

2019 ESSEX COUNTY CONSERVATION ALLIANCE

Richard Moncure and Nate Parker,
owners of the Tappahannock-based
boating business they call
Rappahannock Roundstern.



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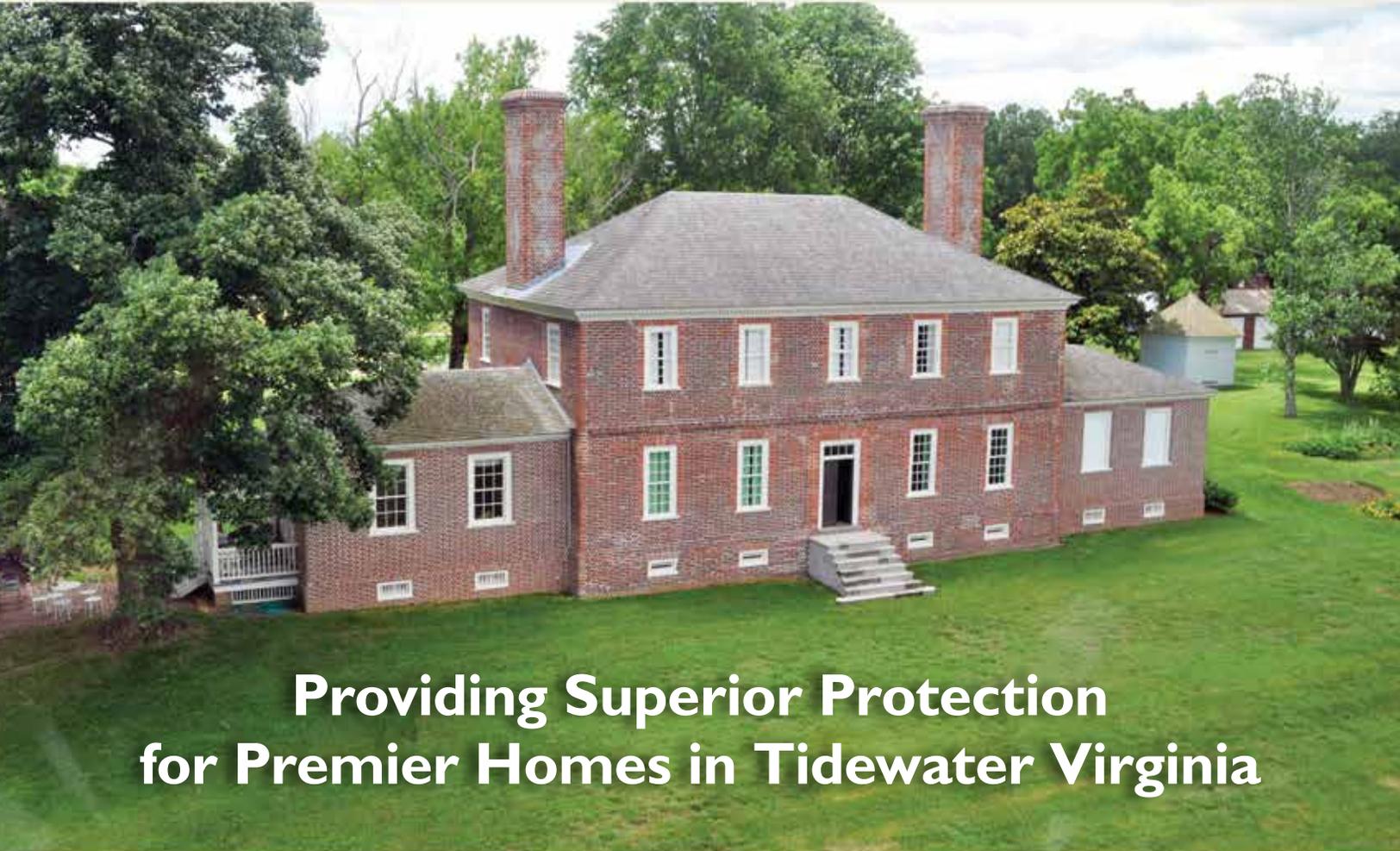
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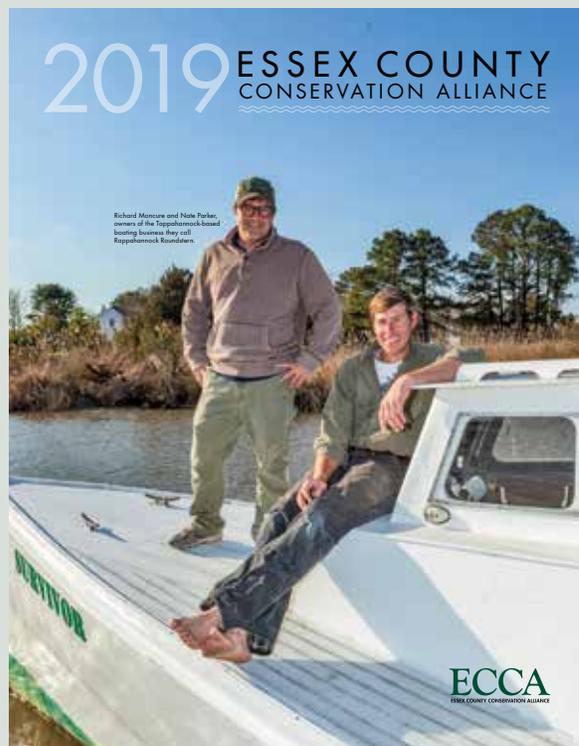
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ON THE COVER

Richard Moncure and Nate Parker have a simple vision for their Tappahannock-based boating business called Rappahannock Roundstern that's centered around two roundstern deadrise boats.

"We want people to access the Rappahannock River so that they can appreciate the river's rich history and wealth of natural resources," Moncure said. "We felt that there was no better way to hear that story than on a Rappahannock roundstern."

Rappahannock Roundstern has two boats, "Survivor" and "Chatty Lou." They keep one boat docked at June Parker Marina and the other downriver in Simonson, Moncure said. For more information, or to book a tour, you can find them on Facebook by searching for Rappahannock Roundstern, or call them at 804-214-0447.





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A NEW CHAPTER

ESSEX COUNTY CONSERVATION ALLIANCE

The ECCA has been working hard on a number of issues in the County that affect the quality of Essex residents. While the use of conservation easements to preserve open space lands and forests has been our primary focus since the ECCA's inception in 2006, we have evolved to embrace other conservation issues that are also critically important to the future of our citizens. This letter highlights several of the important activities in which ECCA has been engaged since our last annual report and comments on the challenges we face in 2019.

In recognition that the ECCA's mission has evolved, we have modified the ECCA's name to replace the word "Countryside" with the word "Conservation." Our new title, the Essex County Conservation Alliance, is more consistent with our vision for Essex and Tappahannock which includes celebrating our County's remarkable history and promoting the preservation of its historic structures.

By any objective measure, Essex County is a very special place, characterized by its scenic lands, unspoiled natural resources, and a rich colonial history that dates back over 400 years when the first English explorers sailed up the Rappahannock and encountered Native Americans. These are the characteristics of our County which for generations have been a source of great pride to the families who live here and which continue to attract new residents and tourists to our region. Essex citizens and our County elected leaders should never take these assets for granted. It is our obligation to preserve them not only for the quality of life we currently enjoy, but also for the benefit of future generations.

ECCA has been vigilant in its efforts to identify threats to the rural and scenic characteristics of our County whenever they arise. When the oil and gas industry targeted Essex landowners for gas leases just a few years ago, the ECCA led an education effort to ensure that our citizens and county leaders understood the destructive impact that fracking would have on our community. The fracking threat has temporarily diminished, but a new threat has arisen in the form of utility scale industrial solar farms. Once again, our open space lands and forests have been targeted for industrial development by non-resident business interests. Mislabeled as "solar farms", industrial solar projects involve the destruction of large tracts of productive farms and forests to accommodate the installations of rows of solar panels, frequently numbering in the thousands, embedded with highly toxic metals.

There is no question that industrial "solar farms" present a growing threat to the scenic beauty and rural character of the counties which border the Rappahannock. To help the residents and community leaders of our region understand the serious nature of this threat, the ECCA has prepared and published a position paper on "solar farms" which is included here and which can also be viewed on our newly revamped website, www.essexcca.com.

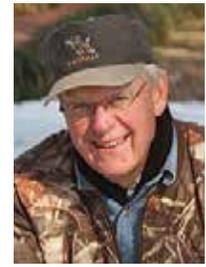
The struggle to retain land use taxation is another challenging issue which our County continues to face. We cannot assume that Essex's Board of Supervisors will vote to retain this important taxation policy as they search for



ways to find additional sources of revenue. Just two years ago, Essex significantly increased its land use taxation based on 2017 SLEAC values which imposed a large tax increase on most of the owners of farmland in our County. If our Board of Supervisors should now vote to repeal land use taxation, it would inflict serious economic harm to our farmers at a time when many are struggling to survive. Essex would be one of just two counties in the Northern Neck and Middle Peninsula without land use, putting our farmers—one of our County’s economic mainstays—at a big disadvantage.



Peter Bance



Hill Wellford

We need to do our best to educate our citizens and County leaders on the importance of maintaining land use taxation which helps preserve our agricultural lands which are the primary economic engines for the revenue our County needs. Open space lands, farms and forests, under the County’s current land use taxation formula, produce a substantial tax revenue surplus to the County because they require little, if anything, in the cost of county services. At the same time, they provide direct and indirect employment opportunities for many of our citizens and enhance the environmental conditions of the County. ECCA has published extensive articles on the value of retaining land use taxation which we urge our readers and County leaders to review. These articles appear in the ECCA’s Annual Report for 2016 and can also be reviewed on our website, www.essexcca.com.

The ECCA continues to work with the Northern Neck Land Conservancy and the Virginia Outdoor Foundation to identify opportunities for conservation easements in Essex. In 2018, acres under easement in Essex grew by 2662.49, placing 17.26% of the county in permanent open space. In addition, ECCA has worked closely with Friends of the Rappahannock, The Chesapeake Conservancy, Scenic Virginia, and The Chesapeake Bay Foundation to address landowner environmental compliance issues which impact the Rappahannock.

In 2018, we also supported the Essex Museum & Historical Society by featuring articles in our 2018 Annual Magazine on Essex’s colonial history, the historic buildings in Tappahannock, and the historic homes and structures in the Millers Tavern Rural Historic District and the proposed Occupacia-Rappahannock Rural Historic District. ECCA’s sponsorship of the study of historic buildings in the proposed Occupacia District is ongoing under the leadership of the Virginia Department of Historic Resources. ECCA through gifts and grants has raised \$46,000 to accomplish this.

We hope our readers agree that Essex is indeed a very special place. However, lip service alone will not protect the Rappahannock, or the scenic vistas, natural resources, and historic buildings that have long defined our County. These are our County’s greatest assets and, if protected and preserved, they will attract new families, compatible businesses, and tourism to our county that will broaden its tax base. An understanding of what we have and what we cannot afford to lose is a critical first step in the path to the future which ECCA advocates.

Thank you for your ongoing support as we all work hard to make a positive and meaningful contribution to our beautiful community.

A handwritten signature in blue ink that reads "Peter Bance".

Peter Bance, President

A handwritten signature in blue ink that reads "Hill Wellford".

Hill Wellford, Vice President



Reportedly, all humans on earth are separated by only six degrees, meaning that it only takes six tiers of “do-you-knows” to find a common acquaintance. But for anyone born and raised in Essex County, the degree of separation is much smaller, and the ‘acquaintance’ is probably a cousin. Essex County Conservation Alliance’s newest board member, Harry Ware, is no exception. Raised on a farm in Essex County, he was surrounded by a myriad of cousins and can effortlessly explain every genealogical connection. Family and tradition were bred into him.

The Ware family legacy runs deep in Essex County. The first Ware came to Essex from New Kent County in the 1830’s and lived at Bellevue, a riverfront home which has since been destroyed. Many of the descendants of that first Ware have remained in the county and have been instrumental in its economic development. Harry’s father, Neill Ware, who still lives on the family farm, personifies the kind of balance Harry seeks for Essex County. As a Duke-educated history major, he also was a hands-on farmer who grappled with the sometimes unpredictable natural phenomena that challenge agricultural businesses.

By example, Harry was raised with an appreciation for education and for hard work. After graduation from Essex County High School, Harry went on to the University of Virginia. A brief job as a hunting guide on the Eastern shore preceded employment as an auditor in a

For Harry Ware, It’s All About Balance

by Ann Miller

Harry Ware’s Lightning Round of Essex County Favorites:

Favorite local restaurant: Java Jacks

Favorite river activity: Boating

Favorite month to spend in Essex County:
November (actually, all of them!)

Favorite Essex High School teacher:
Betty Jo Butler

Favorite dog breed:
Labrador retriever (he’s had nine!)
followed closely by English setter



bank. Here, he recognized that an advanced degree would help him in that career. “I figured I could be a banker with a law degree, but I couldn’t be a lawyer with an MBA.” This practical realization led him to enroll in the University of Richmond, T. C. Williams School of Law. His future wife, Marilyn, was there in graduate school, and they married in 1984. He practiced for a number of years at McGuire Woods in Richmond. Although he planned to be a real estate attorney, he says his career as a product liability and toxic tort lawyer “found him.” Early in his career, he was fortunate to work with some high-profile, nationally recognized attorneys and has kept and expanded upon those connections since then. Now a director and shareholder at the Richmond firm of Spotts Fain, he wouldn’t change a thing. He appreciates the way his work has broadened

his world view, allowing him to travel all over the country meeting people from all walks of life. It has made him a wiser man.

And again it has taught him about balance. Settling a legal matter is always about balancing the scales of justice, finding that sweet spot where everyone is satisfied. And this is the approach Harry would advise Essex County to follow. By thoughtful, measured consideration, commercial progress needs to be tempered by a conscious effort to preserve the county’s natural beauty and agricultural way of life. Land is a natural resource, and as the saying goes, “they aren’t making any more of it.” Special care and planning should be taken when irreversible projects involving land use are undertaken. “We don’t really own the land; we are stewards for our families and future generations,” says Harry, summing it all up.

Ann Miller holds a BA in English and economics from Randolph-Macon Women’s College and is a former stock broker, former high school teacher, former stay-at-home mom, and current happy resident of Bowler’s Wharf, Virginia.

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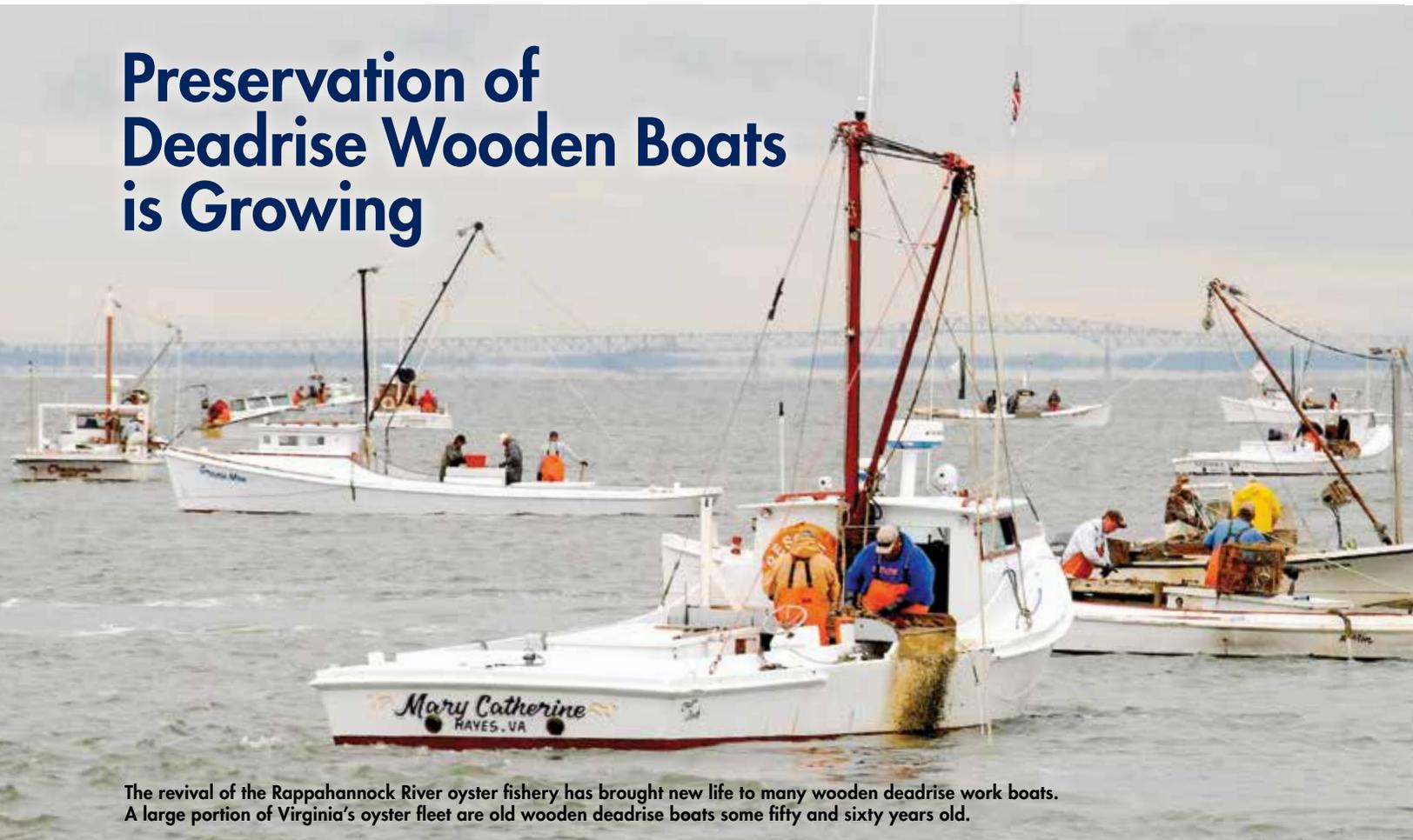


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Preservation of Deadrise Wooden Boats is Growing



The revival of the Rappahannock River oyster fishery has brought new life to many wooden deadrise work boats. A large portion of Virginia's oyster fleet are old wooden deadrise boats some fifty and sixty years old.

by Larry Chowning

The building of deadrise and cross-planked boats on the Chesapeake Bay started in the 1880s. There had been earlier experiments with this style of construction in the North and in the Deep South, on the Gulf of Mexico. Yet, none of those areas found the style to be very popular.

On the Chesapeake Bay, however, water conditions, diverse inshore fisheries, availability of wood for planks and talented backyard builders all came together at the right time so that the deadrise/cross-planked-bottom style was perfected and spread from one end of Chesapeake Bay to the other.

For over a century, bay watermen and others revered this style of vessel. When other areas of the country had long since switched to fiberglass or steel-hull boats, the Chesapeake region was still turning out wooden boats and was one of the last strongholds in America of wooden boat construction. In the 1980s and 1990s, wooden boats were still the vessels of choice of many bay watermen.

Some say watermen wouldn't make the switch to fiberglass or metal simply because they were slow to change, while others say that watermen could repair and work on a wooden boat themselves, which made them more attractive than fiberglass, steel, and aluminum vessels. There is probably some truth to both thoughts, but the main reason for the extended life of wooden boat construction on the bay is that the hull shape of the bay deadrise, combined with the water conditions of the bay, was a marriage made in heaven.

The V in the bow of the hull that flattens out in the run aft, the wide beam, and the shallow draft were just right to contend with the short, choppy seas and shoal waters of the Chesapeake.

It wasn't until good wood became less available, the bay's commercial fisheries declined, and the price of building a wooden boat began to catch up with the cost of fiberglass boats in the late 1980s that bay watermen began to turn to other boats. Even then, they wanted a similar style and fiberglass hulls were designed after the time-tested wooden deadrise hull.

The era of wooden deadrise construction was a grand era on the bay. The Chesapeake Bay deadrise rose to such prominence that Virginia legislators voted, on March 25, 1988, to make the Chesapeake deadrise the official boat of the Commonwealth of Virginia. The deadrise and cross-planked sailing skipjacks became the official boats of the state of Maryland in 1985.

The technical definition of deadrise is the "dead" straight rise of the wood from the keel rabbet to the chine. This usually includes all bottom planking from the bow staving to near the stern. Over time, the use of the word deadrise became associated more with the entire boat than just the V-planking in the bottom. That is why, today, people refer to some V-bottom and cross-planked boats, in a general way, as Chesapeake Bay deadrises.

With the introduction of internal combustion engines, bay boat builders began to experiment with plank construction. Until then, preference had been given to boats made from logs. Tidewater Virginia boat builders excelled in plank construction and produced thousands of deadrise boats. The growth of the oyster fishery on the Rappahannock and Piankatank Rivers and the advance of internal combustion engines fueled the demand for these boats. Over time, Deltaville at the far eastern end

Hulls of most Chesapeake Bay deadrise boats are built upside down as shown in this photo of a boat being built by Willard Norris of Deltaville. Note how the bottom planking is being laid aft/forward. As it is continued forward a V-shape (deadrise) is created in the bow. When the bottom is completed, the hull is flipped over so the decks and top work can be finished.



of Middlesex County, and on Chesapeake Bay, became a major backyard boatbuilding center. Deadrise hulls were built there, varying in size from twelve-foot skiffs to the largest deadrise and cross-planked hull ever built on the bay, the 100-foot *Marydel* completed in 1927 by Linwood Price of Deltaville. Deadrise boat builders, however, built boats up and down the bay, and most waterfront communities had a neighborhood woodworker who could repair and build an occasional deadrise.

