rappahannock River and throughout its range.

However, the biggest limitation to studying this plant is keeping track of populations. If you recognize the plant from somewhere on your property, please let us know, but don't confuse SJV with the Common Partridge Pea. Anyone can be a biologist with a little bit of knowledge and a keen eye for yellow, red-streaked flowers. Send us an email at smdutilly@wm.edu or dadeberry@wm.edu with a photo of the plant if you come across it! You may be the first to discover a new population!

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Doug DeBerry

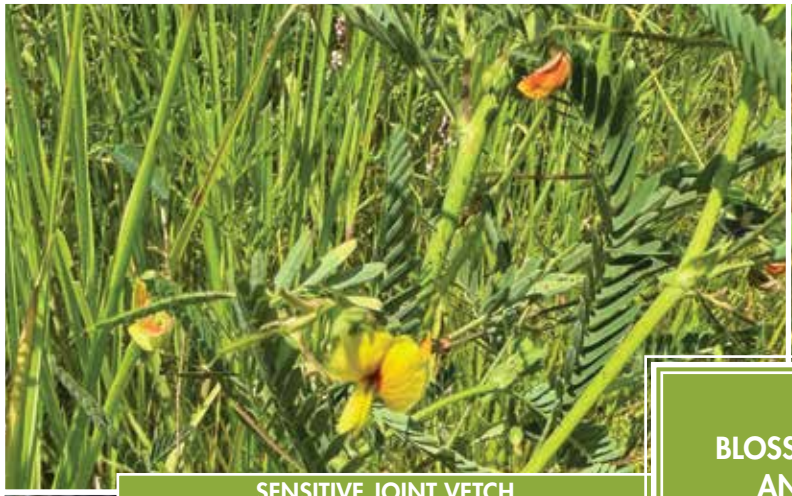
College of William & Mary: Research Assistant Professor, Environment & Sustainability Program/Affiliate Biology Faculty

Dr. DeBerry's areas of specialization include restoration ecology, vegetation dynamics, ecological succession, ecosystem function, and floristic assessment. He has three decades of professional environmental consulting experience and is a certified Professional Wetland Scientist (PWS) and Professional Wetland Delineator (PWD). He is a US Fish and Wildlife Service-Approved Surveyor Contact for all threatened or endangered plant species in Virginia, and actively serves on several boards and committees in his research fields, including the Governor of Virginia-appointed Board for Wetland Professionals. His research includes projects in wetland and stream restoration, invasion ecology and remediation, floristic quality, and the use of native plant species in re-vegetation projects to support ecosystem services (e.g., pollinators and solar facilities).

Sam Dutilly

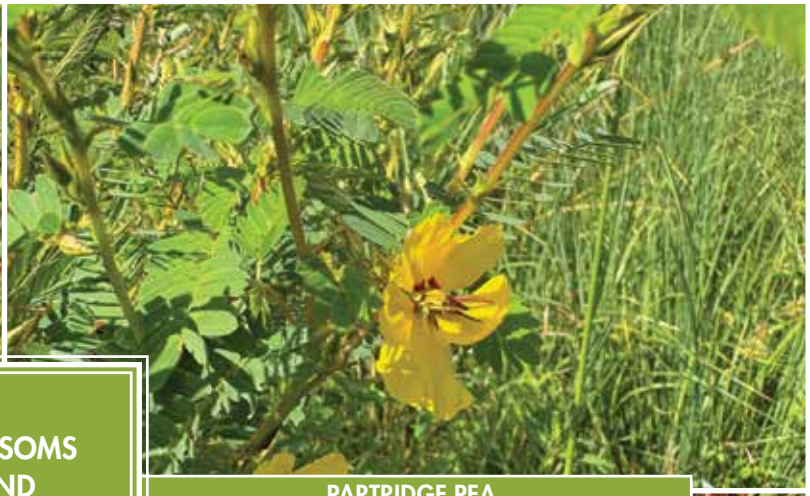
Sam is pursuing a master's of biology at the College of William & Mary, starting in the fall of 2024. He works as a graduate assistant under the supervision of Doug DeBerry, and is also working on a thesis project. Part of this work includes creating a floristic inventory for the Rappahannock Tribe in Virginia.

