



CITIZENS FOR A BETTER EASTERN SHORE SHORELINE

A Journal of Natural Resources, Public Affairs and Culture on the Eastern Shore of Virginia

TM

Volume 35

February 2022

Number 2

STEM: Science, Technology, Engineering, and Math Education for Life and for the Future

By Mary Miller

STEM education is the intentional integration of science, technology, engineering, and mathematics, and their associated practices to create a student-centered learning environment in which students investigate and engineer solutions to problems, and construct evidence-based explanations of real-world phenomena. Young adults who do not possess high-level skills in mathematics, science, and technology are at a significant career disadvantage.¹

When Harvard University deemed the need for a STEM-capable workforce “an urgent national priority,” educators, community foundations, and public policy professionals took notice. Sports world figures and organizations were among the first to step up to the plate and provide resources for STEM education, especially for underserved young people – notably by Major League Baseball and the National Hockey League.²

Among the first sponsors was the Cal Ripken, Sr. Foundation. Founded to honor the legacy of Ripken, who was associated with the Baltimore Orioles organization for 37 years, the Foundation celebrated its 20th anniversary last year – and now has programs reaching “more than 1.2 million young people in communities across all 50 states.”³

The program aims to increase the number of minority and at-risk youth pursuing science, technology, engineering, and math careers. The

Foundation sees the STEM program as an opportunity to apply key lessons from sports – teamwork, respect, communication, and resilience – to

Today’s careers require STEM skills at all levels of employment, from service industries to engineering.

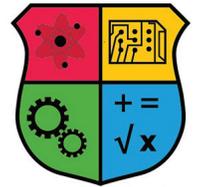
the classroom. It provides elementary-school youth in disadvantaged neighborhoods with interactive after-school lessons without the pressure of grades. With an emphasis on collaboration and critical thinking, it prepares at-risk youth for life’s challenges by teaching them critical life skills like teamwork, communication, work ethic, and respect.

STEM Programs Coming to Shore Schools

Thanks to the initiative, fundraising, and hard work of Accomack attorney John P. Custis and Robert Smith of Monument Sotheby’s International Realty, STEM Centers will be opening soon in Accomack and Northampton elementary and middle schools. Community funding partners include philanthropists and local foundations.

Each Center will include all materials, STEM kits, furniture, and equipment, including laptops and a 3-D printer. Training will be provided for teachers at each grade level. Funding will be available for replacement parts and new equipment as technology advances. STEM Centers

on the Shore are the first ones to be located in Virginia by the Cal Ripken, Sr. Foundation.



Today’s careers require STEM skills at all levels of employment, from service industries to engineering. Nationwide, growth in STEM careers outpaces that of any other occupational category. Thanks to the initiative and generosity of the local community, Eastern Shore students have now been provided with another educational tool as they prepare for their futures.

¹ <https://www.fldoe.org/academics/standards/subject-areas/math-science/stem/defining-stem.shtml>

² <https://frontofficesports.com/nhl-mlb-stem-education/>

³ www.ripkenfoundation.org

CONTENTS

STEM: Science, Technology, Engineering, and Math	1
Salt-Marsh Health Vital for Coastal Resilience	2
Bay Health Update.....	3
Changing Waterfront Property Lines	4
Recipe: Canadian Butter Tarts for Valentine’s Day	5
Vacation Rentals – By Right or Minor Special Use Permit?	5
Recycling Corner.....	6
New Delmarva Bike Route.....	6
CBES 2021 Bike Tour a Shore Win.....	8
2021 Donors to CBES	9
Community Calendar	12

Salt-Marsh Health Vital for Coastal Resilience

Submitted by Margaret Van Clief, CBES Board Member and TNC Outreach & Education Coordinator

Coastal resilience is surely on peoples' minds as the Shore's low-lying areas begin to experience increasing effects of climate change. We are seeing stronger, more frequent storms, and many communities are regularly experiencing flooding, even on sunny days. Erosion along our coastlines is becoming more apparent as daily wave activity increases in strength and frequency. What can be done? Fortunately, there is hope in the connection of people and nature.

Healthy salt marshes provide many important services, one of which, according to The Nature Conservancy (TNC) Coastal Scientist Bo Lusk, is "taking the punch out of waves," protecting coastal communities from the impacts of increasing wave energy. A resource that seems abundant in this conserved landscape, some salt marshes need our help maintaining their width, which will enable them to better protect us from increasingly frequent storms brought on by climate change.

The seaside town of Wachapreague, as many *Shoreline* readers know, is bordered north to south by salt marsh. Vast, gorgeous stretches extend across the coastal bays to

the shores of Parramore and Cedar Islands – providing habitat, cleaning water, absorbing wave energy. South of Wachapreague Channel lies a marsh island that has taken a beating by the waves and weather, and which has been reduced in size over the years as a result. TNC, in partnership with the University of Virginia (UVA), Accomack-Northampton Planning District Commission, and the local community, has obtained funding from the National Fish & Wildlife Foundation to conduct a restoration project here using nature-based solutions for coastal resilience, in this case, a variety of oyster restoration techniques. While TNC leads the restoration effort and UVA leads the research and data analysis, a project such as this requires community participation to succeed – so much so that community engagement is written into the grant that funds the project.