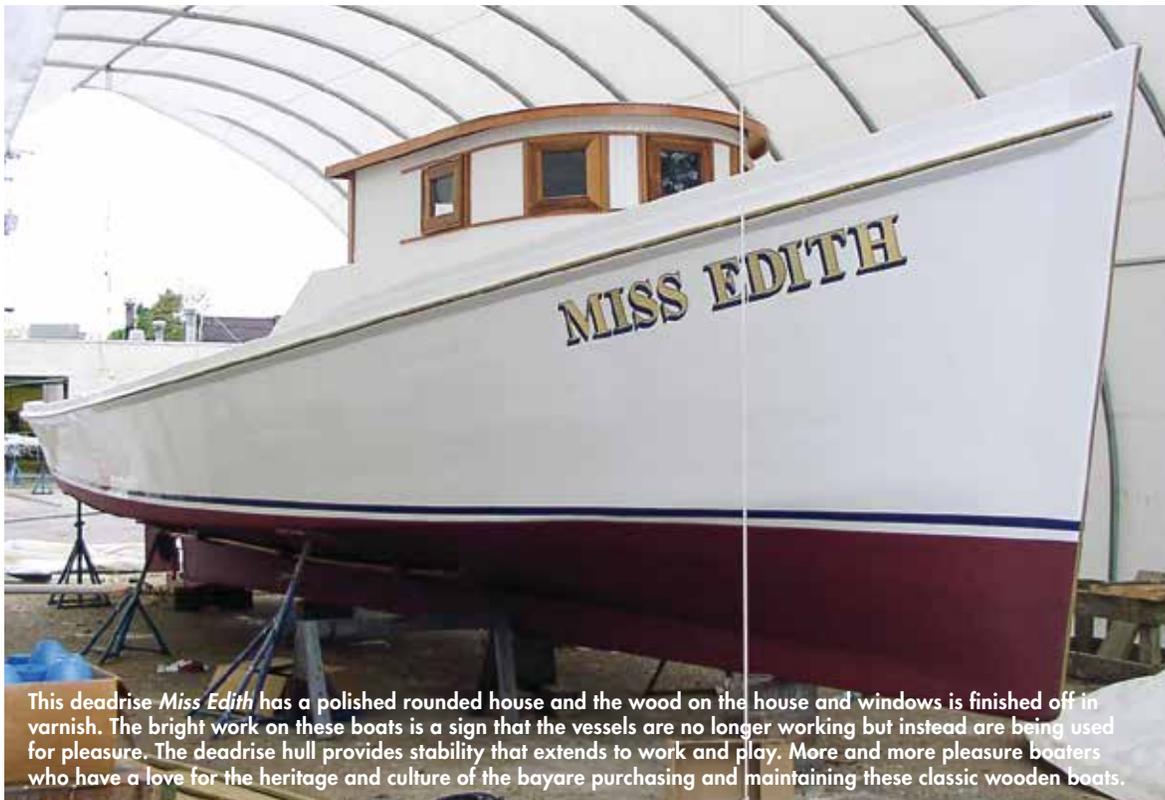


The deadrise bottom in this boat is almost a perfect V. The V-deadrise runs from the chine (where the sides and bottom come together) downward to where the staving is attached to the keel.

The wooden boat culture grew in the counties that bordered the rivers and bay because of an abundance of high-quality diverse timber. Wood was an important ingredient in shaping the lifestyles of Tidewater Virginians as ash, red cedar, poplar, sassafras, catalpa, cypress, white oak, locust, hickory, spruce and rosemary pine were all used to either build boats or support endeavors where boats were required.

Canvasback duck decoys made from red cedar; oyster nipper handles shaped out of ash; log canoes—the forerunner to deadrise boats—made from a mixture of poplar, spruce, and rosemary pine; white oak sculling paddles; shad skiff knees shaped from sassafras and catalpa; trunnels whittled from locust to anchor the logs in a canoe and timbers in deadrise boats; mast and booms made from Dragon Run cypress; and oyster mops made from hickory for scrubbing down decks at the end of a day of oystering—all came from local forests and were part of a culture that understood wood was nature's tool, a gift from God to be used to improve one's quality of life.

The wooden boat was one of those tools and a good boat builder was revered on Chesapeake Bay. Fortunately, local watermen's long-term demand for deadrise boats has contributed to the large number of boats surviving today. Virginia's winter crab dredging fishery extended the life of the boats into the 1980s and 1990s as new



This deadrise *Miss Edith* has a polished rounded house and the wood on the house and windows is finished off in varnish. The bright work on these boats is a sign that the vessels are no longer working but instead are being used for pleasure. The deadrise hull provides stability that extends to work and play. More and more pleasure boaters who have a love for the heritage and culture of the bay are purchasing and maintaining these classic wooden boats.

fifty- to fifty-five-foot deadrisers were built to work in the crab-dredging fishery. In 2008, the Virginia Marine Resources Commission banned that fishery to protect the blue crab. Virginia's oyster fishery has rebounded since the oyster diseases of dermo and MSX crippled that industry in the 1960s, 1970s, and 1980s. The revival of the oyster and growth in oyster aquaculture are, to this day, providing work for some of the bay's wooden deadrise boats. Part of that revival has also been fueled by a preservation effort by those who love wooden boats and see them as having played a significant role in the heritage and culture of Tidewater Virginia. Richard Moncure of Friends of the Rappahannock and Nate Parker of June Parker Marina in Tappahannock are examples of men whose admiration of our past led them to be active in the preservation of the deadrise.

Moncure and Parker together own the deadrise boat named *Survivor*. The boat was built in 1960 by Edmond Harrow of Deltaville in Harrow's boat shed on Lovers Lane in Deltaville. *Survivor* is a classic Deltaville deadrise, a term known all over the Chesapeake region. Moncure and Parker are using the boat for educational tours, charter fishing, and the oyster fishery. "We have a love of the water and the culture of Chesapeake Bay," says Parker. "The deadrise is a part of the bay's culture that cannot be found anywhere else and we see the preservation of *Survivor* as an extension of our love of the bay."

Moncure also owns the deadrise boat *Chatty Lou*, named after his daughter. *Survivor* and *Chatty Lou* have round sterns and Parker and Moncure both love round-stern deadrise boats, which is another interesting element of the deadrise culture. Early in the history of deadrise boats, boat builders built with a pointed bow and stern, similar to double-ended log canoes with an outboard rudder and a tiller mounted at the stern to enable the helmsman to guide the canoe with relative ease. The pointed stern worked well in paddle canoes, but log canoes were built for sailing. When internal combustion engines became the main sources of power, early boat builders and mechanics began to experiment with how to install engines and shafts in boats.

As log canoe builders began to experiment with deadrise and cross-planked construction, the round stern was a natural evolution since canoe builders, for years, had been shaping the V-stern in canoes with chunks of wood. The method of shaping a V-stern was similar to the way in which the round or elliptical sterns were built into deadrise boats. In fact, watermen and boat builders called early round stern deadrise boats round-stern canoes.

Round sterns provided the same attributes as a V-stern boat for working in a strong following sea. The advantage over the V-stern is that the rounded stern provides more space on the stern deck. As the fisheries evolved throughout the bay region, watermen tonged and worked



This round shaped stern on *Survivor* is a "Jackson Creek Round Stern". So many round stern boats were built in Deltaville that watermen distinguished where in Deltaville their round stern was built. Jackson Creek and Broad Creek round sterns were common names used with pride by watermen to identify their boats. The *Survivor* was launched on Jackson Creek in 1960.

fishnets off the stern. They needed more space in which to stand when working. The round stern provided it.

Round-stern boats were extremely popular in the lower bay and hundreds were built in Deltaville. Watermen went so far as to distinguish where in Deltaville their round stern boat was built. Jackson Creek and Broad Creek round sterns were common names used with pride by watermen to identify their boats. These are the two main creeks in Deltaville where deadrise construction took place. Even today, there are watermen who will tell you, "Yeah, I got a Chesapeake Bay deadrise, but it's also a Jackson Creek round stern."

Survivor is a Jackson Creek round stern and was launched at the end of the road on Lover's Lane at the boatyard site of Lewis Wright. There was no railway. All Jackson Creek deadrises were launched there during a community launch. On launch day, a community-owned launch trailer built to haul finished boats down to the creek was towed to the boat with a farm tractor. The trailer had a V cut into a wooden brace across the front axle to slip the deadrise bow down into it.

For ease of launching, boats with a length of between thirty-seven and forty-five feet were always launched

without engines. *Survivor* is thirty-seven feet long by eleven feet wide, which means it was mounted on the community trailer and launched in 1960 at high tide without an engine. Local mechanics Willis Wilson and Virgil Miller dropped the boat's engine when the boat was in the water. Long-time boat builder Willard Norris explained how a new boat was launched: "When we'd get the boat to the water, we'd back her down Lewis Wright's hill to Jackson Creek. Someone would be out on the water in a deadrise boat to catch the towrope, and then we would tow her off the wheels of the trailer out into the creek. A boat launching on Lovers Lane was a community affair and everybody stopped work to make sure that the boat being launched went in the water right."

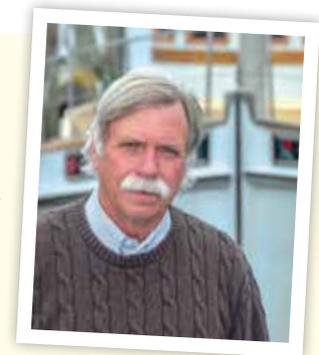
Norris, now in his nineties, is the last living ole time boat builder in Deltaville, and he appreciates the revival of wooden deadrise boats. "I really do appreciate that people still have a respect and love of wooden deadrise boats," he says. "They have a character of their own and every one is built a little different from the other."

Today, a few wooden deadrise boats are still being built, but the greater effort seems to be going into the preservation of those already built, a very noble cause!

Larry Chowning, a historian and lecturer, is author of 10 books, one of which is *Deadrise and Cross-planked*, a history of deadrise boats on the Chesapeake Bay published in 2007. Among his other books about the Bay are *Harvesting the Chesapeake*, *Chesapeake Legacy: Tools and Traditions*, *Chesapeake Bay Buy Boats*, and *Barcat Skipper: Tales of a Tangier Island Waterman*.

Larry was born and raised in Middlesex County and educated in the public schools. He studied journalism at the University of Richmond where he graduated in 1972. He has been a general assignment reporter at the *Southside Sentinel* newspaper in Urbanna since 1981 and a Field Editor for *National Fisherman* magazine out of Portland, Maine since 1980. *National Fisherman* is the largest seafood trade publication in the United States.

Larry and his wife Dee live in Urbanna in the home that his great-grandfather, a Civil War veteran, built on returning home from the war. The Chowning family has lived in the county since the first year of "permanent English settlement" in Middlesex in 1649. Dee and Larry have three children and six-grandchildren.





DICAMBA UNDER SCRUTINY

by John Magruder

Dicamba herbicide (3,6-dichloro-2-methoxybenzoic acid) is a broad spectrum herbicide first registered in 1967. While mainly used to control annual and perennial weeds in grain crops and brush in pastures, it is also used in turf weed control; many lawn herbicides that homeowners can purchase contain it. It belongs to a family of herbicides using growth hormone indoleacetic acid (IAA), which, when sprayed on broad-leaf weeds, induces rapid, uncontrolled growth, thereby using up the nutrient supply. In other words, the plant is “grown to death.” IAAs (as these herbicides are called) were introduced in 1946 and widely used in agriculture by the mid-1950s.

According to an article by Andrew Pollack, titled “Dow Corn, Resistant to a Weed Killer, Runs into Opposition” and published in the *New York Times* on April 25, 2012 (<https://www.nytimes.com/2012/04/26/business/energy-environment/dow-weed-killer-runs-into-opposition.html>). Dicamba came under scrutiny due to its tendency to vaporize from treated fields and spread to neighboring crops. Furthermore, the agrobiotech company Monsanto began offering crops resistant to dicamba before a reformulated and drift resistant herbicide, which they claimed would be less likely to affect neighboring fields, had gained approval from the Environmental Protection Agency. Incidents in which dicamba affected neighboring crop fields led to complaints from farmers, especially those growing soybeans that were not resistant to dicamba. A lower volatility formulation was approved by the EPA in November 2016. However, this formulation has not been evaluated by experts outside Monsanto, as reported by Emily Flitter in a Reuters news service article of August 9, 2017, titled “Scant Oversight, Corporate Secrecy Preceded US Weed Killer Crisis”.

Herbicide-resistant soybeans (HRS) are an important development to meet the state requirements for improving the health of the Chesapeake Bay. More commonly known as Roundup-ready soybeans, HRS are used as part of farmers’ no-till program, which is designed to meet sedimentation goals and objectives specified in their conservation

plan. Rather than cultivating a field three to four times a summer to control weeds, thus exposing soil to potential runoff into nearby streams, farmers grow HRS to allow fields to maintain a mulch cover, thereby reducing sedimentation. Furthermore, the use of soil-active, pre-emergence herbicides such as Lorox, and postemergence herbicides such as Blazer, Reflex and Select is reduced. Monsanto developed the technology of genetic modification to certain crop seeds to induce herbicide resistance and applied this technology to soybeans as part of its research into improving the quality of soy oil.

As the use of Roundup-ready soybeans has increased nationwide since 1994, certain weeds have begun to show resistance to Roundup. In Virginia, palmer amaranth (*Amaranthus palmeri*), or pigweed, shows some resistance while horseweed (*Conyza canadensis*), or marestail, is very resistant. States, especially further south and west, report significant soybean-yield reductions due to these weeds. To combat the weed resistance, Monsanto modified soybeans once again to be able to use dicamba to control the resistant weeds. Although marestail and pigweed are not a widespread problem locally, due to our farmers’ use of crop rotation with corn and small grains, problems do exist in certain fields.

Over the last couple of years, oak trees have begun to show signs and symptoms of herbicide damage nationwide. In particular, red oak trees have shown cupping or curling of their leaves as well as a pale green color. This observation was first made in Upper Essex County last year. Further investigation showed that several large trees had died. At this time there has been no direct link between the use of dicamba and the signs and symptoms observed on the red oak trees, but it is of concern to our forest resources.

So what is going on? The short answer is that we do not know for sure. Nationally, problems are being reported of crop and tree damage from the use of dicamba. Could this be happening in Essex and surrounding counties? The answer is yes. Could other factors such as disease, insects, and weather be factors? Again, the answer is yes. Oftentimes, trees will be



stressed by many factors simultaneously before they succumb.

As the investigation continues and more sightings are reported, what can be done in the interim? The dicamba formulations labeled for post emergence application to dicamba-resistant soybeans are found in restricted-use herbicides and require a pesticide applicator's license to use. Strict adherence to product labels to reduce drift and volatilization must be followed. Use Roundup-ready soybeans in fields where marehail or pigweed are not a problem. When Roundup-resistant weeds are present, use alternatives to dicamba such as Liberty herbicide.



John C. Magruder, Consulting Forester, Three Rivers Forestry LLC, Tappahannock, Virginia. After working for the Virginia Department of Forestry as Area Forester in Essex County, John launched his own consulting forestry business in 1998 working with landowners in the Northern Neck and Middle Peninsula of Virginia.



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Healthy Watersheds Forest RETENTION PROJECT

by Denise Nelson, PE, CFM

The goal of Healthy Watersheds Forest Retention Project is to improve water quality in the Chesapeake Bay watershed by encouraging forest conservation and reforestation. The project team is focusing on the value of forestland conservation to improve the bay, its tributaries, and the lands that surround them. Forest cover has long been recognized as one of the best land uses for protecting water quality. However, there have been few programs or incentives for landowners to retain forests.

Forest conservation is the practice of planning and maintaining forested areas for the benefit of the environment and the sustainability of future generations. Benefits include increased water quality, increased air quality, preservation of naturally occurring resources, and provision of suitable habitats for wildlife. Reforestation is the intentional restocking of forest on land that was previously forested. It provides the additional benefits of returning land to a natural state and rebuilding natural habitats and ecosystems.

It is anticipated that future growth in Virginia (which will increase stress on the bay) will lead to the conversion of agricultural and forestlands. This project provides localities with tools to quantify the conversion rate and evaluate conservation policy options and incentives, thereby improving the capacity to reduce the conversion rate. The project team suggests that if localities do reduce the conversion rate and future stress to the bay, then we should quantify the cost value of those reductions and consider how to credit those actions.

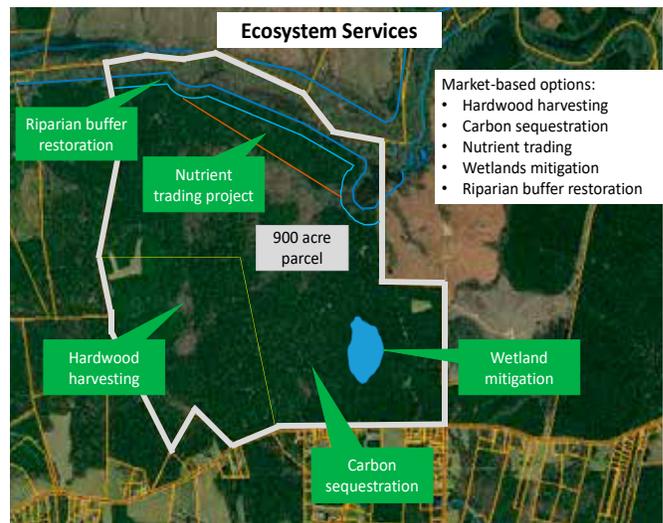
An early study* successfully demonstrated a potential economic offset savings of \$125 million for the central portion of the Rappahannock River Basin.

Private landowners have the power to decide how to manage their lands, and there are numerous programs related to the management of forest and agricultural lands available to them. The project team has hosted over 60 sixty public meetings across the Rappahannock River Basin to understand landowner issues and concerns. We have heard several recurring topics:

- As development occurs, forestlands become fragmented, and since loggers are not interested in forests smaller than 20 acres. Small fragmented forestlands are more likely to be converted for development.
- Landowners fear the end of the Land Use Assessment, which allows them to receive reduced tax rates on agriculture, forestry, horticulture, and open space land, if localities want to generate more revenue.
- Landowners would like more financially lucrative options to conserve land other than perpetual conservation easements, selling/donating the land for conservation, or selling/transferring development rights.

The project team invited Essex County to join Orange County as a pilot locality in the project. The project team will evaluate the county's current land conservation policies and interview landowners to identify opportunities to support sustainable land conservation. Underutilized and marginal agricultural land may be an opportunity for reforestation in Essex County.

The project team is also investigating mechanisms in the marketplace to secure funds for ecosystem services that can support landowners in conservation efforts. For example, forests worldwide are being recognized for their ability to remove carbon from the atmosphere, and



Landowners have many market-driven approaches for land conservation.

a global carbon credit supply is in demand from large companies going carbon neutral. In Virginia, government entities are allowed to create a body to evaluate forestland value, aggregate the values from numerous landowners, and transfer funds from the sale of carbon credits to landowners. This is a voluntary program for landowners that allows them to retain ownership, generate revenue from forest growth, and retain the option to harvest the timber following the agreed time period. When a mechanism is developed, landowners in both counties will be invited to test the logistics and benefit of the program.

* The project's 2015 report "Healthy Watersheds Forestry TMDL Forest Retention Study: Methodology, Findings, and Recommendations. Phase I Status Report" available at the project website (address below) walks through the methodology to calculate the estimated savings of \$125 million by implementing conservation practices. Essentially, based on the software model and 2025 land use projections, \$125 million would be necessary to construct and maintain storm water best management practices to meet the water quality goals. By implementing conservation of forestlands, we can meet water quality goals without constructing those practices.

Extensive details on the project, including past reports, a list of project partners, and a video summary, are available online at the Healthy Watersheds website, <https://rrbcnews.wordpress.com/healthy-watershed-forest-project/>.

Denise Nelson is a Civil Environmental Engineer and a Certified Floodplain Manager at The Berkley Group. Mrs. Nelson received her Bachelors of Science degree in Civil Engineering from Virginia Tech and her Masters of Science degree in Environmental Engineering from the University of Cincinnati. She has been supporting the Middle Peninsula Planning District Commission and other local governments in Virginia in watershed implementation planning, sustainable infrastructure practices, and incorporating resilience.



Faye Crawford Cooper didn't lose her childhood all at once. But she knows how it started.



Faye Crawford Cooper stands in front of the home where she grew up in Burketown, Virginia. She has helped connect scores of landowners in the greater Shenandoah Valley with conservation easements that protect land from development. This property is one of them.

by Jeremy Cox, Reprinted Courtesy of the Bay Journal

Originally published in the *Bay Journal*, October 30, 2018.

She grew up on a farm in Virginia's Shenandoah Valley, catching turtles, chasing snakes, scooping up tadpoles by the handful, overturning rocks to spot skinks and scouring the countryside for signs of deer.

Then came word that a new highway was slated to blaze its way down the middle of her family's 140 acres of rolling terrain. After that portion of Interstate 81 opened in 1963, life in and around the farm was never the same, Crawford Cooper recalled.

Workers dug a new channel to steer storm water off the road. The wetlands dried up. The turtles vanished. The deer scattered. The hum of cicadas was replaced by the roar of semi-trucks and sedans.

"Everything changed in terms of the natural setting of the farm," she said. "I didn't realize how much of an effect it had on me until later on when I changed careers."

As seen through the lens of Crawford Cooper's experience, the interstate both shattered the valley's wild past and drove away the defense of its remaining pieces. Drawing inspiration from the valley of her memory, Crawford Cooper devoted most of her adulthood toward preserving the rural places that remained.

In 1990, as the march of subdivisions and strip malls looked almost inevitable, Crawford Cooper co-founded the Valley Conservation Council. The group quickly found itself at the head of a movement that eventually established conservation easements across approximately 155,000 acres—an area so large that, if assembled in one slab, it would be larger than Chicago.

A conservation easement is an arrangement in which property owners voluntarily donate or sell most, if not all, of the rights to build homes or businesses on their land. The ground remains legally theirs, though, and they can continue to raise crops, livestock or timber on it.

Crawford Cooper's efforts have shaped the valley as much as any force in recent decades, said Natasha Skelton, the council's executive director.

"She's put her signature on the landscape of the greater Shenandoah Valley," Skelton said.

Crawford Cooper, 65, has managed to remain a voice for the wilderness without becoming a voice in the wilderness, allies say. One of the biggest highlights on her resume was receiving the Gerald P. McCarthy Award for Leadership in Environmental Conflict

Resolution from the University of Virginia's Institute for Environmental Negotiation in 2011.

"We don't fight too much," said Crawford Cooper as she sat on the porch of a restaurant overlooking a pasture she hopes to someday see under an easement. "We didn't take an adversarial approach to local governments. We wanted to be viewed as a resource and not a thorn in their sides."

Crawford Cooper said preserving open space is vital to the Shenandoah Valley's economy and character.

The valley stretches along a northeast-southwest angle for nearly 200 miles but is only 30 miles wide at its maximum. It is often called Virginia's "farm basket," a basket that contains four of the state's top five agriculture-producing counties.

Aside from farming, the region's hiking trails and Civil War sites generate nearly \$1.5 billion in annual tourism spending.

One motivation for preserving land that sometimes gets overlooked but is no less important, Crawford Cooper said, is ensuring the health of the Chesapeake Bay. No fewer than three major tributaries – the Shenandoah, James and Rappahannock rivers – spring forth from western Virginia.

"We're sitting in the headwaters of the Chesapeake Bay," she said.