Sam also assisted with Dr. DeBerry's research on the prevention of invasive species in wetland restoration sites. He also began work on a separate experiment under Dr. DeBerry's guidance on the best method for seed bank assays for wetland restoration applications.

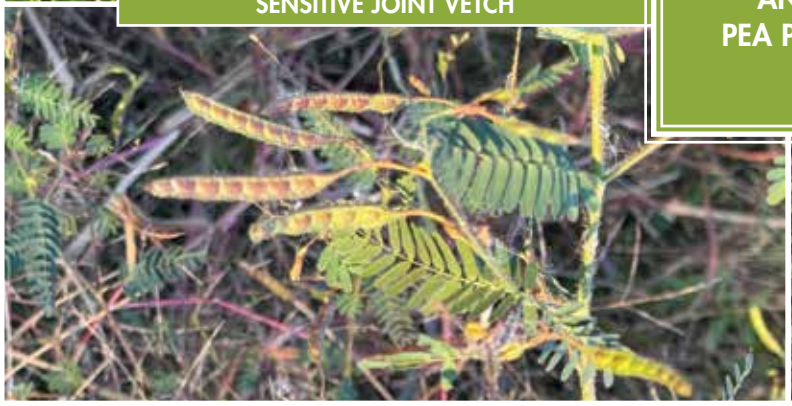


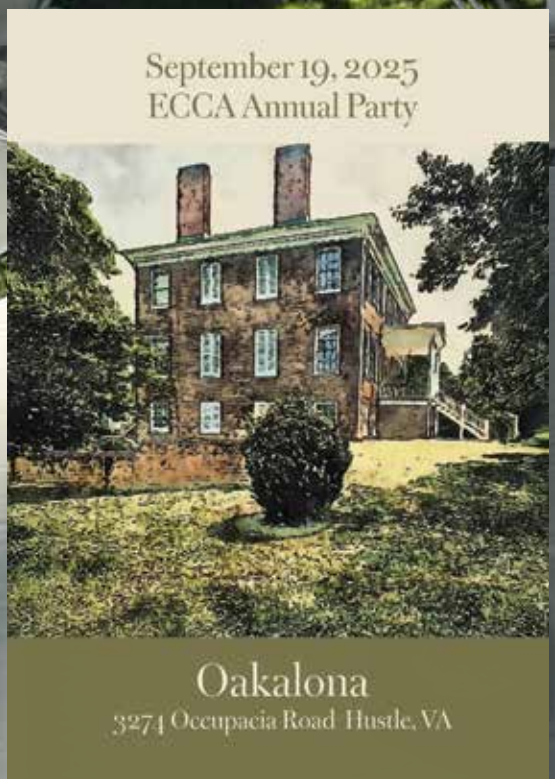
SENSITIVE JOINT VETCH

BLOSSOMS AND PEA PODS



PARTRIDGE PEA





A Good Time Was Had By All.

By Leslie Rennolds

One thing you can always count on in Essex County. We know how to throw a good party. This year's event at Oakalona, the immaculately restored Federal home of Julie and Carl Strock, was no exception.

The weather, which is known to be capriciously unpredictable in Virginia, cooperated nicely. The landscape, dotted with outbuildings and barns, painted a Plein Air worthy backdrop. And the flowers were sublime.

Art directed by the vision of Frances Ellis, yours truly was sent on a mission to find "orange-pink roses" and "other fillers" that would add texture and volume to the arrangements. The first thing I did was call on an old friend, Chris Craft (really), former co-owner of the renowned Richmond catering company, Cateraide.

"You need to help me," was all I had to say. He did.

"Let's try Trader Joe's first," he said. We did.