Initially a teacher of emotionally disturbed children, Crawford Cooper took a job with the Nature Conservancy's office in Charlottesville in the 1980s. In her telling, she was compelled more by a paycheck than the idea of conservation. But that soon changed. As the director of stewardship, she traveled regularly to some of the most pristine parts of Virginia, where

the Conservancy managed its land preserves. She also learned how to make a nonprofit survive financially.

In 1989, after the first of their two sons was born, Crawford Cooper and her husband, Peter, decided to move to Staunton.

By then, the valley's population had swelled more than 50 percent from 1960–1990, climbing to nearly 350,000 people, according to U.S. Census figures. Most of that growth took place in the region's cities. Harrisonburg, home to James Madison University, saw its population double to 31,000.

"Zoning either didn't exist or was a dirty word," she said. "We were just seeing hundreds and thousands of acres being converted from open space to these other uses."

Crawford Cooper and other alarmed residents began strategizing over kitchen counters and coffee tables. A consensus soon jelled that there was no organization working to shield cropland, timber acreage and other open space from bulldozers.

"We were not anti-growth," Crawford Cooper said. "We were for good planning."

They established the Valley Conservation Council and, after a few years, Crawford Cooper was hired to direct it. The group financed reports underscoring the need for open space, lobbied local officials to write preservation into growth plans and persuaded dozens of private landowners to sell the development rights on their properties.

Since 1990, the amount of land under conservation easements has jumped from 5,000 acres to more than 160,000 acres, Crawford Cooper said. "Now, I'm not going to claim they influenced every one of those acres,





Shenandoah River

“One motivation for preserving land that sometimes gets overlooked but is no less important, Crawford Cooper said, is ensuring the health of the Chesapeake Bay. No fewer than three major tributaries — the Shenandoah, James and Rappahannock rivers— spring forth from western Virginia.”

Faye Crawford Cooper

but I think [the council] has had a hand in that movement,” she added.

Under her direction, the group also successfully encouraged some jurisdictions to create agricultural districts, which prevent multiple tracts of contiguous land from being heavily developed for up to 10 years. She continued her easement work out of the Staunton office of the Virginia Outdoors Foundation and later guided conservation efforts as Virginia’s representative to the Mid-Atlantic Highlands Action Program. Crawford Cooper rejoined the Valley Conservation Council for a second stint as executive director before leaving with an emeritus title to go into private practice a few years ago.

While much of the region is now protected from intense development, many of the threats facing the greater Shenandoah Valley remain.

A University of Virginia think tank projects the valley’s population to surge by nearly another one-fifth by 2020, surpassing 630,000 people. Meanwhile, the

Virginia Department of Transportation is studying ways to carry that additional traffic on an already congested I-81. One option being considered is widening the 325-mile stretch to six lanes at a cost of nearly \$3 billion.

For her part, Crawford Cooper plans to retire in January to spend more time traveling with her husband. But she isn’t sure whether she will step away entirely from environmental causes.

She worries that today’s children won’t appreciate the outdoors as much as previous generations because of technology, such as video games and smartphones.

“The work is not all done,” she said. “There’s been some great success stories with land and water conservation. I’m proud to have been associated with some of that to make that happen. But there’s still a lot to be done in terms of changes to the landscape.”



Jeremy Cox is a staff writer for the *Chesapeake Bay Journal* based in Salisbury, Maryland.



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ECCA Funds Historic Resource Survey

by Blake McDonald

Drive the back roads of northeast Essex County in the coming months and you may very well spot orange-vested surveyors busily snapping photos and taking notes. Not to be mistaken for real estate agents or property assessors, these teams of trained architectural historians are completing a historic resource survey of the proposed Occupacia-Rappahannock Rural Historic District.

The goal of the survey is to record all standing buildings, structures, objects, and sites within the boundaries of the 72,500-acre proposed historic district, an essential step toward nominating the historic district to the Virginia Landmarks Register and National Register of Historic Places. A nomination to the registers will officially recognize the unique and varied history of this part of Essex County, while also providing financial incentives for property owners of historic buildings in the form of state and federal rehabilitation tax credits.

The work to survey and nominate the Occupacia-Rappahannock Rural Historic District is being completed with a Virginia Department of Historic Resources' Cost Share Survey & Planning Grant. The ECCA contributed matching funds to this grant in order to hire Fredericksburg-based Dovetail Cultural Resource Group to perform the survey.

When asked about their experience of working in Essex County thus far, project manager Caitlin Sylvester reported the following:

“Dovetail architectural historians enjoyed time spent in the Occupacia-Rappahannock Rural Historic District. While surveying properties, we were able to take in this region’s natural beauty as well as its architectural diversity, from large agricultural complexes dating to the eighteenth century to small community churches and general stores, as well as dwellings built in numerous architectural styles. We were also very fortunate to meet a lot of friendly people and property owners during our time in Essex County. Everyone we spoke to was happy to share local and family history, which provided us with a unique and in-depth knowledge of the community and area history. Their wealth of information and kindness was truly invaluable during this whole project.”

The historic resource survey of the Occupacia-Rappahannock Rural Historic District will continue into early 2020, at which point the nomination document for the district will be prepared. To learn more about the benefits of the Virginia Landmarks Register and National Register of Historic Places, please visit the web page of the Virginia Department of Historic Resources at: www.dhr.virginia.gov.

A native of Albemarle County now residing in Richmond, Blake McDonald studied architectural history at Connecticut College and the University of Virginia. As the Architectural Survey and Cost Share Program Manager for the Virginia Department of Historic Resources, he travels throughout the Commonwealth supporting the stewardship of Virginia’s diverse past. Prior to his current role, Blake worked in cultural resource management, preservation advocacy, and museum education.





Brooke's Bank

The proposed Occupacia-Rappahannock Rural Historic District contains a wide range of resources, each of which helps to communicate the history of the area. Virginia Landmarks Register and National Register of Historic Places listing will enable owners of historic resources within the district boundaries to take advantage of state and federal rehabilitation tax credits. These credits provide a dollar-for-dollar reduction in income tax liability for taxpayers who rehabilitate historic resources.



Sunnyside



Architectual Complex



Hustle Post Office



School

CHESAPEAKE BAY SHORELINES: BACK THEN AND NOW



Man is the author of damaging pollution to land and water. Storm water transports much of it to the bay along engineered superhighways such as pipes, hard surfaces, and concrete ditches, instead of it being absorbed into the ground and being slowed by vegetation before it slams into an overloaded stream. The bay itself becomes the catch basin for the cumulative damaging practices of six states, plus Washington, DC.



by Chris Davis

Standing on the South Rim of the Grand Canyon, one is awed, on a dramatic scale, by DUDE: deposition, uplift, down cutting, and erosion. Huge amounts of geologic time are represented in the exposed basement rock dating back 1,700 million years, thick Sahara-like beds converted into sandstone, layers of mud converted into shale, volcanic strata, and then at the top of the heap, an ancient seabed full of fossils metamorphosed into limestone, now over a mile high in elevation, all in the same spot on Earth. Frozen picture of time? Hardly! The plateau of those southwestern states is still rising due to tectonic forces, and the violent Colorado River cuts another paper-thin slice off the ancient granites at the bottom of the canyon, every year. Despite the arid nature of the region, precipitation eats away at the raw, steep slopes.



The exposed basement rock of the Grand Canyon dates back 1,700 million years.

As we survey our placid shorelines on the Chesapeake Bay and its tidal river tributaries, we might be fooled into thinking we are different from that southwestern drama. We are not, given the natural processes affecting our region. The bay area is no DUDE environment, but it is equally dynamic.

While tectonic forces are less visible on our East Coast, five cycles of warm climate between four named Ice Ages have occurred in the last half million years alone. The Norfolk Canyon, cut by the Susquehanna River into the edge of the Continental Shelf is seventy-five miles east of Virginia Beach and over 420 feet below the sea level. Sea Level has been slightly higher before it is now during one of those five cycles of warm climate. The current warming period started 22,000 years ago. The fundamental reason for it continues to elude us, as the debate rages now about Man's added impact.

In addition to the glacial meltwater that was produced by those warm climates and caused the sea to rise, we now know that active crustal elevation changes, reacting to the lack of weight on the continental sheets of ice over a mile thick, caused an upward rebound in areas such as western Lake Ontario and northern Lake Michigan. Conversely, Virginia, and even Chicago, are in zones where the land is rebounding downward from glacier-caused bulges at the ice sheet margins, adding to

a relative rise in sea level (RSL). Add the basement rock cracked from the impact of an ancient meteorite collision off Cape Charles (see the US Geological Survey's fact sheet on the Chesapeake Bay Bolide Impact at <https://pubs.usgs.gov/fs/fs49-98/>), and the deep, broken rocks are still settling twenty-five million years after impact.

These nature-based changes are common in Earth's history. Something that is different now is the man-made changes over the last 400 years. Capt. John Smith's writings from the beginning of the colonial period allow us to put the blame for the majority of the bay's problems on man, not nature. He recorded a paradise of Caribbean-clear water teeming with life, particularly 200,000 acres of oyster reefs packed in water no deeper than fifteen feet up to the mid-tide level onshore. His logs, kept at William & Mary, state that he saw a cannon, lost overboard, thirty-three feet down in the James River, the now perpetually turbid James!

Man is the author of damaging pollution to land and water. Storm water transports much of it to the bay along engineered superhighways such as pipes, hard surfaces, and concrete ditches, instead of it being absorbed into the ground and being slowed by vegetation before it slams into an overloaded stream. The bay itself becomes the catch basin for the cumulative damaging practices of six states, plus Washington, DC. We have overharvested the oyster, practiced poor soil control in land use, overfertilized, and so on.

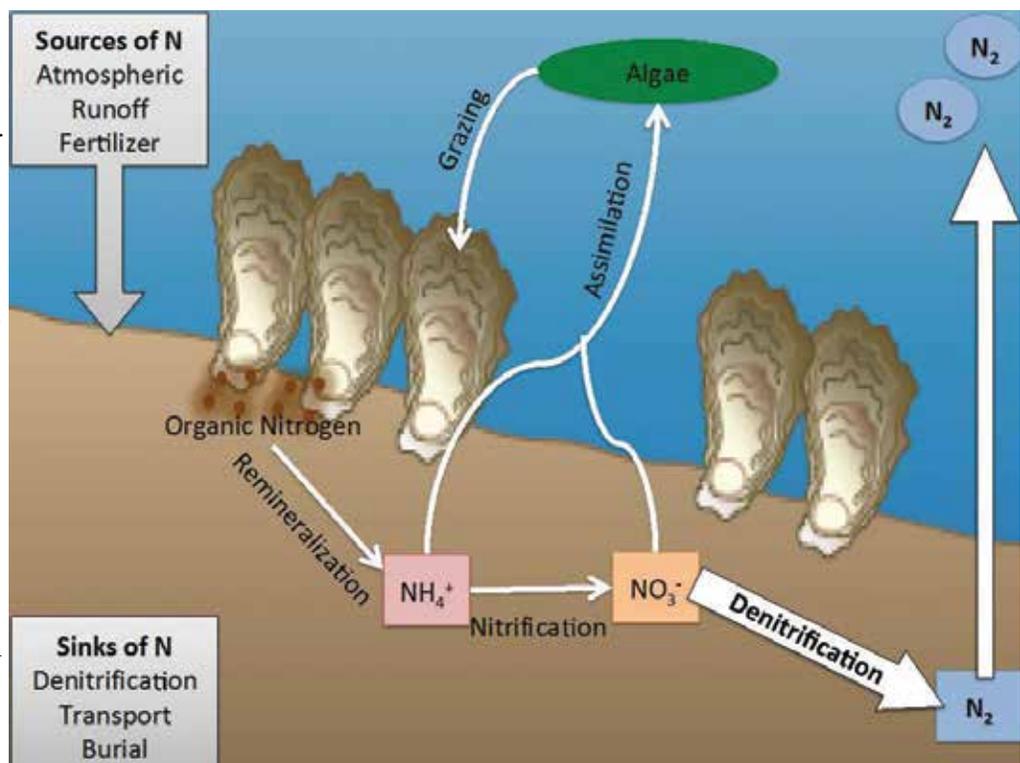
We know the effects of problems we have created, as our science continues to better inform us of the details. For example, standing on the huge, sinking piers at the Norfolk Naval Station, home of the Fifth Fleet, the relative rise in the water level is a real threat to fixed naval structures. Such massive investment is headed for higher levels of flooding and damage. We know the economic costs, we can project the environmental costs, and we can only imagine the social costs from future flooding drowning whole communities, even cities, in time.

Let's jump to what is being done and what could be done.

At the state and federal levels, the Virginia Department of Environmental Quality (DEQ) Watershed Implementation Plan (Phases 1 and 2, to date) has identified and quantified these polluting practices. Action plans such as the Virginia Stormwater Management Program's best management practices (BMPs) address the top three bay pollutants: nitrogen, phosphorous, and sediment. Regional governments have pollution budgets, goals, and deadlines for 2025, the target date for bay clean-up activities to be in place, functioning, and monitored for success. Phase 3 for each state involved is due to be launched soon. We need to understand this work and get behind it as it is a big piece of the last turn in this race to win back the bay that many of us remember from our youth.

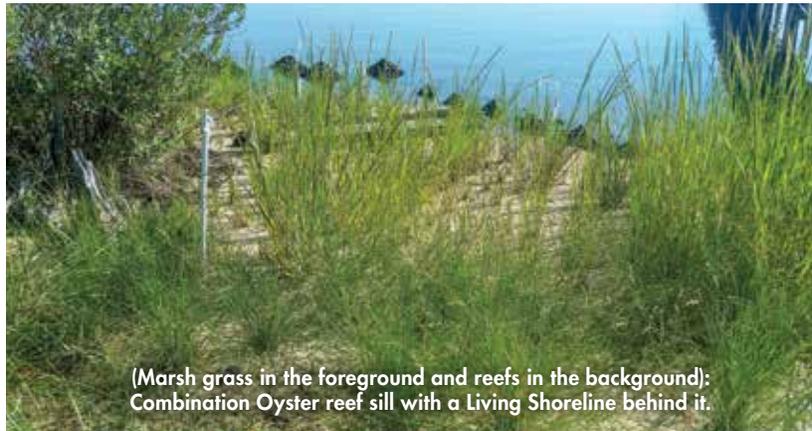
Interestingly, the Virginia Association of Soil and Water Conservation Districts (VASWCD) has a program that addresses BMPs at the private level. It could be argued that the general public has been largely left on the sideline to watch the government, universities, and other concerned organizations do the work. Now, incentives and instruction are readily available to the public at VASWD: <https://vaswcd.org/vcap>.

Congruently, changes in land development practices are being advocated by Chesapeake Bay Landscaping Professional, which offers professional training and





Super low tide at offshore reef in the foreground, with an intertidal reef on the shoreline in the background.



(Marsh grass in the foreground and reefs in the background): Combination Oyster reef sill with a Living Shoreline behind it.

certification. This organization's practices match the program of the state's Soil and Water Conservation Districts (SWCDs; see <https://cblpro.org>) and present a dramatic change in water management through conservation landscaping, which can be applied to a wide range of environments, right down to the scale of our individual yards.

It is marvelously energizing to learn about what we, as individuals, can do while the big players work on their megaprojects. Work is being done by the Virginia Institute of Marine Science (VIMS) to measure how much shoreline is eroding. It is apparent that the total footage is immense. Therefore, cumulative action would have an enormous effect. Eighty-five percent of the shoreline is privately owned. That is a wonderful stewardship opportunity for those of us on the front line at our individual properties, which we can protect while contributing to the improvement of the bay water quality.

Across the bay area, the relentless withdrawal of water from groundwater and aquifers is compacting our soils. Satellite land-level studies add to our understanding of

where and how fast Virginia is sinking relative to the rising Sea Level.

What about the fundamental disruption of the original ecologic system at the shoreline? Oysters coated the shores in oyster rock, the original armoring stone, right up to the marsh grasses. Oyster rock was the original shoreline armoring system, protecting the grasses from the scouring energy of waves. The grass peat of *Spartina alterniflora* was impervious to wave energy on top of it or through it, even dampening waves, holding the soils in place, and entrapping upland erosion from runoff. Water quality was excellent. These dynamic solutions by these two actors, who have been at this game for 100 million years, should be our solution of choice wherever possible.

We have been relying on static structures such as riprap revetment and bulkheads, as those were really all we have had for the last seventy years, while the native oyster had been reduced to near extinction. Now we see static structures failing, as bulkheads age out or are overtopped. Riprap revetment has often been undersized or overtopped. Many millions of dollars are going to redo the



Natural oyster bed as seen at low tide in the Lynhaven Inlet off the Chesapeake Bay in Virginia Beach.

now-inadequate riprap revetment along the shores of the Colonial Parkway above Yorktown. Static structures have a limited life in a dynamic environment.

What else can be done? There are innovative products that are, by definition, ahead of scientific study by our stalwarts at the VIMS and the United States Army Corps of Engineers (USACE). Oyster reefs are recognized universally as erosion-control devices with the habitat kicker.

Imported rock is not the native building material in the bay, as that title is owned by the oyster. The very name of Chesapeake means “great shellfish bay.” Oyster bags are being used in low-energy environments. Hybrid products such as Flexamat (www.flexamat.com) provide both revetment and living shoreline solutions. The VIMS will be looking at whether such a product can fit into living shoreline definitions and designs.

While grant money, except for that of the Virginia Conservation Assistance Program (VCAP), is generally reserved for governmental and university organizations, those organizations are less agile in adopting new approaches. The traditional solutions of bulkheads and revetment block marsh grasses from migrating upslope, dooming the shoreline to drown in the RSL. Through traditional fund-research-measure-validate cycles that scientists must rigorously practice, thoughtful private citizens can seize opportunities for dynamic solutions they otherwise might not learn of for years. Active research in projects such as thinly layering dredged sediments on threatened marsh grasses is being conducted in several states. The Virginia Marine Resources Commission (VMRC) is coming out with new guidelines

on uses for dredged material to possibly support such land-raising work. The Hampton Roads Sanitation District is funding the Swift Project that is injecting a million gallons a day of clean water back down into the Potomac aquifer. The effort is being done to measure whether land surface levels can be raised up as the overused aquifer is replenished (see Sustainable Water Initiative for Tomorrow at <http://swiftva.com/>). The Va. DEQ has recently negotiated

a reduction in the volume of draw from the Potomac aquifer by the top ten water users of that resource.

Of course, more oysters everywhere will help rebuild the bay’s original water filtering system, capturing nitrogen and phosphorous in their biologic processes. The USACE has an oyster restoration goal of 20 to 40 percent of the original habitat acreage. Only 10 percent of viable habitat is available. The rest must be created via new reefs. What if the allowed 160 ft² of reefs/oyster cages were installed under every private dock? That would amount to thousands of acres of prime, productive habitat where no one swims or boats. Such docks would have a front row seat in observing our marvelous bay flourish.

The degradation of the bay has taken a long time, but the Chesapeake Bay Foundation (CBF)

score sheet recently awarded Virginia an uptick to a C+ in bay water quality. Maryland, while still at grade D, has nevertheless mitigated the impact of abnormal rainfall. We are moving in the right direction with sound policies. We just need more people pitching in as they learn what they can do in their own habitats to rebuild the overall bay ecosystem.



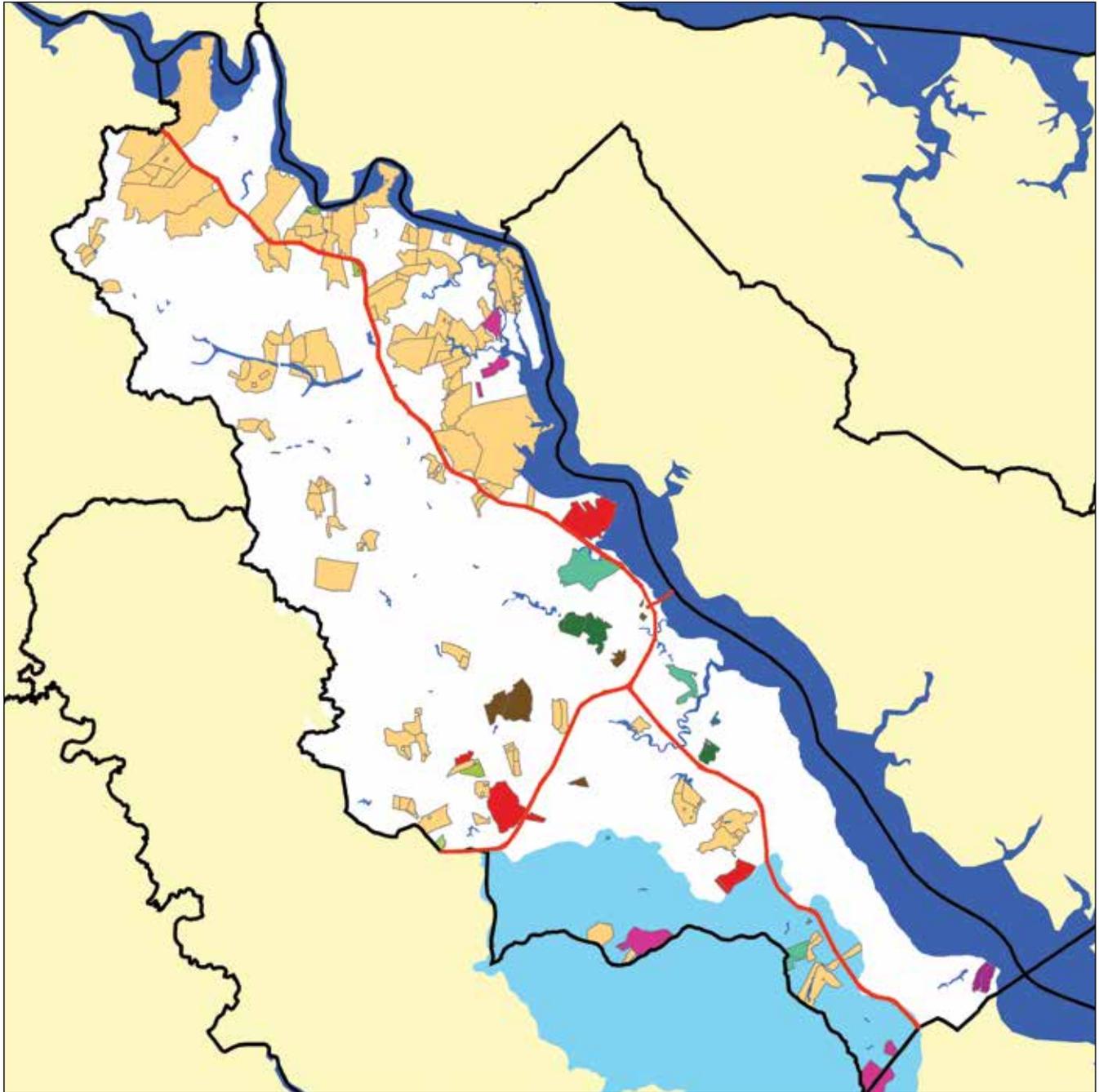
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Chris Davis has worked as a teacher, professional baseball player, and subsequently spent 28 years in various manufacturing industries, including brush making, polyester polymer and film production. Chris earned a BS in Geology from William & Mary and is a Certified Chesapeake Bay Landscape Professional. Long standing family ties to the waters of the Eastern Shore and Mathews County have provoked the ReadyReef endeavor to help to return the Chesapeake Bay to its natural condition: one of the most beautiful, healthy and productive estuary systems in the world.