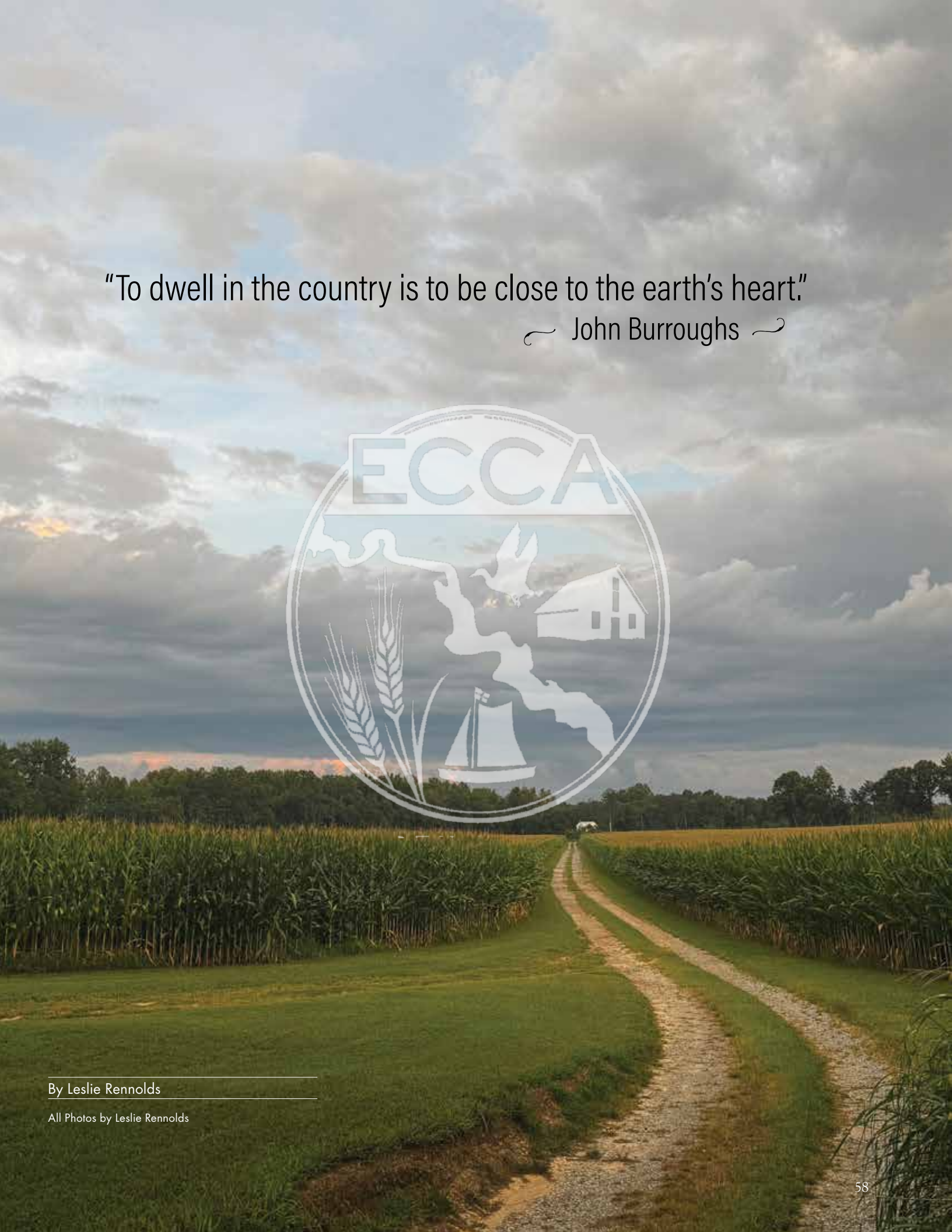
The ECCA Flower Committee was pleased with the results, and they set to work on the creations. Lisa Mountcastle took the lead on the table top arrangements, while Frances took charge of the one for the food table. I made an attempt at helping, but

eventually drifted off to let the professionals do their thing.

Prue Davis —with help from sisters Liz Harper and Ann Beverly Eubank— catered the event, serving local delicacies such as raw oysters shucked by the master himself, Henry Baxter, and petite crabcakes cooked on the spot. Chuck Gilchrist donated steamed oysters to the lineup for a veritable mini seafood festival.