Protected Lands 2019

Essex County, Virginia



 <p>ECCA ESSEX COUNTY CONSERVATION ALLIANCE</p>	<p>Protected Lands as of June 2019</p> <ul style="list-style-type: none">County BoundariesWater BodiesDepartment of Historic Resources (DHR)Fish & Wildlife Services (FWS)Friends of Dragon Run (FDR)Middle Peninsula 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 (VDOT)Virginia Outdoors Foundation (VOF)Wetland/Stream Mitigation BanksDragon Run Watershed	  <p>Although this data has been used by the Middle Peninsula Planning District Commission (MPPDC), no warranty, expressed or implied is made by the MPPDC as to the accuracy or application of the database and related materials, nor shall the fact of distribution constitute any such warranty; and no responsibility is assumed by the MPPDC in connection herewith.</p>  <p>0 6 12 Miles</p>
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Virginia Counties with the Highest Percentage of Acres in Easement

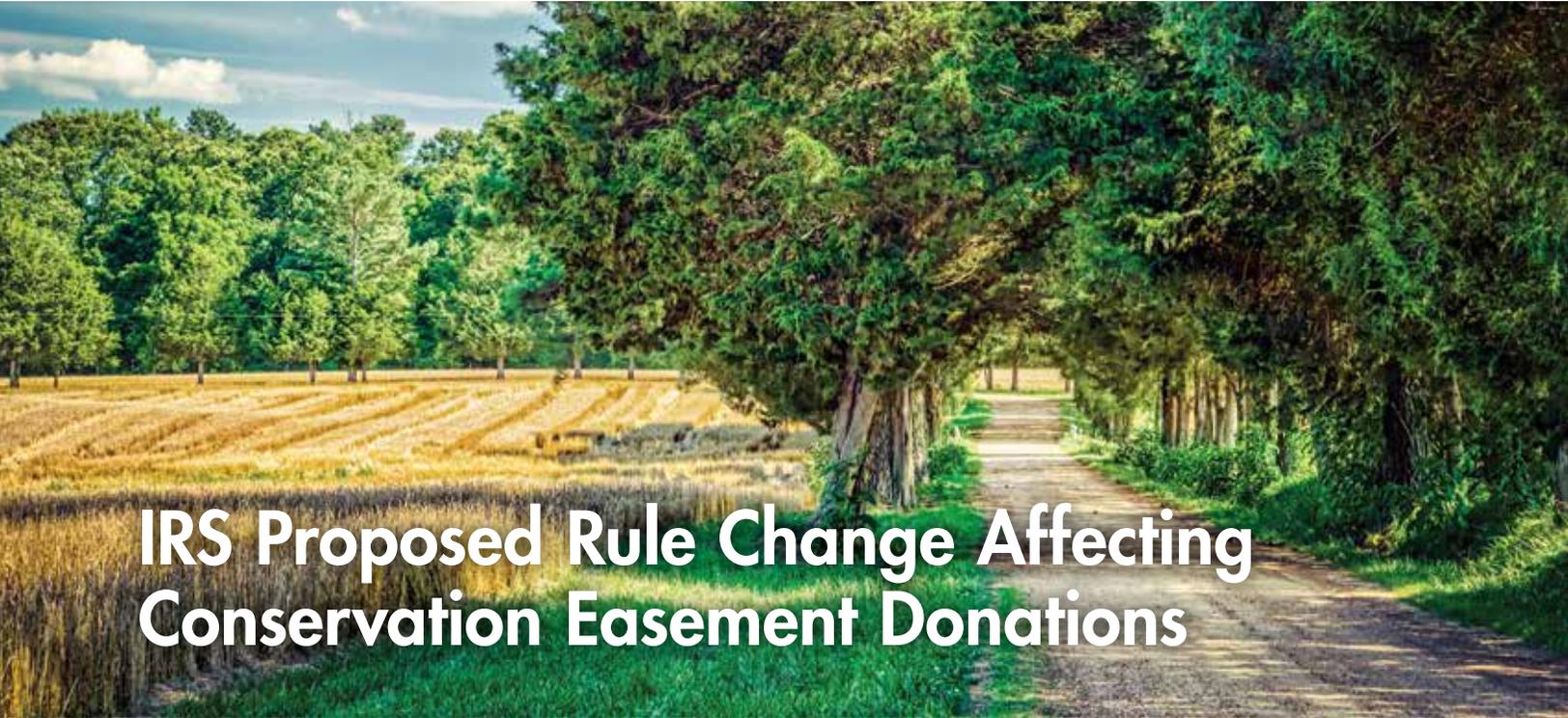
County	Acres under Easement	Total Acres	% in Easement
Clarke	26,010.89	113,036.62	23.01
Fauquier	94,839.99	449,699.00	21.09
Albemarle	94,241.99	462,469.68	20.38

Non Tidal Counties

County	Acres under Easement	Total Acres	% in Easement
Fauquier	94,839.99	449,699.00	21.09
Albemarle	94,241.99	462,469.68	20.38
Rappahannock	32,462.61	170,604.53	19.03
Orange	33,818.64	204,425.72	16.54
Greene	10,019.66	97,920.00	10.23
Madison	15,501.89	204,937.78	7.56
Culpeper	19,113.78	238,692.00	8.01
Warren	8,556.23	139,514.66	6.13
Stafford	4,266.09	177,280.00	2.41
Page	2,957.56	193,306.00	1.53
Rockingham	7,301.29	543,360.00	1.34

Tidal Counties

County	Acres under Easement	Total Acres	% in Easement
Essex	28,495.63	165,120.00	17.26
King and Queen	23,177.28	202,406.08	11.45
King George	7,974.28	115,199.82	6.92
Richmond	7,218.27	122,534.21	5.89
Westmoreland	9,319.88	146,674.97	6.35
Northumberland	6,707.01	123,071.81	5.45
Lancaster	3,336.41	85,208.47	3.92
Middlesex	4,085.94	83,391.87	4.90
City of Fredericksburg	254.80	6,711.00	3.80
Spotsylvania	5,094.07	263,180.83	1.94



IRS Proposed Rule Change Affecting Conservation Easement Donations

by Todd Hochrein

The two primary tax benefits from donating a conservation easement in Virginia are the federal charitable donation deduction and the Virginia state income tax credit. The laws governing the tax benefits have changed over time, and these changes have had an impact on the number of easement donations. Recently the IRS released proposed regulations that may have a significant impact on the tax benefits from conservation easement donations.

Background

Conservation easements became increasingly popular in Virginia once the state enacted the Virginia Land Preservation Tax Credit. The tax credit provides a state income tax credit equal to 40 percent of the value of the donation (it was 50 percent, until 2007). Once this

credit was enacted into law in 2000 and became transferrable in 2002, the average number of acres donated by landowners in Virginia increased from approximately 10,000 acres per year to almost 50,000 acres per year. Over the past few years, the tax laws at both the federal and state level have been fairly consistent from year to year. The stability of these tax laws has been a motivating factor for many landowners to proceed with conservation easement donations. In some cases, the decision to donate a perpetual easement and the process of doing so can take several years, so knowing the rules and making sure the rules don't change is an important part of the decision-making process.

Tax Laws

At the federal tax level, landowners donating a conservation easement receive a charitable donation



deduction for the value of the easement as determined by a qualified appraiser. This deduction can offset up to 50 percent of taxpayers' adjusted gross income each year for up to sixteen years, or until the donation is fully utilized. Qualifying farmers can offset up to 100 percent of adjusted gross income for the same time period.

At the state tax level, landowners donating a conservation easement receive 40 percent of the value of the easement as a Virginia income tax credit. This credit can be used by the tax payer or sold to other taxpayers at a discount, thereby generating significant cash flow for the easement donor.

Proposed Change

Due to the new federal tax laws enacted for the 2018 tax year, state and local tax deductions are now capped at \$10,000 per year. In an effort to circumvent this cap, certain states created tax credit programs to provide taxpayers with federal charitable donation deductions while simultaneously providing a tax credit against state income taxes. In order to render such state programs ineffective, the US Department of the Treasury and the IRS released proposed regulations regarding the availability of charitable donation deductions when taxpayers receive a state tax credit in return for making a donation. These proposed regulations, which would apply to charitable contributions made after August 27, 2018, generally require taxpayers to reduce their charitable donation deduction by the amount of a state tax credit received as a result of the donation. For more details regarding the proposed regulations and conservation community's reaction, please see the comment paper drafted by the Land Trust Alliance, The Nature Conservancy, and the Trust for Public Lands (see <http://s3.amazonaws.com/landtrustalliance.org/AllianceCommentsSALTSept2018.pdf>).

Practical Impact

If you donate a conservation easement in Virginia, the proposed regulations would reduce your federal tax deduction by the amount of state tax credits received.

Todd founded the Virginia Conservation Credit Exchange, LLC in 2004 to help landowners protect their family farms and property. Since then, Todd has helped over 600 landowners donate conservation easements. Todd has a BS in Business Administration and a MBA from the University of Richmond. When not spending time with his family, Todd enjoys flying, fly fishing, and bike riding.



Since the Virginia state tax credit is 40 percent of the donation value, your federal tax deduction would be reduced by 40 percent. Legislation may be proposed to recognize a basis in the state credit equal to the amount of the reduction in the federal deduction. Ultimately, the tax impact of this proposed change will have to be assessed by a landowner's legal or tax professional.

What's Next

The proposed regulations have an effective date of August 27, 2018, regarding charitable donations. However, these proposed regulations have not become law. Taxpayers who could be affected by them are currently filing 2018 tax returns. Most tax professionals have taken the position that until the regulations become law, they will continue to file returns based on the currently enacted tax laws. We are expecting the IRS to provide further guidance in the near future. As always, please consult your tax or legal professional regarding any tax matter.

What We Can Do

Changing tax laws and regulations has an impact on conservation easement donations. Stability and consistency in these laws allow landowners to make good decisions during the lengthy process of donating a perpetual easement. Voicing your opinion to your local and federal representative will make a difference.

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TREES

by Howard Reisinger

Rake, gather, stuff, repeat; rake, gather, stuff, repeat—the cycle goes on and on. Fifteen large leaf bags so far, and I have hardly made a dent. Doggedly, I have been pursuing this task as relentlessly as Sisyphus rolls his rock uphill. My back is beginning to signal me that I am not as young as I used to be. I find I'm grumbling to myself about the back-wrenching work of gathering up this seemingly endless accumulation of dead leaves from the large trees surrounding my house that seem to have sought shelter under every shrub for their winter slumber. Trees! My mood darkens a bit more as thoughts flood into my brain about the expense of having trees on my property pruned last summer. I shudder at the very thought that an arborist has warned me that I really should consider removing one of these giants, which, in its old age, has assumed a precarious lean toward my boathouse. And did I not see a large branch ripped from this very tree last summer, during a thunderstorm, and now standing vertical in the earth below like some giant's spear, a portent of the personal injury or worse that might lie in wait for the unsuspecting person standing beneath the graceful boughs at the wrong time?

Cradle to Grave

But oh how we do love our trees—and for so many, many very good reasons! After all, trees and products made from trees are with us all our lives, accompanying us through life, literally from cradle to grave. Traditionally, babies were rocked in wooden cradles. When we became of school age, we sat in wooden desks in classrooms to learn our ABCs. What child hasn't been propelled into dreams of imagination as he swung in a homemade wooden swing seat attached to a large tree branch, or climbed the labyrinth of tree branches as his natural jungle gym, or fallen asleep enveloped in a tree-suspended hammock, rocked in a gentle breeze? When we grew up and felt the first pangs of love, we might have arranged a tryst with our sweetheart beneath a favorite tree, and carved our initials within a heart on the bark as an indelible pledge of our deep affection to bemuse generations to come. Or perhaps we proposed marriage to our dear one under a tree. And finally, when we embark on that glorious voyage to eternity, many of us will be shipped off in a wooden box.

In Superlatives

It's hard to think of trees without describing them in superlatives: the oldest, the tallest, the most majestic, the most delicate, the hardest and softest for shaping, the most rot resistant, the most beautiful, the highest crown, the broadest spread, the straightest trunk, and so on. Think of the giant sequoias of California. In fact, trees are the largest living organisms on earth. The largest of mammals on land or sea, such as the elephant and whale, do not come close. Hyperion

in the Redwood National Park in California, at 380.12 feet, is widely accepted to be the tallest tree in the world. Trees are also the oldest living organisms on earth. Think of Methuselah, the bristlecone pine in the White Mountains of California. At 4,851 years old, Methuselah is the oldest living organism on earth. It is an unparalleled and humbling experience just to stand before an ancient tree. I was fortunate enough to see the Fortingall Yew on a trip to Scotland. Though not comparable in age to the oldest bristle cone pines, this yew is the oldest tree in Great Britain, with an estimated age of 2,000 to 3,000 years. I know I was mightily impressed to think that this tree stood, alive, long before Christ walked on this earth.

The Value of Trees

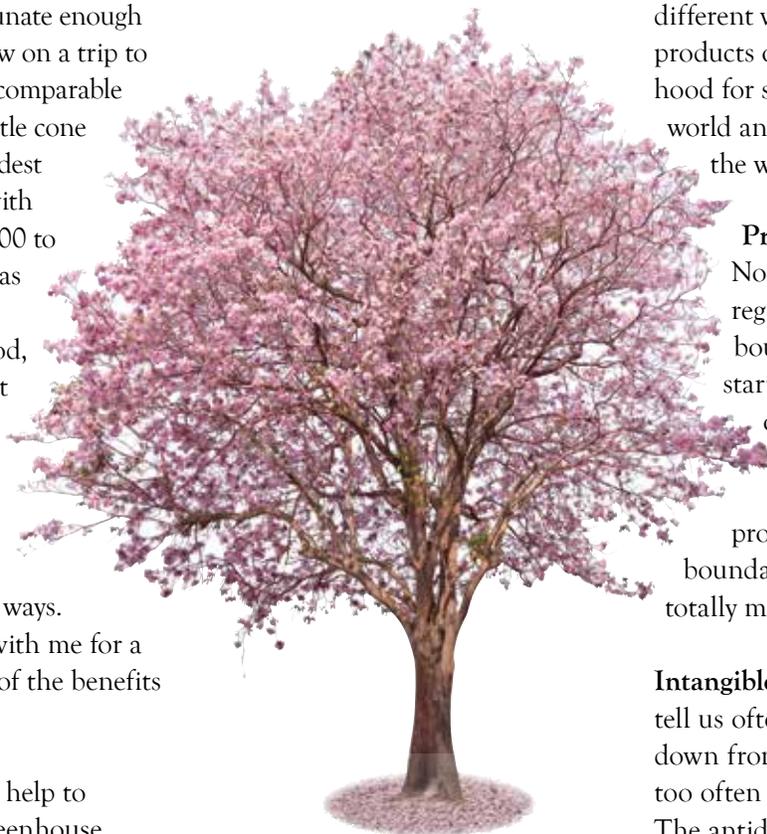
Trees and their products serve us in so many and so varied ways. I invite you to reflect with me for a moment on just some of the benefits of trees.

Health benefits. Trees help to reduce the harmful greenhouse effect by removing CO₂ from the atmosphere and replacing it with the oxygen we need for life. Furthermore, since time immemorial, trees have provided many medical benefits in the form of salves, poultices, and infusions to treat various human and animal ailments.

Religious and festive occasions. While most of us fall short of worshipping trees, which was a practice of the ancient Druids, Saxons, and Vikings, we still adorn our houses with a Christmas Tree, and bedeck

our homes with sprays of holly that punctuate the dark winter season with their bright red berries.

A marker of the seasons. Deciduous trees put on an unequalled show of brilliant color in the fall, spreading carpets of red and gold and yellow at their feet that draw hoards of gaping tourists every year to the villages of New England or the mountains



of Virginia. And in the spring, following a long, cold winter, whose heart hasn't been uplifted by the greening and blossoming of trees, a reawakening of those seemingly dead branches, skeletons that were wracked by winter gales only weeks earlier? I have heard Christians say they find in this annual rebirth of nature a reminder of God's promise of resurrection.

Exploration. Consider the ships of wood that carried explorers

to discover distant worlds, and then became the vehicles to disseminate knowledge, culture, and merchandise around the globe. Or the wooden prairie schooners that conveyed pioneers on their way across our country to open up the West to new settlements.

Livelihood. Selling timber in the raw, or processed in a myriad of different ways, along with other products of trees, creates a livelihood for so many people around the world and represents a huge part of the world's economy.

Property line delineation:

Not so long ago, trees served regularly to describe property boundaries, for example starting or ending "at a large oak tree." Even today, deeds that describe property lines in such terms prove problematic when that boundary tree is in doubt, or totally missing.

Intangible benefits. Our doctors tell us often that we need to slow down from the frenetic pace that too often characterizes our lives. The antidote may lie, in part, in trees. There is a restorative quality to trees. Why else would we plant and nurture them deep within our sprawling concrete cities, whether in an urban park, or even throughout our city malls? Just to walk through the woods among these towering giants, or to rest in their shade, seems to bring many of us that quiet and peace we so much need.

Protective. Trees can protect us from the hot rays of the sun in summer, and from the frigid blasts of cold wind and driven snow

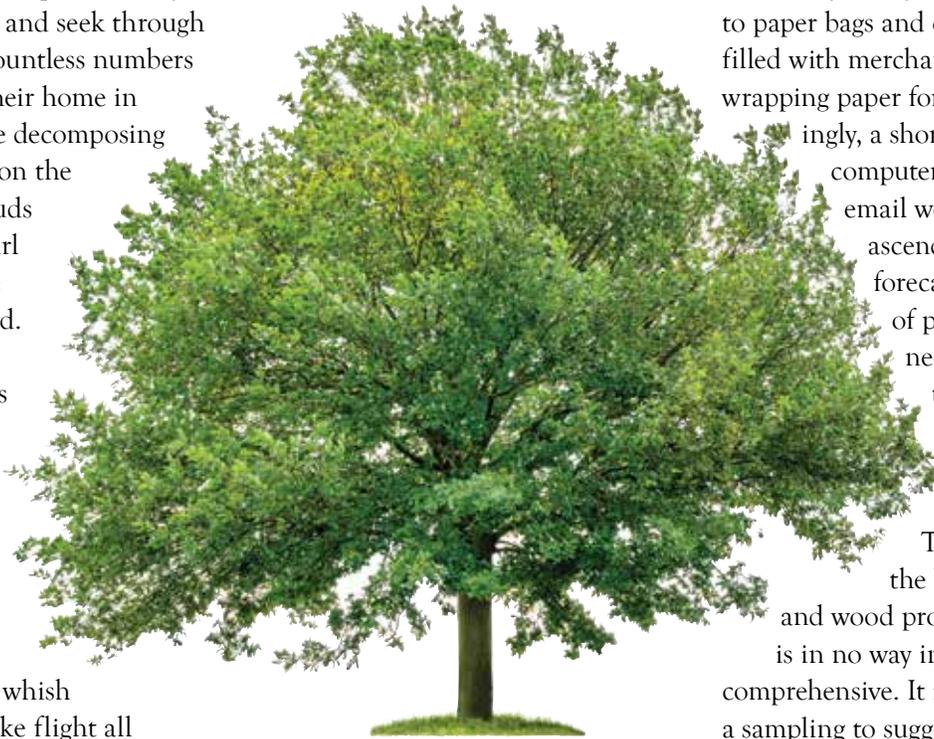
in winter. If strategically planted around our properties, they can significantly reduce costs of heating and cooling our homes.

Nurseries, habitats, and playgrounds for wildlife. As do outstretched arms, trees provide a welcome home for much wildlife. Birds build their nests high in tree branches, or raise their young in holes in the trees. Agile squirrels scamper tirelessly in games of hide and seek through the branches. Countless numbers of insects find their home in trees, even in the decomposing deadwood lying on the forest floor. Clouds of blackbirds swirl in unfathomable patterns overhead. On their way to their night roosts in the marshes, they gather briefly and noisily on the tree branches to hold conference, and then, just as suddenly, with a whish of wings, they take flight all together to reach that mutually agreed-upon venue.

Building material. Wood is perhaps the ultimate building material, due to its renewability and versatility. Wood may be assembled as the hidden skeleton of a tremendous building, or it may form the entire covering for a log cabin. Wood can be processed in so many different ways as planks, plies, molded into complex shapes, or ground into a composite material. It also can be finished in so many pleasing ways: left natural, painted, waxed, varnished, or stained. And unlike

many other construction materials, if damaged, wood usually can easily be repaired.

Food source. Trees, as a food source, go back to the Garden of Eden where the dangling apple and conniving snake were just too much of temptation for poor Eve. Think of bananas, oranges, peaches, apples, and pears that hang conveniently for



the taking on tree branches. We also gather various kinds of nutritious nut from trees, and we tap delicious maple syrup from the sugar maple.

Beauty. We take great pleasure in wood's natural beauty. The finest craftsmen, rightly, have always taken great pride in creating beautiful furniture for our homes with burl wood or inlays. It is quite interesting, if not a bit amusing, to note that while fiberglass has almost totally replaced wood for boat-building due to its low maintenance, boat manufacturers today tout with

great pride the small amount of wood strategically placed on their craft for the sake of beauty. Even luxury automobiles often include some prized wood in the interiors.

Paper. Most of us surely know that paper is yet another gift from trees. But do we really stop to think just how valuable paper is in our society today, from the essential role it plays in our day-to-day communications to paper bags and cardboard boxes filled with merchandise, and to wrapping paper for gifts? Interestingly, a short time ago, when computer programs and email were in their early ascendancy, many forecast the demise of paper. I think we need have no fears that paper will no longer be needed or used.

This listing of the benefits of trees and wood products, of course, is in no way intended to be comprehensive. It is no more than a sampling to suggest the many and varied ways in which man profits from trees. I am certain many of you could quickly contribute to this list with additions of equal or greater import.

Personal Memories

Some of my most poignant childhood memories are associated with trees. The formation of these memories began on our old Belle Mount Farm property in Richmond County, where I lived until the age of six. One of my earliest memories is of gazing in wonder at a tree brought into the living room of our modest little house, festooned with ornaments

“A breathtakingly beautiful stand of towering hemlock trees stood on both sides of the trail, their branches rising high overhead to meet and form a complete canopy in the cool, subdued half-light.”

Howard Reisinger

and joining with the festive branches from a holly tree and mistletoe. My parents told me of an earlier event that involved a Christmas tree in this same house and that occurred on my very first Christmas, when I was six months old. My parents were awakened early that Christmas morning when one of our sheep grazing outside my window pushed open the front door of our drafty little wooden house, overturned the decorated Christmas tree, and with a kick of his heels, flew back out of the front door, bleating wildly, while trailing behind him were shiny streams of tinsel from the tree now caught up in his wool!

I also soon learned to respect the deep woods surrounding our house. There was a somber, steep gully in a part of these woods that my father called Hell's Bottom. I was warned by my parents never to venture near this ominous area, where I was told several of our beautiful sheep had become mired and drowned in a stream that ran through the bottom of the chasm. This description certainly formed an intended terrifying picture in my mind that I can conjure up even today. Needless to say, I never saw this part of our woods until years later, and then only when accompanied by my father.

When I was a small child, one of my favorite and most exciting adventures as a small child was to walk with my father on a trail blazed about a half mile through these mysterious woods. We were visiting an ancient Indian dancing

ground at the back of our property, overlooking beautiful Menokin Bay. Recognizing that my short little legs were heavily taxed by having to make many steps to his one, my father always saw to it that we made an obligatory stop midway to rest under a huge beech tree that my dad dubbed appropriately Halfway Beech. It was here in our father-son talks that my father called to my attention to the fact that the woods surrounding us were made up of a huge variety of individual trees, each characterized by its own particular size, color, and leaf pattern, with bark that ranged from rough and dark on the oak tree to bright and smooth on the beech. And here I learned to listen for the chatter of squirrels and chirping of birds that made their home in these trees.

Another childhood experience involving trees that has seared itself into my memories occurred on the grounds of Chinn House, the home in Warsaw of my grandfather, Judge Chinn. There, my grandfather had planted some exotic, non-native trees that had grown huge, with extremely long, wide, unusual branches that swooped to the ground at their tips, forming an entirely enclosed play area beneath the tree. My two cousins and I easily imagined this area, enclosed by the branches, to be our playhouse. Our game there was to remove the dried shells of locust bugs that still clung to the bark of the tree and very carefully pull off the legs of the shells one-by-one to

prepare a feast of what we called fried chicken for an imaginary dinner party.

The last of these childhood memories I will share with you is of a very special place in the Shenandoah National Park, near Big Meadows, to which my father introduced me when I was around ten years of age. I refer to a magnificent short trail named The Limberlost. I am so fortunate to have visited this trail at that time. A breathtakingly beautiful stand of towering hemlock trees stood on both sides of the trail, their branches rising high overhead to meet and form a complete canopy in the cool, subdued half-light. We were the only visitors at that time on the trail, and I remember my father remarking in a whisper that the experience was akin to walking into a huge cathedral. As an adult, I returned to this trail to share the experience with my wife, Joyce. While still beautiful, it now, sadly, totally lacks those qualities that I have described and that made it unique indeed. An aphid species, unfortunately, has killed every one of those magnificent hemlocks.

Essex County's Remarkable Trees

There is a program at Virginia Polytechnic Institute (VPI) named The Remarkable Tree, begun to identify spectacular and unusual trees across Virginia. We are most fortunate to have five living trees in Essex County that have made it into the Virginia Big Tree Register. Perhaps the most notable is an

old box elder on the grounds of the Essex Inn in Tappahannock. In addition to being a Virginia Champion, this tree has the additional distinction of having been designated a National Champion in 2014. This old tree was measured in 2016 as being thirty-three feet high, with a thirty-four-foot crown, and a circumference of 265 inches. Two other Essex trees listed in the register are located at Blandfield Plantation, off Route 17. One is a Chinese chestnut with a height of sixty-four feet, a seventy-seven-foot crown, and a circumference of 167 inches. The second tree at this location is a Japanese cryptomeria standing sixty-eight feet high, with a thirty-five-foot crown and a circumference of 94 inches. The final two Essex trees listed in this register are located off Route 17 at Wheatland Plantation. The trees at Wheatland are an Osage orange standing sixty-three feet high, with a crown of seventy-two feet and a circumference of 267 inches; and a Darlington oak tree standing seventy-one feet high, with a crown of eighty-two feet, and a circumference of 163 inches.

Personal Favorites

Finally, I would like to share with you a few of my personal favorite trees in Essex. No, they are not champions or prized trees in any



This tree opposite Watt's Store always appears dead in the winter, but surprising, leafs anew every spring.

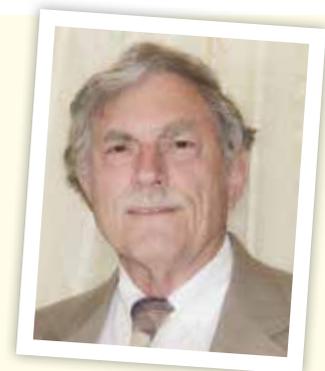
way, but for various reasons, they mean something special to me. The first is a tree that is located opposite Watt's store, off route 360. This tree always appears perfectly dead in winter, and then surprises when it leafs out anew every spring in such a perfect symmetry that it almost seems unreal. Another of my favorites is the huge oak tree many of you must have noticed that stands in the median of route 360 near Tappahannock Chevrolet. It is truly a beautiful tree that to me epitomizes the power and grace of an oak. Perhaps because it is spring as I write this article, I must include among my favorites the many flowering tress that announce the new season. But I think my favorite of all is that precariously leaning old oak tree behind my house that I mentioned in the beginning of this article. It truly is nearing the

end of its life. My wife and I simply have been unable to bring ourselves to take this tree down, much as one feels reluctant to put down a favorite pet that has long been a member of the family. It surely is no longer a thing of beauty, majesty, or grace, but it is the center stage of the natural show that my wife and I so much enjoy watching from our sunroom. In addition to providing an annual place of choice for the nests of birds and squirrels, frequent visitors to this old tree include osprey, American eagles, buzzards, hoot owls, and even a king fisher.

I will end my ode to trees by citing the first line from a famous 1913 poem penned by Joyce Kilmer, which many of you will recognize. It is entitled simply, "Trees."

"I think that I shall never see
A poem lovely as a tree."

A native of Essex and Richmond counties, Howard W. Reisinger, Jr. holds a BA degree from UVA, studied at the Alliance Française in Paris, and received his MA degree in French from the University of Maryland. He taught French on the college level. Retiring from a second career with the Virginia State Department of Social Services, he resides at "Little Edge Hill" on Hoskins Creek in Tappahannock. Howard is Chairman of the Essex County Airport Authority, a board member of the Essex County Museum and Historical Society, and is actively involved in various ministries with St. John's Episcopal Church. With his wife, Joyce, he enjoys international travel, sailing and photography.



Essex County's own Nathan Burrell was named a Person of the Year in December 2018 by The Richmond Times Dispatch in recognition of his contributions in shaping and improving the James River Park System.

Eager to meet the young man everyone was talking about, I made an appointment and, unfortunately, arrived one hour late. He graciously waited for me to navigate the unfamiliar streets of Richmond's South Side. It is here that he supervises a far-reaching territory that includes the James River Park System: every park and recreational facility south of the James River and more than forty miles of trails and greenways throughout the city. This responsibility also includes supervision of the part of the fifty-two-mile Capital Trail between Richmond and Williamsburg that lies within the city of Richmond. His title of facilities maintenance and operations manager for the Southern District Division of the James River probably doesn't begin to outline his daily routine.

As we sat outside on a warm March day, he spoke of growing up in Tappahannock, where he lived on Virginia Street, the son of an African American father and a second-generation German mother. He remembers playing in the Rappahannock River near the Riverside Condominium as a young child, and, later, working as the first lifeguard at the Fitness Center when it opened, and for Parks and Recreation as a guard at the public pool.

An Interview with NATHAN BURRELL

by Marty Taylor



After graduation from Essex High, where he remembers Mrs. Garrett in English class and Mr. Goff in science, he attended Virginia Commonwealth University (VCU) and met his future wife, Tracy Brockwell, a native of Prince George County, who is earning a graduate degree in library science. The couple has two children: Zora, sixteen, and Khalil, ten.

When I asked him if he keeps up with his friends in Essex, he spoke eloquently of his disappointment with recreational opportunities there.

"Essex isn't providing reasons for young people to return there. You can only stay so long at Grandma's house for Sunday dinner," he said, pointing out that of the fortyish miles of river front, less than an acre provides public access. "I rarely go back because there isn't anything to do."

We talked about the abundance of natural resources: the river and the countryside; the development

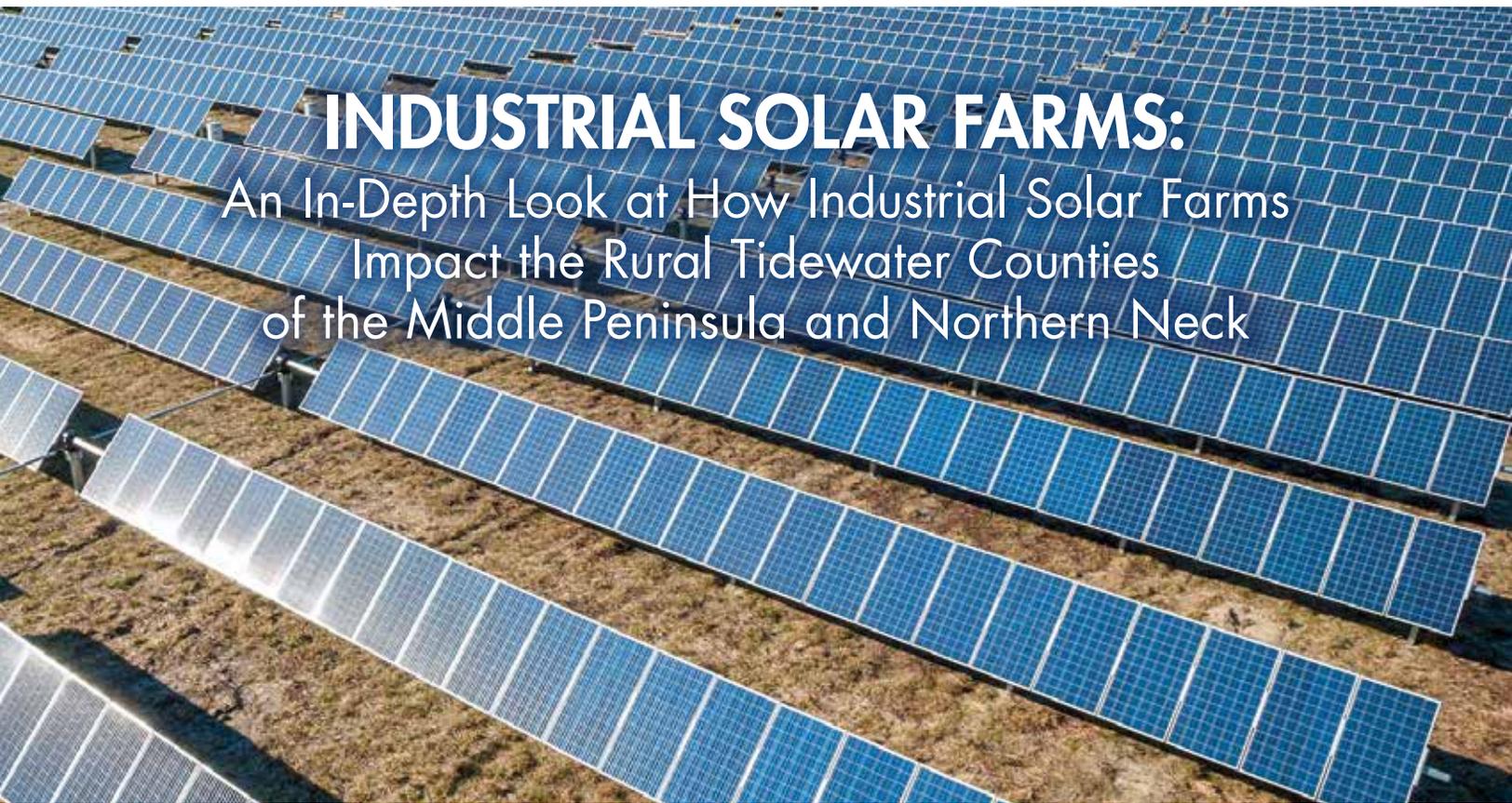
of the Poorhouse Tract as a place to trail ride; the Parker site as a place to access the river.

"My friends and I have some spare change. We'd love to spend it in Essex County. Yet economic development opportunities need to be balanced with protection of property," he noted.

Nathan's enthusiasm was so contagious that I left our meeting with the hope that, somehow, we could interest a major donor in providing funding for such a wide-reaching plan. "Do you know Chris Brown?" I asked him. Unfortunately, he does not, but some day, someone will listen to this young man with the charming smile, who has the vision and the experience to help foster economic development in Essex County.



Marty Glenn Taylor lives and writes at Richmond Westminster-Canterbury, but often visits Essex County where she lived for forty years. Her book of Essex memories, *Place of Rising and Falling Water*, may be found at the Essex Museum.



INDUSTRIAL SOLAR FARMS:

An In-Depth Look at How Industrial Solar Farms Impact the Rural Tidewater Counties of the Middle Peninsula and Northern Neck

This paper addresses the potential impact of industrial solar farms on the rural tidewater counties of the Middle Peninsula and the Northern Neck. As the pace of solar development rapidly quickens and decisions are made with increasing frequency, this paper aims to equip decision makers and the public alike with the information they need to take an informed stance on this issue and make decisions that best benefit the future of the community.

The focus of this paper is on the conversion and development of rural farm and forest lands into utility-scale solar-power generation stations, known as solar farms. This paper does not address the personal use of solar panels installed by a property owner to provide electricity for the owner’s home, farm, or business.

Based on the evidence presented here and other existing case studies, it is clear that solar farms are industrial activities that are unrelated to agriculture. Accordingly, if approved by a rural county’s board of supervisors, solar farms should be restricted to areas that are already appropriately zoned for industrial use. While the authors of this paper support solar power as an alternative energy source, we strongly oppose the destruction of productive farm and forest lands as a means of producing solar energy.

The popular term solar farm is a dangerously misleading concept, as solar farms pose a direct and very real threat to the agriculture, forestry, scenic beauty, unspoiled natural resources, and water systems that not only attract residents and visitors to the region

but provide the vast majority of jobs for residents and tax revenues for local governments. The following research supports this stance and is presented in hopes of helping county policy makers and landowners make decisions regarding solar farms that preserve for future generations the scenic characteristics and quality of life benefits traditionally enjoyed by citizens of the tidewater counties of the Middle Peninsula and Northern Neck.

ISSUES TO CONSIDER WHEN EVALUATING A PROPOSAL FOR A SOLAR FARM

Most citizens who live in the rural tidewater counties of the Middle Peninsula and the Northern Neck may have little direct knowledge of solar farms or the issues

that should be evaluated by a local board of supervisors when a solar farm proposal is presented for approval. A brief discussion of the conversion process when agricultural land is turned into a commercial solar site and a basic understanding of how solar farms operate are necessary to provide the framework for an analysis of the issues.

1. UTILITY-SCALE SOLAR FARMS ARE NOT FARMS

They are industrial projects that convert large tracts of farmland and forests into rows of glass panels containing highly toxic materials.

The first point to understand is that a solar farm is an industrial site that has nothing to do with farming or forestry or the ancillary activities related to agriculture. To the contrary, a solar farm is an industrial activity where productive farm or forestry acreage is converted into an electric power generation station. The term solar farm is a complete misnomer. It has its origin in the fact that solar companies have found it cost efficient to lease farmland in rural counties on which to erect their solar generation panels because land cleared for farming is already exposed to direct sunlight. For all intents and purposes, a solar farm is an industrial enterprise that is wholly unrelated to and not supportive of any farm or forestry use. In fact, the construction of a solar power generation site on land previously dedicated to farming is actually destructive of the underlying farm acreage because the site is typically cleared of much of its top soil, compacted, and chemically treated to control plant growth.

In the site preparation stage, as noted above, trees and vegetation are cut, the land is leveled, and chemicals and herbicides are used to eliminate plant growth on the acreage where large numbers of solar panels will be clustered. An interconnected above-ground mounting system is then erected to hold rows of solar-powered photovoltaic (PV) panels in a concentrated configuration that tracks the sun. Electricity generated by the solar panels is carried by electrical wires and cables to high-voltage transmission lines where it ultimately enters a central power grid that distributes electric power through a transmission and distribution system to consumers. The land disturbance is not confined to the footprint of the operating site but also includes the associated construction of access roads, rights of way, and the upgrading or constructing of transmission lines.

The scope of the land disturbance activity and the size of the geographical area it directly impacts depend

on the number of megawatts of electricity the solar farm is engineered to produce. Typical solar farms in rural Virginia may consist of 150 to 300 acres, but they can be significantly larger. For example, the Coronal Energy solar farm in Essex County operates on a lease covering 200 acres and is engineered to produce 20 megawatts of electricity (equal to 20 million watts per hour). A much larger solar site was recently approved by Charles City County for a 340-megawatt solar project on 1400 acres. The Charles City County solar project will be operated by the Sustainable Power Group (aka sPower), a Utah-based entity. The same company (sPower) has also submitted an application to Spotsylvania County's board of supervisors to operate an even larger 500-megawatt solar farm which, if approved, would encompass approximately 6300 acres and would be the largest solar generating project in Virginia.

The vast majority of solar farms in rural Virginia are operated by limited liability companies (LLCs) pursuant to leases signed by the property owners. As the surge in solar farms sweeps across rural Virginia, many farmers who own large tracts of productive farmland are being offered leases or option contracts that commit them to lease their land so that it can be converted to a solar power generation site. In Essex County, for example, Coronal Energy obtained a five-year option to lease 274 acres from one property owner in the southern end of the county, and Hexagon Energy, LLC has obtained options to lease two tracts of 138 acres and 182 acres from other property owners near Center Cross. More recently, Innovative Solar Systems, LLC, a solar energy company in North Carolina, has sent mailings to farm owners in Essex's Occupacia District offering to lease tracts of "clear clean" farmland over 150 acres which are near "large power lines."

2. THE ECONOMIC IMPACT OF SOLAR FARMS ON A RURAL COUNTY MAY BE NEGATIVE

Farm employees lose jobs, work is lost in farm service occupations, few permanent jobs are created, the cost of county services go up, the increase in property taxes may be minimal, and revenue from tourism may be adversely affected.

Solar farms are touted by industry advocates as being good for a state's economy because they provide a clean source of renewable energy that attracts business and provides employment opportunities in rural areas where the solar plants are typically located. This is a contention that should not be readily accepted. In the rural

counties of tidewater Virginia, a solar farm may actually have a negative effect on the local economy and damage the economic interests of local residents. We should remember that farms and forests that are targeted by the solar companies are the primary economic engines of our rural communities.

When a farm is converted to a solar power site, farm employees, who are usually local residents of the county and who have directly farmed the land for many years, are displaced. In addition, local residents, in a variety of farm-related occupations, who performed contract services to the site are impacted. For example, in a rural farming community, many of the jobs held by local residents are with off-site businesses that provide the farm supplies and services a working farm requires. These contract services pertain to crop production, irrigation, harvesting and sale of crops, transportation of produce, maintenance of farm machinery such as combines and tractors, crop insurance, insect control, and a variety of other services. None of these services are required by a solar farm.

The loss of farm-related employment is not offset by employment opportunities at the solar site. In this respect, it is important to understand that a solar generating site differs materially from a local manufacturing plant or a retail sales facility, which requires regular employment forces. While some local employees may be used as part of the construction crew that clears and levels the site, their jobs are temporary, ending when the site preparation work is completed. The solar panels and ground mounting systems that are manufactured elsewhere are installed by specialized contractors, not by local employees. When the solar site begins to generate power, there are few, if any, regular employees at the site, with the possible exception of a few maintenance employees.

The reality is that a PV solar farm typically provides little, if any, regular employment to local residents of a rural area. Moreover, the electrical energy the solar farm produces affords no particular benefit to the residents and local businesses in the rural county where the solar farm is located. None of the power generated by a PV solar farm is channeled to a local resident, local business, or directly to any local consumer. It is sold to public utilities or electric power contractors who purchase it for sale to a central grid.

Solar industry representatives can be expected to argue that the county will experience an increase in property tax revenue if farmland is converted to a solar generation site. While it is true that real estate taxes applicable to the tract of land are likely to increase, so will the cost to the county for providing services to the site, which include utilities, fire, and other emergency services. One emergency incident at the solar site could cost the county more than any increase in the real estate tax revenue it experiences. Moreover, the county will receive no property tax revenue on the solar panels and mounting system or other equipment installed by the solar operator because they are exempt from local taxation pursuant to incentives granted by Virginia's General Assembly.

The loss of farm-related employment is not offset by employment opportunities at the solar site.

In assessing the economic impact of solar farms, a county should also consider whether their presence detracts from the characteristics of the county that attract new families and businesses

to the area. Residents of the Middle Peninsula and the Northern Neck place a high value on the fact that they live in a scenic area, with abundant tidal waters, and largely unspoiled natural resources. They also take pride in the fact that this is an area acclaimed for its historical significance. This is the image promoted by the local governments of this tidewater region in their comprehensive plans and on their websites. It is an aesthetically pleasing image that is marketed to attract retirees and tourism to the area and to reaffirm the conservation goals and values of local government to existing residents.

The conversion of scenic farmland to solar project sites with rows of glass panels is an image in sharp contrast with the website descriptions promoted by local governments. It is also an image that is inconsistent with the advice of economic consultants who have been engaged to assist the local counties in promoting their tourism goals. Tourism is recognized as a critically important economic element for the tidewater counties of the Northern Neck and Middle Peninsula. For example, data released for 2017 by the United States Travel Association showed that tourism revenue for the five counties of the Northern Neck reached \$273,391,000, and that tourism supported 2772 jobs and accounted for tourism-related tax revenue of approximately \$7,604,000. By any objective analysis, the

proliferation of solar farms in this tidewater region is likely to have an adverse economic impact on tourism revenue.