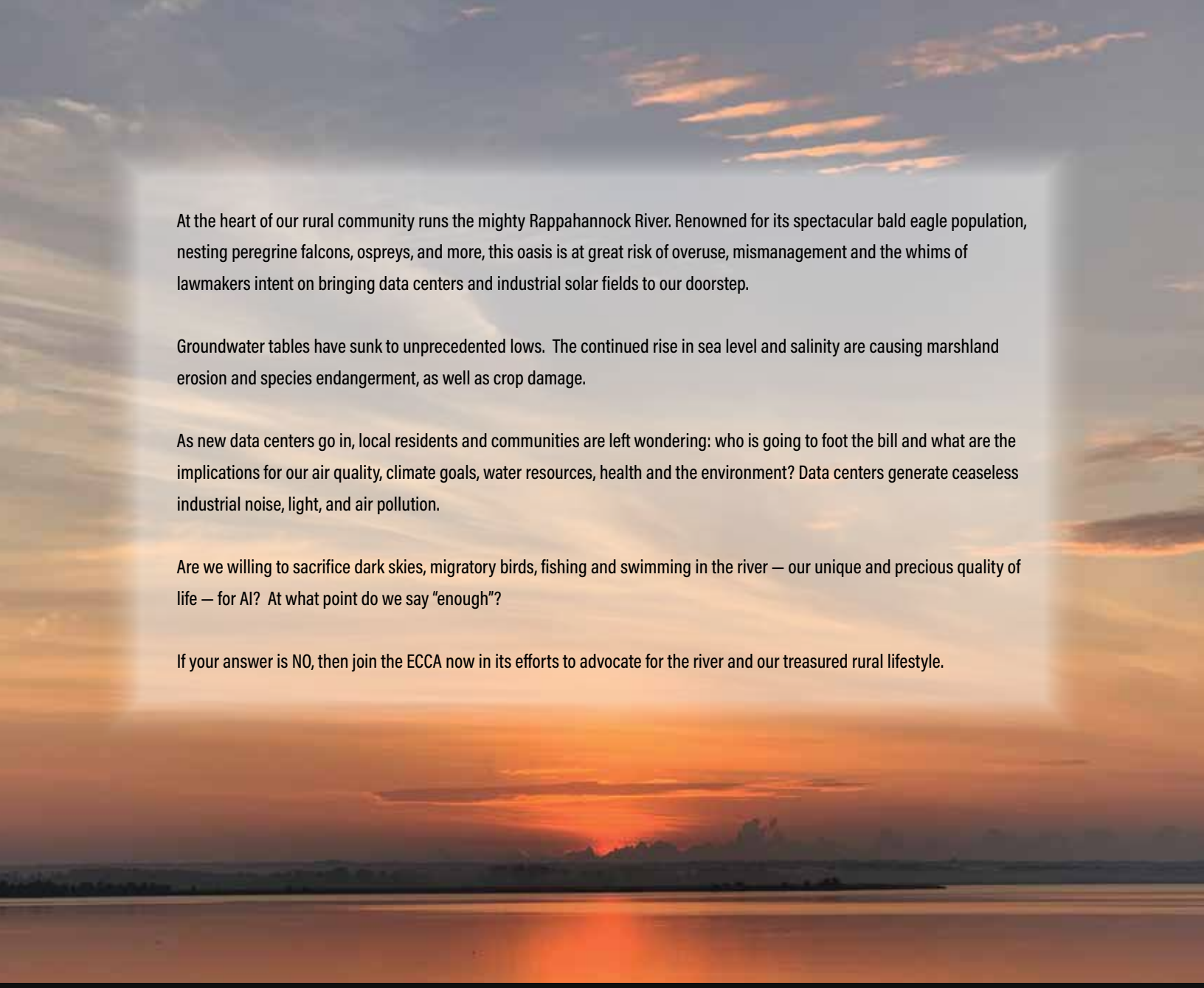
Dinner was served to our 80+ guests, followed by a lively auction called by Binky Durham. All in all, the evening was full of good conversation, the exchange of ideas and knowledge, and the reminder that gatherings like these serve a much greater purpose than having fun. They remind us of the challenges that we face as an organization pledged to preserve and protect the rural landscapes and lifestyles that have sustained communities in Essex County for hundreds of years. And that we have a strong coalition of good folks who are ready and willing to join us in this work.

Thank you to all who came or sent donations. Thank you for supporting the ECCA both financially and physically. We have much hard work ahead of us. And so much to be proud of.



By Leslie Rennolds

All Photos by Leslie Rennolds



At the heart of our rural community runs the mighty Rappahannock River. Renowned for its spectacular bald eagle population, nesting peregrine falcons, ospreys, and more, this oasis is at great risk of overuse, mismanagement and the whims of lawmakers intent on bringing data centers and industrial solar fields to our doorstep.