3. SOLAR FARMS POSE SIGNIFICANT ENVIRONMENTAL RISKS

Productive topsoil is destroyed, runoff and erosion of contaminated soil can occur, storms can damage solar panels containing highly toxic metals known to be carcinogens, clean-up of toxic waste product is difficult and very costly, and there is no certified regional means of solar panel toxic waste treatment, recycling, or decommissioning.

Advocates who support a solar farm proposal typically argue that because solar energy draws its power from the sun, it is friendly to the environment. They usually contrast solar power farms with traditional power stations that burn fossil fuels, which pose greater harm to the environment by creating greenhouse gas emissions, particularly carbon dioxide (CO₂), and impact both air and water quality. The comparative harm to the environment caused by a solar power farm versus a carbon fueled power station is not the issue. The relevant environmental question that needs to be addressed when a solar farm is proposed concerns the impact on the local environment if land is converted from its existing farm or forestry use to a solar power generation station. This is a question that requires a thorough environmental assessment because the potential for substantial environmental damage can be significant and long lasting, can impact neighboring properties, and be very costly to remediate.

The requisite environmental assessment should encompass the footprint of the proposed site and the access roads, right of ways, and transmission lines necessary for its operation. The assessment should also evaluate the project's water requirements, its potential impact on the aquifer and on any water bodies in close proximity to the site. There may also be areas of special concern that require protection such as wetlands, or locations where endangered plants grow, or which serve as critical habitat for protected wildlife.

Because the area of the project site where the solar panels will be located will be denuded of trees and leveled, and the use of chemicals and herbicides will be applied to control plant growth, there is always the potential at a solar farm for storm water runoff and erosion. Ground that has been cleared of trees may not be

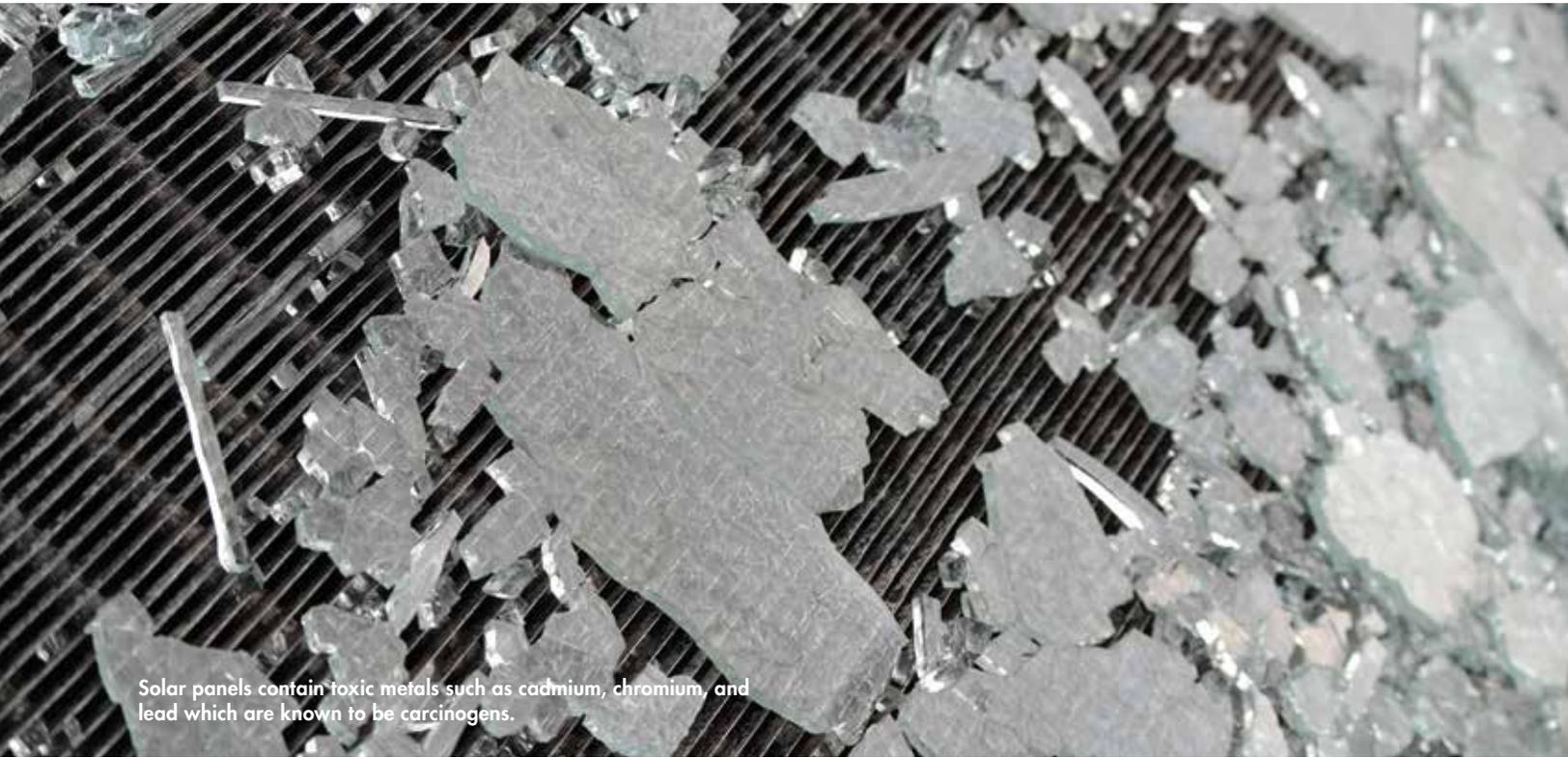
able to absorb significant rainfall, resulting in runoff and erosion of contaminated soil. The environmental assessment should address this risk and require containment barriers and berms. In addition, all chemicals and herbicides used for grounds clearance and maintenance should be identified and records should be maintained and available for inspection to show the volume and frequency of their use, and the location where they are stored.

The environmental assessment should also require disclosure of all toxic metals contained in the solar panels, such as cadmium telluride, cadmium sulfides, lead, silicon tetrachloride, chromium, copper indium selenide, and other metals known to be carcinogens. Because the solar modules are clustered in the open, they are exposed to extreme weather, including high wind conditions that could damage and dislodge the solar panels. In a worst-case situation, such as the tornado that devastated a twenty-eight-mile path from the Middle Peninsula to the Northern Neck on February 24, 2016, a solar plant in the path of such a storm would likely experience massive damage to its solar panels with glass and toxic materials strewn over a wide area far beyond the footprint of the solar site. The 2016 tornado that struck Essex and Richmond counties destroyed a large number of homes and deposited massive amounts of debris in the marshes, wetlands, and tidal waters. It was fortunate that there was no solar farm in the path of the 2016 tornado.

Just two years later, in January 2018, Essex County residents learned first-hand about the environmental risks posed by a solar farm when Coronal Energy's 200-acre solar station, located just off US Route 17 near

Damaged solar panels containing toxic metals pose a significant risk to the environment.





Solar panels contain toxic metals such as cadmium, chromium, and lead which are known to be carcinogens.

Dunnsville, Virginia, experienced heavy rainfall for several days. On that occasion, tons of muddy sediment eroded from the Coronal site and poured into a tributary of the Rappahannock River, and ultimately, into the river itself, which is part of the Chesapeake Bay watershed. During the permitting process for this solar site, Coronal representatives had promised Essex's planning commission that storm water runoff and erosion would not be a problem.

While solar industry representatives may be inclined to dismiss the concerns of local residents about the risk of environmental damage when severe storms hit a solar farm, there are ample real-life incidents that demonstrate the validity of these concerns. For example, in April 2015, a tornado struck a 550-megawatt solar farm known as the Desert Sunlight Solar Project, located just six miles north of Desert Center, California. The tornado destroyed over 150,000 cadmium telluride solar panels. The damage was so great that broken glass modules containing toxic metals were strewn beyond the footprint of the site and had to be collected and moved to staging areas via trucks and trailers. Other instances of environmental damage at the same solar site include heavy runoff of storm water, erosion, and flooding, which impacted the habitat for certain species of protected wildlife. Additional examples of significant environmental damage at solar power sites due to

severe weather conditions include that of a large solar farm in Humacao, Puerto Rico, which supplied nearly 40 percent of the island's solar generated electricity. In 2017, strong winds from Hurricane Maria hit the Humacao site, ripping a large number of the station's solar panels from their foundation and destroying the glass panels. And in 2016, a 60-acre solar station near Little Falls, Minnesota, was extensively damaged by 90 mph winds that destroyed twenty-five rows of solar panels, leaving twisted racks, crushed solar panels, and damaged wiring.

Hurricanes, tornados, and thunderstorms, of course, do not follow a predictable pattern and make no distinction between the types of structures that lie in their path. As solar farms increase in number, so will the number of weather related incidents in which solar panels are significantly damaged or destroyed. Each major incident will require costly clean-up activities and may have significant environmental consequences for years to come.

Experts differ on the extent to which solar panels that are damaged or broken in a severe storm create a significant risk of exposure to the toxic metals they contain, or the extent to which cadmium and other toxic materials may leach into the groundwater. The solar waste problem, of course, is not just confined to panels that are damaged by storms or other events. It encompasses solar panels that are taken out of service

and replaced by new panels, technologically improved to produce greater conductivity. This is a growing toxic waste problem of immense proportion.

In the United States, there is no requirement for damaged or replaced solar panels to be recycled by the manufacturer or sent to a hazardous waste disposal center. In fact, there is no federal requirement to even classify them as hazardous waste. As a consequence, the panels are often sent to landfills where they may be crushed and exposed to the weather along with nontoxic waste. Researchers at the Electric Power Research Institute have warned against the practice of disposing of solar panels in “regular landfills” out of concern that “toxic materials may leach into the soil.” To date, these warnings have been largely ignored by solar corporations and solar panel manufacturers, and by state and federal regulatory authorities.

Many articles have been written that describe the disposal of solar panels as a growing national and international issue. The current trend for the increased use of solar power as an alternative form of clean energy, aided by state and federal financial incentives, ignores this problem. Unless it is addressed as a national priority, the problem will become particularly acute when industrial solar farms are decommissioned.

The problem of solar waste disposal is not just a United States issue. Japan’s Environment Ministry has issued a warning that by the year 2040, Japan is likely to have 800,000 tons of solar panel waste, with no current plan for safely disposing of it. China, which has more solar plants than any other country, has an even greater solar waste disposal problem. Only Europe requires solar power manufacturers to collect and safely dispose of the solar power panels they produce.

In the United States, the manufacturers of solar panels are not charged with the cost of recycling or safe disposal of solar panel waste product. This is also an expense which may not be built into the business model of the corporate entities that operate solar farms, the vast majority of which are special-purpose entities incorporated as LLCs that may lack the financial reserves to absorb the cost of hazardous waste disposal. This is a problem that cannot be indefinitely ignored or postponed. If solar panel manufacturers and solar farm entities do not absorb the expense, it may ultimately fall

into the lap of the owner of the property and the county where the solar farm is located.

4. THE IMPACT ON LOCAL RESIDENTS LIVING NEAR THE SOLAR PROJECT

The conversion of agricultural property to an industrial site can adversely affect the property values, health and safety, and quality of life of local residents.

As noted in the previous sections of this article, when a commercial solar project is approved in a rural farming community, the impact on the county and its local residents can be far reaching with lasting consequences. Those who experience the most immediate impact are the families who live in closest proximity to the proposed solar plant. Many of these families may have purchased property and built or bought homes in the area in reliance on the fact that the land proposed for a commercial solar generation site was zoned for agricultural use. Zoning plays a big part in a family’s decision to move to a new area. This may be particularly true of retirees who chose the area for its quality of life benefits and scenic characteristics.

There can be no doubt that residential property values may be diminished by any industrial activity that poses an environmental or health risk or by other characteristics that diminish the quality of life of nearby residents. This is an understandable concern of the

residents of any community, and it is one of the primary points of concern that the residents of Fawn Lake, a waterfront retirement community in Spotsylvania County, Virginia, have recently expressed in

There is no requirement for damaged or replaced solar panels to be recycled by the manufacturer.

opposition to the massive 500-megawatt solar power generation site proposed by the Utah-based Sustainable Power Group (sPower). The group of local citizens in opposition to the project number in the hundreds and call themselves the Concerned Citizens of Spotsylvania County. sPower is actually a consortium of limited liability solar entities. The project would include three tracts of forest land encompassing over eight square miles of Spotsylvania County in an area zoned for “agricultural use”. The sPower project calls for the installation of 1.8 million solar panels on a 6300-acre forest site in close proximity to Fawn Lake.

The sPower proposal, which at this time is under review by the Spotsylvania County Board of Supervisors,

has created a fire storm of opposition from Fawn Lake residents and other citizens of Spotsylvania. The opposition group has contended that the proposed solar power site could create significant health and environmental risks to area residents, that it would drive down property values, and that in an environmental emergency the clean-up costs of toxic materials could be massive and would ultimately have to be borne in large measure by the county and its tax payers. The Fawn Lake opponents also contend that the sPower solar project is likely to adversely affect home sales because it would discourage people from wanting to buy homes in the area, and that it is so massive in size (nearly half the size of Manhattan) that it would forever change the historic character of the County. The proposed site is located just a few miles away from the historic Civil War battlefield area where the Battle of the Wilderness, the Battle of Chancellorsville, and the Battle of Spotsylvania Court House took place.

The opposition group has also disputed sPower's economic forecasts, pointing out that lower property values and declining home sales would cause the county to lose tax revenue, that solar power sites pose the risk of electrical fires caused by arc flashes and power surges that could require county services by fire and rescue squads, and that sPower's forecast of jobs was grossly inflated because the site clearance workers would be temporary employees and less than thirty-five permanent jobs would be created. In addition, the citizens' group cited studies showing that solar-power-generation sites are costly to tax payers because they are artificially propped up by federal subsidies and state tax credits that far exceed what other power producers receive. The Concerned Citizens of Spotsylvania County also cited studies showing that the electric rates paid by consumers would actually increase, not be reduced, by solar power because it is intermittent, rather than continuous. Public regulated utilities are required to purchase solar power, but maintaining the continuous power flow the grid requires necessitates expensive additions to the power-generating capacity of traditional energy companies, including new transmission lines. These costs are passed along to the consumer in increased electric rates.

An additional point of contention in the sPower proposal is the projected decommissioning cost to

restore the land at some point in the future to its original condition. If restoration is even possible, the cost would be enormous. Spotsylvania has projected the cost to be \$36,000,000, whereas sPower has projected about \$11,000,000. The sPower projection assumes credits for the value of recycled materials.

As previously noted, recycling of solar panels is not currently required by law in the United States. A current analysis of decommissioning costs is highly speculative. If outdated or damaged solar panels are classified as hazardous waste, as they should be, the decommissioning cost would skyrocket. In the meantime, the environmental problem of how to deal with the toxic materials in solar panels is growing. County

It makes no sense to destroy and replace farmland and forestland with rows of solar panels containing toxic metals.

governments should insist that the solar entities that propose to erect the solar panels and operate utility-scale solar farms are financially secure, and that they provide secured bonds to cover the

anticipated cost of cleaning up solar waste at any time during the solar farm's operation as well as the cost of decommissioning.

In recent years, there has been a huge surge in the number of solar farms structured as LLCs that have commenced operation in East Coast states, including Maryland, Virginia, and North Carolina. At the same, there are news reports of solar LLCs that have declared bankruptcy and have gone out of business. When this occurs, employees may be laid off and the solar assets of the bankrupt company sold to satisfy or partially satisfy creditors. Under those circumstances, the solar farm may be shuttered, leaving the owner of the land and the county with solar power waste product and unresolved environmental issues, and the landowner may never be able to put the land back into productive acreage.

For anyone concerned about tracking corporate accountability and liability, the corporate structure of sPower warrants further comment. It illustrates the difficulty of assessing financial responsibility when there are multiple limited liability corporations working on the same project. According to filings with Virginia's State Corporation Commission, sPower is actually the sPower Development Company, LLC, which is a wholly owned direct subsidiary of FTP Power, LLC, which is 50 percent owned by AES Lumos Holdings, LLC, and

50 percent owned by PIP5 Lumos, LLC. sPower has its own special-purpose subsidiary LLCs, which include Pleinmont Solar 1, LLC, Pleinmont Solar 2, LLC, Highlander Solar Energy Station 1, LLC, and Richmond Spider Solar, LLC. Each of these subsidiary LLCs of sPower are allocated different amounts of megawatt generation in four separate phases of the project. None of these companies involved in the project are regulated utilities.

5. RISKS TO WILDLIFE AND DESTRUCTION OF CRITICAL WILDLIFE HABITAT

Rural farms and forests in the tidal counties of the Chesapeake Bay Region provide vital habitat essential for the survival of countless numbers of migratory and nonmigratory wildlife species. These critical habitat areas are being threatened by solar business entities that view farms and forests as assets to exploit for private gain.

As solar farms spread across the Chesapeake Bay region, there is growing concern about their impact on wildlife, both migratory and domestic, and on the destruction of critical natural resource habitat that is necessary for the survival of many wildlife species. The legislative initiatives that support solar as a climate-friendly, renewable-energy source never contemplated the threat it would pose to ecologically important farmland and forests, or to critical wildlife habitat areas. We are now seeing more instances where solar companies are proposing the destruction of vast amounts of forestland and environmentally important farmland.

The problem lies in the fact that utility-scale PV solar farms are relatively inefficient in that they require up to ten acres of land per megawatt. Moreover, the land they require is almost always productive farmland or forestland that already serves an important economic and social purpose while also contributing positively to the environment. Trees and plants, which solar farms destroy, absorb carbon dioxide (CO₂) during plant growth. The carbon they capture during photosynthesis in the process known as carbon sequestration would otherwise rise and trap heat in the atmosphere. In this way, plants and trees are key players in our efforts to combat global warming.

From an environmental and ecological point of view, it makes no sense to destroy and replace farmland and forestland with rows of solar panels containing toxic metals. Farms and forests not only absorb carbon, they also absorb water, which helps to avoid erosion and runoff, and they provide critical habitat for countless

numbers of wildlife species, plants, and insects. It would be hard to develop a list of wildlife species that can survive in the operating footprint of a solar farm.

Many articles have been written that document the mortality of wildlife, including protected and endangered species, caused by solar energy generating plants. The destruction of habitat is the primary cause, but at some solar plants, the death of wildlife has been directly due to the intense heat generated from the solar panels. In California, where large concentrating solar plants (CSP) use power towers consisting of mirrors to concentrate energy from the sun to drive turbines, the solar energy production process creates high-temperature solar beams that are so hot they ignite insects, birds, and bats that fly through them. One CSP where this has occurred is the Ivanpah solar plant in the Mojave Desert, a 392-megawatt plant located on 3500 acres. The US Fish and Wildlife Service (USFWS) has referred to this type of large-scale solar project as a megatrap for wildlife.

The Ivanpah solar plant is one of three California CSP plants that were investigated by the USFWS Office of Law Enforcement in 2013 for large numbers of bird deaths. Many of the birds had been fatally singed, while others died when they collided with the ground or structures at the sites. Investigators concluded that the lake effect of the reflective solar panels causes birds, bats and their insect prey to confuse the solar facility for a lake or pond. If they descend too fast, they crash and die. USFWS performed a mortality analysis covering the first two years of the Ivanpah plant's operation. The number of birds killed in the solar station's first full year of operation was 5128, and in the second year it was 5181. Of the birds whose deaths could be attributed to a definitive cause, 46 percent died of "singeing" and 54 percent to "collisions."

The concentrating solar technology, in which solar energy is collected and converted to thermal energy, is one of the alternative energy developments supported by the US Department of Energy. It has been used at large solar projects in California, Nevada, and Arizona. If integrated into the electrical power generation capacity at a utility's traditional carbon fueled plant, it may have the potential to help reduce carbon fuel emissions. Research for this article did not reveal the existence of any concentrating solar plant in operation on the East Coast, except for a hybrid solar/natural gas plant operated by Florida Power & Light Company in Indiantown, Florida. As of this date, concentrating solar technology



Spring 2018 ecological damage in Essex County from a solar farm.
Photo courtesy of Craig Shirley.

has not been utilized and may not be currently feasible at utility-scale solar farms on the East Coast. The lake effect issue, however, is a subject of significant concern at East Coast utility-scale projects, particularly those covering large acreage tracts in tidal regions where the rows of glass panels are more likely to cause migratory birds to believe they constitute rivers or lakes.

The reduction of carbon emissions through renewable energy initiatives, which includes the greater use of solar power, has long been a goal of environmental groups who have consistently urged federal and state authorities to protect our environment and to conserve critical natural resources and wildlife habitat areas. The production of solar power, as one means of helping to reduce our reliance on fossil fuels, was never intended to be a license for the solar industry to destroy productive farmland, forests, and unspoiled natural resources which are the cornerstones of most rural communities. We should not be surprised that solar business entities, which are usually nonresident corporations, view our open space lands and forests as assets to be exploited, not assets to be preserved.

In the Chesapeake Bay region, a vast network of tidal rivers, farms, and forests span the landscape and create a coordinated ecosystem that is important to the survival of thousands of species of migratory and nonmigratory wildlife, many of which are designated by federal and state agencies to be endangered, protected, or species of concern. One significant forested property in this network is the Nanjemoy Peninsula in Charles County, Maryland.

An article published in March 2019, in the Bay Journal, describes proposed solar farm sites on a heavily forested section of the Nanjemoy Peninsula, which

conservation groups contend would destroy critical wildlife habitat and threaten the survival of numerous bird species. This dispute centers around a plan by a Miami-based solar energy company to clear 400 acres of trees from two sites on the Nanjemoy Peninsula. Charles County's land use plan, which was adopted in 2016, calls for conservation of farmland and large contiguous forests, and specifically identifies the Nanjemoy Peninsula, which borders the Potomac River, as a "priority preservation area." The Audubon Society has designated it an "important bird area" because it provides habitat and nesting for a "highly diverse assemblage" of birds that require large connected forests to breed. The Nanjemoy Peninsula has also been designated a "targeted ecological area" by Maryland's Department of Natural Resources. This is a designation that guides government land acquisition for parks and nature preserves. Community activists and conservation groups have urged Maryland's Department of the Environment to deny the necessary permits for the project. At this time, no decision on the proposal has been made.

SUMMARY

As the spread of solar farms continues, it is clear that some of the most scenic, historic, and ecologically important areas of the Chesapeake Bay region are being targeted by solar entities as potential sites for solar farms. There is no question that this includes farms and forests in the Middle Peninsula and Northern Neck, which often adjoin wetlands, marshes and tidal waters, and which provide critically important habitat for migratory and nonmigratory wildlife.