Groundwater tables have sunk to unprecedented lows. The continued rise in sea level and salinity are causing marshland erosion and species endangerment, as well as crop damage.

As new data centers go in, local residents and communities are left wondering: who is going to foot the bill and what are the implications for our air quality, climate goals, water resources, health and the environment? Data centers generate ceaseless industrial noise, light, and air pollution.

Are we willing to sacrifice dark skies, migratory birds, fishing and swimming in the river — our unique and precious quality of life — for AI? At what point do we say "enough"?

If your answer is NO, then join the ECCA now in its efforts to advocate for the river and our treasured rural lifestyle.

We work to preserve the unique qualities of Essex County on Virginia's Middle Peninsula by:

- Advising landowners of the economic benefits of conservation easements and other land protection tools.
- Educating the public about the high value to the community of protecting land in perpetuity.
- Maintaining productive farms, forests and fisheries.
- Retaining and enhancing wildlife habitat, wetlands and other productive natural resources.
- Protecting ample supplies of safe drinking water.
- Preserving historic resources.
- Providing recreational opportunities on land and water.

DATA Center Update

By Brent Hunstinger, Friends of the Rappahannock

The localities in the Rappahannock River watershed continue to experience a deluge of applications for data center projects. While data centers have existed in some capacity in the watershed since the 1980s, the size and scale of the proposed data center projects continues to increase as the demand for artificial intelligence (AI) increases. With these increases in size and scale comes the need to clear more land, resulting in the continuing loss of farmland and forests. Data centers also use massive amounts of energy and water to cool the servers. These hyperscale data centers are now being proposed to be up to 110 feet tall with some proposed on land adjacent to the Rappahannock River. At the time of this article being written over 30 data center projects are proposed, have been approved, or already exist in the Rappahannock River watershed.

Data center developers looked to the Fredericksburg and Culpeper regions as the space available in Northern Virginia became scarce and expensive. They have been able to acquire flat land (forest and farmland) close to major transmission power line corridors in localities desperate for the potential tax revenue that the projects can bring. The problem with data centers is not that they exist, but that 1 or 2 campuses is not enough. Some localities have more than 10 projects approved or proposed. The cumulative effects of these projects and all the other

"One data center will require as much energy as the company's entire 22-county, 4,000-square-mile customer-base on a dark, cold, January morning in single-digit temperatures."

ones in the Commonwealth will have disastrous consequences for our natural resources. To make matters worse, there has been little appetite in the General Assembly to create guardrails to protect Virginia's natural resources and residents.

Data center servers are either air-cooled or water-cooled. Air-cooling technology uses less water but requires more energy usage. In September, at a Spotsylvania Board of Supervisors meeting the president and CEO of Rappahannock Electric Cooperative said "one data center will require as much energy as the company's entire 22-county, 4,000-square-mile customer-base on a dark, cold, January morning in single-digit temperatures." (https://www.fredericksburgfreepress.com/2025/09/26/recs-ceo-one-data-center-requires-as-much-power-as-entire-current-customer-base/) Dominion Energy and other power companies do not have the capacity to keep up with the energy demands required by the current data center expansion trend. Many projects are being told it would be 5 or 10 years before power could be provided from the time a project is approved. New transmission and distribution power lines will be required to b e constructed. Ratepayers will be on the hook to pay for these projects while natural resources are impacted from the creation of new corridors. In many cases conservation easements do not stop these projects as they are deemed to be in the public interest.

Water cooled data centers can use millions of gallons of water a day. We do not have an idea of how much water data centers in the Rappahannock River watershed use or will use as this water usage is hidden from the public. Data center companies redact this information

"The Rappahannock River and its watershed are at a crossroads."

from water service agreements they sign with localities by claiming the information is proprietary and therefore confidential. This lack of water usage disclosure limits our ability to understand the impacts the data center industry has on the River and inhibits our ability to proactively conduct water supply planning to ensure all beneficial users can utilize the River for years to come. Fortunately, many localities are prohibiting data centers from using groundwater or potable water. Increasingly data centers are working with localities to reuse treated wastewater from wastewater treatment plants to cool servers. While at first glance reuse water systems are better than using groundwater or potable water it has become clear there are issues with the potential loss of flows from wastewater treatment plants that normally discharge cleaned wastewater back into the Rappahannock River. When reused wastewater is sent to data centers to cool the servers much of it is evaporated (the industry says 61%) during the cooling process. This leaves only a portion to return to the wastewater treatment plant to be treated and returned to the River. These losses in flow, the proposed interbasin transfer of water by Caroline County, and increased variability in precipitation patterns, provide more uncertainty and emphasize the need for proactive water supply planning.