County governments should be fully cognizant of the risks that solar farms pose to the counties of our tidewater region, the taxpayers, and even to the individual property owners who lease property to the solar energy entities. As explained in this paper, the economic and environmental risks are substantial and may impact local residents who own properties well beyond the footprint of the solar sites. The location and size of a proposed solar generation site are factors that contribute to the scope of the environmental risk and to wildlife habitat destruction.

Local residents must understand that a solar farm is an industrial business that has nothing to do with farming or forestry. The solar farm corporation that leases the farmland is almost always a limited liability company, often thinly capitalized under a business model propped up by energy tax credits and legislative incentives. There

is no guarantee that it will stay in business for the term of the lease, or, if it goes out of business, that it will have the financial resources to pay the waste clean-up and decommissioning costs. There are many solar farm LLCs that have declared bankruptcy in recent years.

The only thing certain is that productive farmland will be lost when converted to a solar generating site, and the land may never again be suitable for farming. When farmland is stripped of its topsoil, regularly treated with herbicides to control plant growth, compacted, and shielded from rain and sunlight by solar panels, the soil beneath the panels can become dead dirt that has been so depleted of organic matter that it is unsuited to crop production. Because solar farms are industrial properties that are by design destructive of farmland, they should not be approved for conditional or permitted use in an area designated by the county as an agricultural district. Nor should they be approved in any environmentally sensitive area where they would pose a threat to wildlife. If approved at all, solar farms should be sited in an industrial district where other industrial activities are authorized.

We must recognize that cropland and forests play major roles in combating global warming because they absorb carbon dioxide during plant growth. They are essential components of a clean environment, and they provide much of the critical habitat necessary for the survival of countless species of animals and birds. Farms and forests are not only ecologically important to our tidewater region but are also the primary economic engines. A 2017 report on the economic impact of farms and forests in Virginia, commissioned by Virginia's Secretary of Agriculture and Forestry, and prepared by the Weldon Cooper Center for Public Service, stated that agriculture and forestry together have an economic impact of over \$91 billion, that they provide more than 442,000 jobs, and that every job in agriculture and forestry supports another 1.7 jobs in our state's economy. The Weldon Cooper report also addresses the economic impact of agriculture and forestry on tourism and the environmental and societal benefits they provide. The report notes that Virginia agritourism and forest recreation account for millions of visitors and billions of dollars of tourism-related spending. They also provide "substantial environmental and other societal benefits" because they "improve air and water quality, mitigate flood vulnerability, provide wildlife habitat, and aid biodiversity" while also providing "scenic amenities that contribute to the quality of life."

CONCLUSION

Each year, the tidewater counties of the Middle Peninsula and the Northern Neck lose more farmland and forest land to development activities and urban sprawl. Utility scale solar farms are the latest threat to the preservation of farms and forests in our region. They typically require up to ten acres of land to produce a single megawatt, and are targeting large tracts (1000 acres or more) of our most productive farmland and forestland. We must recognize the serious nature of the industrial solar farm threat and strongly urge that our local planning commissions and boards of supervisors reject proposals for solar farms in zoning districts that are intended to preserve farmland and forestland. It makes no sense to sacrifice productive farmland and forestland, which provide employment opportunities and societal benefits to local residents, for a solar generating plant that provides so little direct value to our region.

We should understand that solar energy is only one of the alternative clean energy sources that are being produced or developed in various parts of the world to address global warming. Grasslands, crops, and wood pellets from timber harvesting are some of the other sources of energy currently being used in Europe, which, unlike solar panels, do not create a waste product of toxic metals. As alternative energy sources to fossil fuels are developed, farmland and forestland are likely to be renewable sources of crops and trees which can be used as fuel for the production of clean energy.

*Research and Paper prepared by
The Essex County Conservation Alliance
www.essexcca.com*

SOURCES:

Available online at www.essexcca.com/industrial-solar-farms
If you would like to share this article with someone, there is a downloadable, PDF version online at the above address.

Occupacia Creek DUCK CLUB



by Frank T. Sutton, IV

Approximately sixty-five years have passed since a young branch manager for the then Bottled Gas Corporation of Virginia in Charlottesville asked one of his salesmen to look for a place where he and a couple of his friends could do some duck hunting. Frank Sutton, was interested in locating a marsh in the Essex County area that he could lease. He wanted to build a small cabin there, where he and his partners could stay when they went hunting so they did not have to make the long drive back home after a day in a duck blind. It wasn't long before he was presented with a possibility in Champlain, Virginia.

This salesman's area was the Fredericksburg-Tappahannock-Warsaw corridor and he, for reasons lost in translation, had been in contact with Mr. Hill Dillard who owned and farmed the land where Occupacia Creek and Farmers Creek converged to form the edge of a marsh that might be for lease to the right person. A meeting was set and my dad traveled down to see the marsh and to try to ingratiate himself with the owner. This was the beginning of a friendship that

started with Hill Dillard, transferred to his wife, Edna, on his death and then to Betty Jean Ellis, where it remains today.

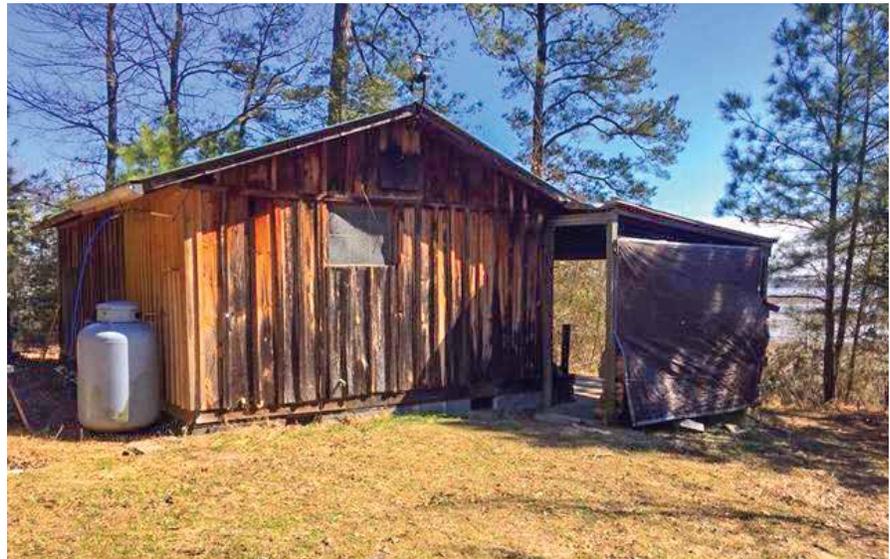
From all the stories I have heard, when my dad first met with Hill Dillard, they immediately developed a bond that would last until Hill's death. The meeting took place in the Dillard's home at the end of Dangerfield Road and was launched with Hill's opening question of "Exactly what in the world do you and your friends want

with a hundred acres of marsh?" My dad's reply was that they wanted a place to do a little wing-shooting without having to drive back and forth to Charlottesville after each hunt. Hill said he didn't know what this so-called wing-shooting was all about, but as far as he was concerned, they were welcome to try it. He added that after trying this new method of duck hunting, my dad and his friends should come to him for instructions on how to harvest ducks.

When my dad inquired further, Mr. Dillard pointed out the window at a pothole about thirty yards inside the marsh reeds and said the way to kill ducks was to dump a sack of corn into that pothole before sunrise, come back to where you were sitting, drink some hot coffee for an hour or so, and then sneak through the marsh on your belly. You then level your shotgun on the feeding ducks and pull the trigger. You can kill quite a lot of ducks in a short time with this method!

In this day of oversensitive political correctness, I must point out to my readers that this was the end of what is now referred to as the outlaw gunner days, and Hill Dillard's advice, while commonplace in his lifetime, was rapidly drawing to a close. Laws were now in place to prevent the wholesale slaughter of migratory waterfowl for sale to the big city restaurants, and the sport of wing-shooting for personal entertainment and consumption was taking hold. We cannot judge anyone by what legally happened in the past but became unlawful years later. The fact of the matter is that the Dillard marsh, along with many other marshes in the area, was commercially hunted back then.

With a new lease in hand, my dad headed back to Charlottesville with the good news for his hunting companions waiting to begin planning their next steps in the formation of the Occupacia Creek Duck Club. How exactly this club would evolve was greatly dependent on how their relationship with the Dillard family developed and how they cared for the land they had just leased. Mr. Dillard's insistence on respecting the land was deeply ingrained in him, as illustrated by an incident that took place about



Club Cabin

ten years after the duck club was formed.

As related to me by my dad, the then eight-member club had so enjoyed their new set-up that they decided to try to purchase the marsh in an effort to secure the duck hunting future for themselves and for their children. One of the members at that time was Bill Battle, who was a lawyer and ambassador to Australia under President Kennedy. Certainly, he would be the perfect negotiator in this quest. Well, my father, Bill and Hill sat down in the Dillard's living room one afternoon for a prearranged meeting whose purpose had not been explained to Hill. After several minutes of mostly inane chit-chat, Bill Battle broached the subject of purchasing the marsh but was able to get only about two sentences out before he was abruptly and emphatically cut off by Mr. Dillard. I was told that, after cutting off Bill's prepared proposal, Hill looked my dad in the eye and said, "Frank, I really like you and your friends, and up to this point it has been a great relationship, but if you ever even mention buying any of my land again, it is all over. This prop-

erty belonged to my great granddad, my granddad, my dad, and it is going to belong to my children." My dad and Ambassador Bill Battle rushed back to Charlottesville with their tail between their legs!

In order to get an early start to their weekend hunts, Dad and a few of his hearty companions started driving down after work on Fridays and pitching tents on the small, dry-land peninsula that jutted out into the middle of the marsh. Those modest accommodations were soon replaced with the purchase of a surplus World War II command tent, which, in one day, was erected atop a wooden platform serving as a floor. I was very young but remember that the tent would accommodate four people very comfortably, with four beds, an icebox, gas stove, fireplace, sink fed by collected rainwater, and an outhouse. However, my most distinct memory of that tent was the line that separated the beds from the remaining area. This was not to be crossed after dinner by anyone under the age of ten. The penalty for breaking that rule was a swat on the butt with a canoe paddle. They



Marsh Through Cabin Window



Cabin Fireplace



Club Emblem

really knew how to keep children in their place back then!

During a burning of the marsh one year, the tent went up in flames and burned to the ground. The only survivor was the Big Ben, steel, wind-up alarm clock that ticked so loudly the clock was rendered redundant as it was impossible to sleep with all that loud ticking. That clock resides in a place of silent honor in the existing cabin, but thank God for cell phone alarms. With the demise of the tent, a plan was put in place to erect a more permanent abode. The members at that time included Bennett Barnes, owner of a lumber company, Wilson McNeely, owner of a ready-mix and cinderblock company, Jack Camblos, a lawyer, and my dad, manager of a propane gas company. What better combination for building a hunting cabin?

The Michie Company in Charlottesville was either closing or remodeling and since the company was a client of Jack Camblos, we were given the wood from all the many bookshelves, which became the walls for the new duck-hunting

cabin. One weekend in September 1958, the cinderblock donated by McNeely was formed into the foundation while, back home, the shelves were being prefabricated into six-foot wall sections to be erected the following weekend. A secondhand gas stove, refrigerator, and heater were secured by my dad, while a free-standing fireplace was donated by someone whose name I cannot recall, and a large porcelain kitchen sink was rescued from a junkyard somewhere nearby. Even with the new “plush” cabin, we were still going to have a country long-drop for a bathroom, and a water system for washing, based on rainwater collection; if you wanted it hot you had to put it on the stove.

Once built, the new cabin with sleeping for six was quite a

change from the old tent. With our gas refrigerator, we no longer had to stop at the old icehouse in Tappahannock to purchase a block of ice for the weekend where we just paid inside and the block came sliding out through a hole in the store wall. I guess that was the forerunner of the modern-day ice machine! Also, we could now store enough food to eliminate most of our trips to the old general store at the intersection of Dangerfield Road and Route 17, now replaced by a 7-Eleven-style store replete with bagged, crushed ice, prepared foods, and lottery tickets!

The Occupacia Creek Duck Club members felt they had reached a point where they had to have their own club insignia and promptly had then member/artist Skeeter Haden get to work on it. With very little hesitation it was decided that the club symbol would be an Old Crow bourbon bottle with a pair of mallard wings flying across the sky, seemingly into the face of firearm and hunting protocol. While politically incorrect, that symbol remains in place today and actually was

representative of much of the club culture, as evidenced by McNeely's folly back in the sixties.

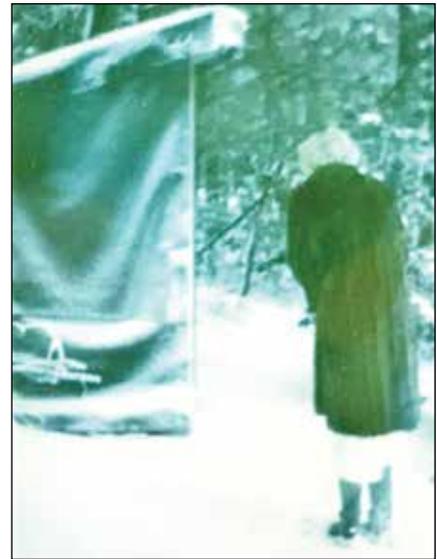
Wilson McNeely always had a new and bold idea, and that year's was to blast a channel from the front of the cabin to the main creek running through the marsh, a distance of about 100 to 150 yards. This would eliminate having to get in the cars and drive for five minutes to the boat landing and it would allow storage of all the decoys, boats, and motors at the cabin. Obviously, this was planned and executed either during or after cocktail hour, as evidenced by the dramatic results.

After sloshing through the marsh, placing sticks of dynamite per a diagram thoroughly researched and designed by McNeely, the wires to the blasting caps were all connected and run up to the cabin's front porch, where they were attached to a plunge-box detonator set in front of four chairs. With drinks lifted high in a toast to the brilliance of this idea, the plunger was pushed, followed by a huge explosion. Tons of marsh mud rocketed straight skyward, reaching a pinnacle and returning to the same place from which they had begun. This was followed by heavy drinking and was never attempted again! Suffice it to say that this was but one of many such ideas tried through years and, believe it or not, some were actually successful.

All of our duck and geese decoy bodies were hand-shaped, first from balsa wood and later, from cork. The heads for the decoys were hand-carved and painted by members' wives, and a long lead weight, imprinted with the words "Occupacia Creek Duck Club," was attached to the bottom of the decoy keels for stability and identification.

Sixteen-foot canoes with pontoons and 2 hp gas outboard engines transported the decoys, along with two hunters and all their equipment, to the box blinds in the early morning on hunting days. How times have changed! It now takes almost two sixteen-foot jon boats with 9 hp motors to transport all the plastic decoys, mo-jos, and wonder ducks needed by the modern-day hunter to attract ducks.

On several occasions, I would stop by Mrs. Dillard's home just to say hello, and more times than not she would insist on my sitting down for a cup of coffee, as my father had done for many years. We would talk of the past, her children, the farm, duck hunting, muskrats, taxes, the weather, and whatever else entered our minds. Those were some of the most special memories I have of the long relationship shared by our families. Mrs. Dillard would often point out the window at a house across the water and say that was where she had been born and that she had not traveled very far in life.



Green Acres - Mink to Outhouse

Well, that all depends on what your definition of travel is.

The cabin and the hunting club have remained intact for over sixty years, the only changes being the comings and goings of different members. The bond established between Hill Dillard and my dad during that first meeting has endured through three generations on each side and will, hopefully, continue into a fourth and for many years beyond.

Hanging on my office wall I have a photograph of my mother trudging through snow to our cabin's outhouse in a mink coat. That seems to illustrate everything I have tried to put into words.



Frank, aka Kelly, was raised in Charlottesville and now lives in Richmond with his wife, Rhonda. He graduated from V.M.I. IN 1970, retired from Universal Leaf Tobacco Co. after 33 years and now spends most of his time traveling, hunting and fishing. He was a "Correspondent of the Day" in the *Richmond Times-Dispatch*, published in the *Garden Club of Virginia Journal* and wrote the book "If the Fish are Bite'n" in 2016 under his a.k.a. of Kelly Sutton.



by Kim Dickinson

June was a man to be on the good side of if you were one of the boys who knew how to party with him and knew to not say too much at the wrong time. The lawman in him knew how to make use of being one of the boys and party-talk. He didn't want to get to the point where he caught you wrong. He wanted you to not take it personally when he caught you wrong and not make him come catch you when he didn't want to. June liked the killing of the deer, but he hated a lot of spotlighting the deer. If you didn't want him hot at you, then you needed to hold off on that easy way to kill a deer. You didn't make him worry about something like that when he should have been sleeping. That's tough for any hard-rolling man, and a ladies man too. The other way he got hot was when he heard you bragging in town about no-count overkilling and making it seem like he was slack and couldn't catch you. Boys like to brag and June was able to cash in on that by being one of the boys himself.

Being a game and fisheries man in a county with a long shore line can keep you busy, and giving permits to hold captive game species was one of his things to do. So we had to have good conditions for keeping game birds, and June was going to make it tough on us, make us go by the book to give the birds what they needed to prosper and fly off if they could, but you hoped for a

June Hutcheson Lays the Trap in the Blandfield Marsh

Local game warden legend outfoxes the “gentlemen pot hunters”

nest and ducklings or goslings. Later on, we understood that ducks were more primitive, more like dinosaurs, and the geese could figure out how to prosper close to people. It was easy to see why there has never been a flock of “resident ducks.” They're too wary and nervous without a buffer of cover, or distance, to isolate them.

We saved every crippled bird whenever we could in those days, because geese—and I mean Canada geese (*branta Canadensis*)—were not plentiful if you can, nowadays, call a flock of fifty geese a small flock. Back then, it was a large one. We would try to catch every crippled bird on the river to help it. If we could catch one, chances were it was a gonner anyway, so how could we hurt crippled birds by catching them?—which, incidentally, was against the law. Nowadays, they'd say I was violating the food chain by denying and depriving the predators and the scavengers, but I say let the predators catch something in the rodent line and the scavengers stay with the roadkill. Today, we have people studying and loving buzzards, and that's too much. I've seen buzzards do some nasty stuff. Trying to pull the afterbirth from the tail of a cow that has just delivered is just about as bad as you can get in Eastern Virginia. Some things in the natural world are gross.

We took a lot of crippled geese and ducks other people brought us because those people had a soft spot and had heard of these boys who loved waterfowl and would keep them to save them and release them, which was partially true. But the actual truth is we did keep them if the birds had been wing-shot, and we saved them by amputating and cauterizing the severed stump of wing. This left them unable to ever fly again, but at least they were alive, not dead. Each of the birds that survived became the object of endless hours of fascination. The ones that were body-shot usually didn't survive, but if they did, they eventually got the strength

to fly again and disappear. This brought mixed feelings. Sometimes we would have the thrill of seeing them again if they returned for a day or two. All this led to a collection of healthy birds as well as one or two that were in rehab.

Old June was good at letting something go that was not too badly against the law as long as not too many people tried to do it. When June got old, the game commission had to bring in a young, gung-ho out-of-towner, with no local buddies like the ones June had to let slide in a bad situation. If you played the game right with June, you could get away with something as long as no one else was around and he was in a good mood, which, half the time, he was.

The job of being a game warden in your own county has got to be the hardest law job to do right because you can't favor your friends. Very few people caught in a game violation feel guilty, so it comes down to a personal issue with the game warden. After a while, this becomes an endless game of avoiding situations where the warden absolutely can't look the other way so nobody loses face. This makes enforcement random. A determined hunter or fisherman trying to get one over on the law has to develop a sense of when the warden's going to show up, and the warden's going to play his part of being careful to not catch the wrong people at the wrong time. As long as he walks this fine line, he can avoid being the most hated law man in the county, which, nine times out of ten, is exactly what the warden becomes.

June worked it out, in his long time in the job, to be that number ten: the warden who was respected, not hated. Most lifetime hunters know how this works. They also know that the longer you have it good on account of an old gentleman game warden, the more you're going to change your ways—or get embarrassed in court—when the game commission decides to make a change and replace him. The young buck game warden is fresh out of game warden college and has hard business on his mind. He is going to protect the wildlife and ferret out the violators of the laws of the Commonwealth in a strict application of the law. He will be blind to anything but what he sees as his mission.

We did not realize at the time how lucky we were that June was having a long run as the county warden, and that led to having a lot of freedom, as hunters, that we lost later on when he retired and the new man came in. One thing that worked in favor of old-school wardens like June was that the waterfowl that needed

the most protecting were pursued mostly by the city slicker types that came to the big marshes to shoot them. I say "shoot" instead of "hunt" because, with few expectations, this type of sportsman didn't know how to hunt or work hard enough to hunt, and by himself, wasn't much of a threat to ducks and even less to geese. But team the city slicker up with a local watchman as a guide and you have a different situation, and that got June fired up. If the guide wanted the sports to kill up a bunch of ducks, and the sports could hit an ass with a shotgun at fifty yards, then a lot of ducks could die. Often, the guide would hold back his best spots for the biggest tipping sports, which could help a few ducks live.

But the killing was made up for when the time was right, the weather was right—low ceiling, turning cold and blustery, tide rising—and the duck flocks were scattered and looking hard for their feed. A good guide or hunter could be crafty enough to kill up a bunch of ducks and stash them carefully, picking up the extra ducks later, after accurately assessing the transportation risks and returning when the warden had gone home. June was just as crafty in his best years; he knew how to figure these things out. He wasn't going to waste his energy and dirty up his clothes in the marsh when he could do his job in his warm car by being patient and in the right place at the right time.

When he was at his best, he was hard to fool. A lot of the boys found this out the hard way. Two of the oldest rogues killed up too many ducks in Blandfield Marsh in June's last few years. He got wind of it through the cocktail party crowd—and he got hot over it. He knew they wouldn't quit, so he waited for his time to be right before going down to Goldberry Farm—which was downwind of the marsh—when he had that feeling they were going to shoot. And they shot, alright, over and over. He got hot of course, but kept his cool. From where he sat, he could see the ducks fall, little specks in the distance, falling dead and dropping out of the sky, or cutting a short spiral down. Sometimes they would gradually drop out of the flock and land a distance away while the shooting would keep going. He knew the cripples weren't being picked up unless they were up close and the dog could make an easy retrieval. He counted the shots and knew from the number coming from the old double barrels (no automatics then) that two hunters were in the blind. After he counted eighteen ducks dropping straight down, he started the car and went out to the main road and then to the farm road that led across pastures down to the marsh. A single truck track led



Blandfield

down the road, and he was careful to keep his wheels exactly in line with it so his car would go unnoticed in the snow that had fallen during the early afternoon. He had to stop at three separate gates, and each time he stopped to open a gate, cows came up, thinking they were going to get fed. So he had to rush to get through the gate before they got into the next pasture, but, each time, a few got through before he could get out of the car and go back to shut the gate. By the time he got through the third gate, he had fifteen cows running behind his car, bucking and bawling like they do when they think they are going to get fed. His shoes and car door were smeared with cow dung, and each time he got out, he got more pissed off and his head would steam.

In the blind, the boys heard the cows lowing as they moved down the pasture road, but they never heard a tractor, which raised the alarm. So they put their guns down and decided they best hide some ducks until they had checked out the situation. One of them got ten or so of the ducks, tied their necks together with a long string, and dragged the ducks through the marsh and up the bank through a narrow strip of bushes that led to the road across the pasture. He kept dragging them up the road until he spotted a high spot in the pasture that marked the ground hog hole he had noticed earlier. He dragged the ducks behind him to wipe out his tracks. When he got to the hole, he used the butt of his shotgun to push the ducks of sight down the hole, leaving the string on the edge so he could pull the ducks out later. He took a different route back to the marsh edge so his tracks wouldn't show. Meanwhile, June had gone to the landing, after outrunning the cows to the last gate, and he watched as a tall figure crossed the marsh, dragging a large bundle. He knew exactly what was up, so he sat tight. Those old boys, when they got together back at the blind, decided not to push their luck although they were still one duck shy of the limit

in the boat. Their lips smacked as they thought of that whiskey bottle and a hot fire in the fireplace when they got back to the house. They couldn't wait to get that good laugh they were going to get telling about the hunt and how they had outsmarted old June at his game. But June was a step ahead of them, and when he sat on the landing, waiting for them, he calmed down. By the time they pulled up, he was cool as a cucumber.

"You boys have any luck?" he asked as soon as the boat touched alongside.

"One shy of the limit, June."

"Let me see the ducks, boys."

They pulled the ducks out so he could seem them, and he went through the motion of checking under the seats and in every cubby hole, knowing he wouldn't find anything but putting on a show of it, anyway, to get them to put their guard down. June small-talked a minute or two and then walked over to his car and made out like he was talking on his radio about a trespassing complaint. He hung the microphone up, saying loud enough for the boys to hear, "I'm leaving the Blandfield Marsh right now and I'll be there in ten minutes." That set the boys all the way at ease, and as June drove rapidly away across the pasture, they got to thinking again about that drink. So they didn't waste any time putting their guns and decoys away, throwing the ducks in the back of the truck, and mashing to pull the boat up and fix it so they could get to the liquor cabinet in as few minutes as possible. Twilight was closing in and the air filled with the sound of flocks of geese and ducks crisscrossing the sky over the marsh in that flight that always precedes the end of the daylight, marking the movement to the roosting ground, which seems random as some birds trade places across the marsh when they find their favorite place to spend the night. By the time June had gotten finished with checking the boys, he was starting to think twice about the trap he was about to set to catch them in a serious game law violation. Now, we call them "boys," but they were not really boys. They were men in late middle age. They were also June's contemporaries, well-known and well-respected members of the community, men he had known since boyhood, and men he would have to live with in the community for the rest of his life. He knew if he set his trap for them and they acted as he suspected they would, they would be resentful and hold it against him for years to come, calling him a common son of a bitch every time his name would come up. Then he thought again about the size of the bundle that he had

watched as it was dragged out of the marsh, and he thought about the fact that these men were setting their own trap to trick him and make a fool of him. When he got to the point in the road where he could see the track leading to the groundhog hole, he slowed down slightly without touching his brake and eased forward for a while, craning his neck to get a glimpse of the trail, which he could see well enough to spot the blood in the snow. That was all the convincing he needed, and he was now without any regrets about his decision: the limit was ten ducks for two men. From what he had seen, he figured they might have twenty. The bundle that was dragged out of the marsh was probably already at the limit of ten, and he had counted nine in the boat. All they had to do to be clear was to hightail it straight to the house and come back the next day for the ducks in the groundhog hole, and they would end the day the way they wanted, with a great hunt behind them, plenty of whiskey under their belts, and a good laugh about how they had tricked old June yet again.

All these thoughts were on June's mind when he reached the second gate from the marsh. He stopped, turned off his lights, and stood on the car bumper so he could see the boys' lights as they came up the road. He figured they might stop to get the ducks, and sure enough, they stopped at about the place in the road he had guessed they would if they stopped at all. And when he saw this, he got back into the car and, with lights off, went through the gate, and pulled up beside a row of cedars. He cut the engine and went back to shut the gate behind him

The boys rushed to get away from the marsh and back to the house and liquor bottle, but just as they started to pull away from the landing, one of them, William, remembered the pint of whiskey under the seat. That changed everything. They sat in the truck and each one took two king-sized chugalugs so the pint bottle was nearly gone. That whiskey hit their empty bellies and their noses went numb, and when the heat

in the truck kicked in, it all put them at ease so they forgot about June. After all, they had seen him drive out of sight. They howled with laughter about how they had gotten one over on him. They eased away from the landing, taking their time now, laughing and talking about their exploits until they got to the place where the track to the groundhog hole led off from the road. They stopped, and each one took another drink.

"Go on over there an' get them damn ducks! I'm not coming down here tomorrow. All these gates to come through. Hell with that." William was thinking out loud.

"You won't find that hole tomorrow. That snow is going to be a foot deep by then," Dick said.

So together, they walked the two hundred yards to the groundhog hole where the ducks were hidden and pulled them out with the string, all the while laughing and gloating over their victory over that son-of-a-bitch game warden they had out-foxed. But now the pint was almost gone, and they were getting hungry, so they got back into the truck and took off at speed up the pasture road and toward the house. The snow was falling more heavily by the minute, and the warden's car tracks had almost disappeared by the time they reached the second gate. They opened it and pulled through. When they had finished closing it and were about to drive on, they were suddenly blinded by the light of a vehicle not fifty feet away in the cedars. Not until June stepped into the glare of their lights, and they saw the shiny flash of his badge, did they realize that their bubble had been burst. The beam of his flash light hitting the shiny green heads of the mallard ducks in the back of the truck sobered them up. They were stunned. All they would have to show for this day's duck hunt were the summons each one got. Not a word was spoken when June put the evidence in the trunk of his car and took off. The warden was in a hurry now. He wanted to get home and have his duck dinner.

A life long resident of Loretto, Virginia, Kim Dickinson, now retired from a life of farming and fishing, is the father of four children and six grandchildren. Dabbling in writing most of his life he won the award for the "Best Senior Project" in a treatise about the erosion of hog island on Virginia's eastern shore while a senior at St. Christopher's School in Richmond. As a lover of nature, wildlife and the outdoors he can be seen inspecting crops for local farmers early in the morning and looking at his own crops on part of Wheatland and Woodburn farms.



THE NEED TO REAFFIRM CONSERVATION PRIORITIES



Local governments throughout the Northern Neck and Middle Peninsula are currently under pressure to find new sources of revenue to address budget deficits and increases in the cost of providing county services to their residents. In this time of financial stress, it is not unusual for local governments to be presented with short term, quick fix proposals that appear to address the immediate needs of their constituents, but which may undermine the county's long term conservation goals and pose a significant threat to the natural resources and scenic characteristics of our tidewater region.

This is a time when the importance of educating local communities and local governments on the true value of land conservation and the preservation of natural resource areas is critical. If they do not understand the value, they are not likely to insist on the protection and preservation of their rural and scenic environment. Smart growth is a planning concept that focuses on land uses that should be encouraged and those that should be denied for the benefit of community residents. Many counties

in Virginia have lost important natural resource assets as a result of population growth, urban sprawl, and poor planning decisions. These counties are now dealing with road congestion, pollution, and the spiraling cost of county services which they cannot reverse or effectively control. Tidewater residents of the Northern Neck and Middle Peninsula need only travel between Fredericksburg and the District of Columbia to appreciate the scenic and rural environment in which they live.

The river and the lands, forests and marshes along the Rappahannock's banks have defined the counties which border it for generations. These natural resource assets not only have aesthetic value to our citizens but they are also essential to the economic health of our counties. If they are nurtured and protected, they will promote tourism and other business initiatives that are compatible with the rural and scenic character of our counties.

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LAND USES AND THE COST OF COMMUNITY SERVICES

Many studies exist on the cost of community services (COCS) applicable to different land uses which underscore the economic value of conserving rural, scenic and undeveloped lands. These studies refute the attack on land conservation by developers and uniformly debunk their assertion that the “best” economic use of the land for the county is a residential subdivision. The truth is that large subdivisions, particularly those located in remote areas of the county, typically burden county governments because the cost of the county services they require is almost always much greater than the tax revenue they generate, whereas the opposite is true of farmland, forests, and open space land. A study by the American Farmland Trust on the median cost of community services showed that for every \$1.00 of tax revenue produced by residential developments, they cost county governments \$1.16 for the services they require. The AFT study compared this with farmland and other open land which showed that for every \$1.00 of tax revenue they produced, the median cost of the county services they used was only 35 cents, a net revenue gain of 65 cents. In 2012, a similar COCS study was conducted in Albemarle County, Virginia, which found that for every \$1.00 of tax revenue generated, the cost of county services to residential properties

was \$1.41, in contrast to agricultural land where the cost of the services was only 20 cents.

The reason that farmland and forests produce a surplus in revenue for counties is simple. They require very little in county services, yet they produce a steady and reliable stream of revenue, even in counties that have adopted land use taxation, which provides net dollars to the county for the benefit of its residents.

In an effort to educate counties on the importance of land conservation, the Virginia Department of Conservation & Recreation (VDCR) issued an advisory bulletin in 2013 for county governments and Virginia citizens explaining the full range of benefits county governments and their residents receive through conservation policies that protect and maintain agricultural lands, forests, and natural resources. With respect to the cost of county services, VDCR stated:

“Since the cost to a locality to provide services to undeveloped land is relatively low, a net positive tax cash flow is achieved. Conversely, the costs to provide schools for the children in housing developments plus other municipal costs may be much greater than the tax and non-tax revenue that residential lands provide.” ...“Many local governments strongly support land conservation, understanding that protected, undeveloped land generates more direct tax revenue than

the services it requires, and that residential development typically brings in less revenue than it costs to provide services.”

In addition to its comments regarding the comparative costs of community services, the VDCR advisory bulletin discussed the negative consequences that result from the failure to conserve and protect open-space lands, including degraded water quality and increased water runoff, loss of tree canopy affecting ecosystems and soil stability, declining air quality, alteration of traditional viewsheds and cultural landscapes, the destruction of historic sites, impact on plant and animal communities, and the overall impact on the quality of life of Virginia citizens. VDCR also emphasized the economic importance to Virginia of conserving farming and forestry operations which are our State’s largest industries and which provide approximately 500,000 jobs. VDCR noted that thousands of acres of agricultural and forest lands are lost each year as a result of urban growth and development. Finally, VDCR stated that conserving our natural resources, cultural and historic sites, landmarks and scenic vistas is vitally important to tourism which is a growing industry in Virginia and is becoming increasingly important as a revenue source to our counties.

The VDCR advisory bulletin should be mandatory reading by local government representatives

To understand the economic contribution of farming and forestry to a rural community, it is important to realize that they are not just the source of employment and income for the residents who work the land or cut the timber, but also for many other residents who work in area businesses that provide services, supplies, and equipment necessary for farm and forestry operations, or who are involved in the transportation and marketing of the products they produce.

and citizen groups. It should also be included in the course material taught in the earth science classes of our local schools.

The consequences of land use decisions which local governments make may not be understood by citizens of the community or even fully understood by the members of the local boards who have the responsibility to evaluate them. It is likely that most citizens have never heard of COCS studies and wrongly assume that population growth and residential development will invariably have a positive impact on the county's economic status. It is also probable that most county residents have no appreciation of the fact that farmland and forests placed in conservation easements generally help to increase the amount of State aid a county in Virginia receives for its local schools. An excellent discussion on conservation easements and the fiscal impacts to localities of land use policies can be found in a paper published by the Middle Peninsula Planning District Commission in December, 2010.

Funding necessary for the local schools of a county is always a large budget item for county governments. Counties in Virginia receive funding

from the State on a per pupil basis pursuant to a complex formula that establishes a composite index number for each county which theoretically represents the county's ability to pay its education costs. The lower the composite index number, the greater the amount of State aid a county receives. The formula that determines the composite index number is based on the county's true value of real estate (weighted 50%), adjusted gross income (weighted 40%), and taxable retail sales (weighted 10%). Because a conservation easement is a permanent commitment that restricts its use, as opposed to a land use commitment which can be reversed, conservation easements normally have the effect of reducing the true value of the property that is reported to the State which can result in an increase in State aid for the local schools. On the other hand, when the local Board of Supervisors make a decision to rezone farmland or forests to support a development proposal, the decision typically has the effect of increasing the value of the real estate that must be reported to the State which can cause the county's composite index number to increase which may trigger a

decrease in the amount of State aid for the county's local schools.

The authorization in Virginia property law for use-value taxation has existed pursuant to Title 58.1, Section 58.1-3229 et seq. of the Code of Virginia since 1974, the tax year when it became effective. The intent of the law is to foster "the preservation of real estate for agricultural, horticultural, forest and open space use in the public interest." To accomplish this goal, counties are authorized to tax agricultural land, forests, and open space land based on the "use value" of such land, rather than its fair market value. Land use value taxation has been adopted by 69 counties in Virginia, including all the counties which border the Rappahannock. Use value taxation is a state policy which is encouraged to help counties preserve their rural lands, scenic beauty, and natural resources in recognition that conservation of these assets directly affects the quality of life of county residents and enhances the environmental conditions of the county.

Although land use taxation has traditionally been endorsed by almost all of the local governments in the Northern Neck and Middle

Peninsula, it is now being challenged in some counties by residents who assert that it provides an unfair tax break to the owners of lands with acreage used for farming and forestry. A fair discussion of land use should point out that land use taxation rates do not apply to the actual residences and personal property of the owners of rural lands, but only to the unencumbered acreage they hold on which few, if any, county services are required. When viewed objectively, land use taxation is not only fair, it is totally consistent with the long-term goals of a rural county where agriculture and forestry operations are the primary economic engines of the community. To understand the economic contribution of farming and forestry to a rural community, it is important to realize that they are not just the source of employment and income for the residents who work the land or cut the timber, but also for many other residents who work in area

businesses that provide services, supplies, and equipment necessary for farm and forestry operations, or who are involved in the transportation and marketing of the products they produce. Critics of land use taxation should also understand that the owners of farmland who pay the property tax are often families who own small tracts of acreage which they lease to farm operators who cobble together the land on which crops are planted. The rent these families receive, which may be approximately \$70 to \$80 dollars an acre, is the only income they earn from their land.

Unfortunately, rural counties in Virginia are experiencing a decline in farm and forestry acreage each year. Farming and forestry are by their nature high risk businesses due to unpredictable weather conditions, wide variations in crop prices, insect damage, changing market conditions both domestic and global, and the political environment

which impacts trade policy. Farmers cannot be certain they will make a profit in any given year. Today, for example, crop prices for corn, wheat and soybeans (the primary crops produced in the Northern Neck and Middle Peninsula) are substantially lower than they were just a few years ago, yet crop production costs remain high. With land devoted to forestry, the timeline for harvesting mature trees can be 30 years or more, with no interim income to the landowner, except for what he might receive at the half-way point for thinning his stand of trees. Fire and tree damage from violent storms, in addition to the annual risk conditions a farmer faces, are risks which constantly confront a forest owner. Land use taxation is a policy which not only recognizes the environmental value to a rural community of conserving farmland and forests, but also the risk conditions that the landowner faces by dedicating acreage for farm or forest use.

CONCLUSION

When confronted with proposals to abandon land use taxation, it is vitally important that local government representatives and the community residents they serve fully understand the importance of conserving farmland and forests. Land use taxation is a policy rooted in the recognition that farming and forestry are essential to the economic health of rural counties and to the quality of life all residents of the county enjoy. Without land use, it is inevitable that acreage now used for farming and forestry which produces a tax revenue surplus to the county will decline as some owners of the land feel the pressure to convert their acreage to a more profitable use. Preserving forest lands and farms is not only smart economic policy, it also provides stability and continuity to rural communities and an awareness of environmental values which is often lacking in an urban setting. Land use taxation is entirely consistent with a rural county's goal of conserving its rural lands, scenic landscapes and natural resources for the benefit of all citizens of the county. To abandon it as a quick fix to address a county's current financial needs, which farms and forests have not caused and which they help alleviate, would be a short-sighted decision with long term negative consequences.

*Essex County Conservation Alliance
July 16, 2019*

ECCA ANNUAL PARTY

October 2018 at Rose Hill Farm Barn



Rose Hill Farm Hay Barn



Johanna von Walter, Harry Ware,
Bob Baylor



Listening to
Congressman
Rob Wittman



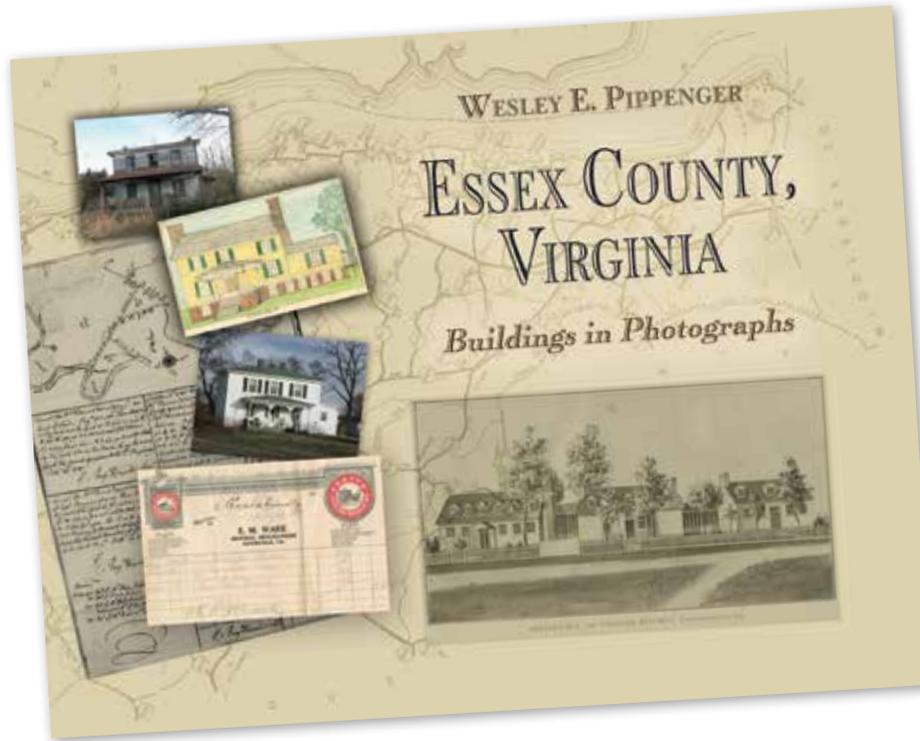
Fleet Dillard, Trent Funkhouser



Ned von Walter, Trent Funkhouser, Richard Carter



Congressman Rob Wittman



ESSEX COUNTY, VIRGINIA

Buildings in Photographs

Wesley E. Pippenger

Copies may be ordered at \$50/copy, postpaid, from Wesley E. Pippenger, P.O. Box 309, Tappahannock, Virginia 22560.

A separate copy of the location map, 13"x19", folded, may be ordered for an additional \$3.00.

**SAVE
THE
DATE!**

**The 2019
ECCA
Annual
Meeting
is Friday,
September 20th at
Wheatland Wharf.**

ECCA Board Reports: Financial

By Margaret J. Smith, 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 17% of Essex County is now under easement, more than any other tidal county along the Rappahannock River. In 2018 we received more than \$54,000 in individual and corporate donations and \$20,000 in grant funds. Additionally, in 2019 Essex County secured additional cost-share grant funds from the Virginia Department of Historical Resources (DHR) towards the Occupacia Rural Historic District study.

While this is a great start to the year, we ask you to please remember the ECCA as you contemplate giving through the remainder of the year. In closing, thank you once again for your generosity and we look forward to seeing you at the annual meeting on September 20th.

Thank You for Supporting ECCA

Benefactor ≥\$5,000

Austin Brockenbrough, III

Conservators ≥\$2,500

Gam & Kendall Rose
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Hill & Alice Wellford, Jr.

Stewards \$1,000–\$2,499

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THANK YOU SPECIAL DONATIONS AND GRANTS

Austin Brockenbrough III Gift
\$15,000

Department of Historic Resources
\$22,000

Richard S. Reynolds Foundation
\$5,000

Sargeant Reynolds Grant
\$15,000

This list above shows donations during the calendar year 2018.

May 2019 Dinner of ECCA Board of Directors held at Anna Paige and George Forest Dickinson's Layton's Landing

1. Boo Boo Garrett, Marilyn Ware, Mac Garrett



2. Hill & Alice Wellford, Liz & Bob Waring



3. David Henderson, Hylah Boyd, Marty Taylor, Wesley Pippenger



4. Drinks before dinner

5. Bob Baylor, Susan Bance, Harry & Marilyn Ware



6. Liz Waring, Julie Strock, Wesley Pippenger

7. Patsy Taliaferro, Betty Jo Butler, Will Dickinson

ECCA

ESSEX COUNTY CONSERVATION ALLIANCE

POST OFFICE BOX 356
TAPPAHANNOCK, VIRGINIA 22560



PAINTING CREDITS:
Katherine McIntire
b.1876 Richmond, Virginia
d.1960 Charlottesville, Virginia
Title: In Tappahannock
Property of a private collector

Detail from back
of painting.



In early 1934, the United States was near the depths of The Great Depression.

As the Federal Emergency Relief Act, a prototype of the New Deal, began to put a few dollars into the pockets of hungry workers, the question arose whether to include artists among the beneficiaries.

Thus started the creation of the Public Works of Art Project (PWAP), which in roughly the first four months of 1934 hired 3,749 artists, produced 15,663 paintings, murals, prints, crafts and sculptures for government buildings around the country.

Artists were recruited through newspaper ads placed around the country; the whole program was up and running in a couple of weeks. George Gurney, deputy chief curator of the Smithsonian American Art Museum said, "They had to prove they were professional artists, they had to pass a needs test, and then they were put into categories—Level One Artist, Level Two or Laborer—that determined their salaries."

The only guidance the government offered about subject matter was that the "American scene" should be their topic. The artists embraced that idea, turning out landscapes, cityscapes and industrial scenes. Katharine McIntire's "In Tappahannock" was painted during this period.