The Rappahannock River and its watershed are at a crossroads. We know data centers are here to stay, but the scale and size of these projects and the infrastructure required to support them threaten the health of our air, land and water. Wise decisions must be made at the local and state levels regarding their siting and natural resource use. The Rappahannock River's health depends on it.

Data centers have an unquenchable thirst for water, and this expansion is a real threat to freshwater supplies. Did you know that only 3% of Earth's water is freshwater, and only 0.5% of all water is accessible and safe for human consumption? Increasing drought and water shortages are reducing water availability.

On average, a human being can live without water for three days. Freshwater is critical for survival. While data center developers are recklessly tapping into freshwater resources without consideration of the consequences, nearby communities are put at risk. Large data centers can consume up to 5 million gallons per day, equivalent to the water use of a town populated by 10,000 to 50,000 people. With larger and new AI-focused data centers, water consumption is increasing alongside energy usage and carbon emissions.

Threats like these are putting the well-being of the Rappahannock River in peril. In 2025, American Rivers ranked the Rappahannock as the 6th most endangered river in America, a designation based on the assault on fresh water and ground water posed by Data Centers.

The ECCA acts as an advocate for the Rappahannock River and, along with other conservation organizations, is effecting changes in the permitting and rulings on Data Centers in our area. Please consider making a TAX DEDUCTIBLE DONATION to help us in our work. Thank you!

essexcca.com/donate

ECCA was incorporated in Virginia in February, 2007, to promote and protect the rural character of Essex County - preserving farms and forests, natural and historic resources - for the benefit of future generations. We do this work through education and outreach to Essex County landowners about voluntary conservation options to preserve and protect the land.

ECCA promotes options to landowners who want to permanently protect their land from development. One key option is the donation of a "conservation easement" to an organization qualified under Virginia law to hold the easement in perpetuity and monitor its compliance. This option provides a federal income tax deduction and a state income tax credit with the added benefit of reducing county real estate property taxes and federal estate taxes. The ECCA maintains a listing of such "qualified" organizations. They include the Virginia Outdoors Foundation, Northern Neck Land Conservancy, Historic Virginia Land Conservancy, Nature Conservancy, USF&W Service, and others. Additional options include outright donations of land to qualified conservation organizations, leases, or land management agreements.

PROTECTING RURAL LANDSCAPES FOR TODAY & THE FUTURE · ECCA

ECCA Board Financial Report

By Margaret J. Smith, CPA, Treasurer

On behalf of the Directors, thank you for your continued generosity of the last year. The support of our members continues to allow the ECCA to realize our mission of educating landowners on the options available to them through conservation easements and additional outreach aimed at preserving our natural and historic resources.

Through our collective efforts over 18% of Essex County is now under easement, more than any other tidal county along the Rappahannock River. In 2024, we were again grateful to have the support of so many individual and corporate donors who helped us fund the programs and publications critical to our mission.

Thank you for your continued support and we ask you to please remember the ECCA as you contemplate giving through the remainder of the year. As a reminder, if you prefer to make your donation in the form of appreciated stock, please contact Leslie Rennolds for more information.

Thank You for Supporting ECCA in 2024

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ESSEX COUNTY
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Post Office Box 356, Tappahannock, Virginia 22560

The Essex County Conservation Alliance works to preserve the unique qualities of Essex County on Virginia's Middle Peninsula by: advising landowners of the economic benefits of conservation easements and other land protection tools; educating the public about the high value to the community of protecting land in perpetuity; maintaining productive farms, forests and fisheries; retaining and enhancing wildlife habitat, wetlands and other productive natural resources; protecting ample supplies of safe drinking water; preserving historic resources; and providing recreational opportunities on land and water.

Wetlands untouched by human hands. Photo by Hill Wellford.