This restoration project is so close to town that, if you catch the timing of the tides right, you can actually look up from your lunch at the Island House and see TNC's Marine Habitat Restoration Team – Bo Lusk, Brittany Collins, and a growing crew of dedicated local volunteers – working to install oyster substrate (the hard stuff oysters grow on) along the marsh island's shorelines. You may even spot the silhouettes of UVA researchers as they gather data from wave sensors placed strategically around the island to measure the effectiveness of different restoration techniques. No matter what you see from across your plate of flounder fingers, you can know that volunteers are making it happen. Whether they are stacking oyster castle blocks to create low protective walls of habitat along the marsh or deploying a lightweight, biodegradable substrate designed to both provide a home for oysters and to strengthen the marsh by holding sediment in place; whether



they are actually creating the lightweight Oyster Catcher substrate at Brownsville Preserve or talking with their friends and their community about the work, volunteers are the driving force behind this project – true champions for coastal resilience.

There is much to be done, and after a slow but stalwart start in 2020, volunteer recruitment gradually continues to increase, and so the work progresses. Members of Wachapreague's Town Council and Planning Commission toured the restoration site by boat with TNC staff in September 2021. The town officials, impressed and pleased with the progress and seeing the importance of community participation, agreed to encourage their neighbors to get involved. As well as volunteer opportunities and community input sessions, public events are planned to take place throughout the project. The first such activity was held in October – an open house at the Island House where Wachapreague residents and friends were invited to stop by for a bite and to talk with volunteers, restoration staff, and researchers. Boat tours to the marsh island were offered throughout the event, and indoor substrate demonstrations were available in full view at the restoration site. Existing volunteers signed up new volunteers, and all walked away with a renewed sense of hope knowing that they themselves could play an active role in protecting their community.

You can, too! To learn more and connect with opportunities to help, please reach out to me at mvanclief@tnc.org or (757) 414-9227. 

ShoreLine is published monthly by Citizens for a Better Eastern Shore and is distributed to members, public officials, and friends. All material herein is copyrighted © 2022 by Citizens for a Better Eastern Shore.

Editorial Board

Donna Bozza Sue Mastyl
Eleanor Gordon Mary Miller
Arthur Upshur

Contributing Writer

George Mapp

Staff Photographer

Cecil Watts

Editor/Design

Sarah Morgan, *Savoy Studio*

Contact Us

P.O. Box 882, Eastville, VA 23347 • (757) 678-7157
info@cbes.org • www.cbes.org

Printed on Sustainably
Produced Paper  SFI

Bay Health Update

By George Mapp

Warming Waters

A recent Virginia Institute of Marine Science (VIMS) Chesapeake Bay climate study revealed an overall warming trend over the past 30 years.¹ This was not surprising, but some of the details were. In particular, temperature elevations in summer (2°F higher) were much greater than in winter (0.6°F higher). These were most noticeable in deep water at the mouth of the Bay.

Baywide changes were driven mostly by a warmer atmosphere. At the mouth of the Bay, where dense, salty ocean water flows in along the bottom, warmer ocean water contributed to the trend. This water is warming at a rate “around 2 times faster than atmospheric temperatures, and nearly 4 times greater than the increase in globally averaged surface ocean temperatures,” according to VIMS researchers.

The reason for the high rate of warming of Virginia ocean waters is not well understood, but warmer waters are responsible for extending the habitat of southern species, e.g., white shrimp. This has opened up a commercial fishery off Virginia Beach, below Cape Henry, where they landed 400,000 pounds of shrimp last year.² Above Cape Charles, 4 “experimental” shrimpers will be permitted offshore next year, selected from a lottery system.³ Shrimping is not allowed in the Bay or in the ocean between the capes.

For this new fishery, Virginia requires much smaller nets than other states, to reduce damage to the ecosystem from scraping the bottom and from dragging up all sorts of other critters along with the desired catch. This bycatch is often injured as it is dumped from the net, sorted, and swept off the stern. For this reason, trawling – dragging a funnel-shaped net along the bottom – has never been permitted in the Bay.

The Dead Zone

Deep-water warming during summer months exacerbates the problem of low levels of dissolved oxygen along the bottom in the deepest parts of the Bay. Just as we humans require oxygen to breathe, fish and crabs and all the other bay critters require it also. When oxygen levels drop below a certain point, the deep water can no longer support marine life – hence the name, “dead zone.”

Oxygen gets mixed into water at the surface, and underwater it is produced by marine plants. Marine animals consume oxygen, and that, of course, is normal. What is problematic is when excess nutrients (fertilizer, sewage, etc.) trigger microalgae blooms, which are consumed by bacteria along with the remaining dissolved oxygen.⁴

The good news was that nutrient levels decreased and the dead zone contracted, and oyster restoration projects are successful.

A common occurrence in the Bay during the summer is a die-off of menhaden, caused by low dissolved oxygen.⁵ This is not to be confused with fish spills from torn nets in recent years. According to VMRC Commissioner Steven Bowman, since 2018 there have been 13 reported fish spills by Omega Protein, averaging about 120,000 fish each time.⁶ Other commercial and recreational species, like striped bass, are also impacted by the dead zone.

2020 Report Cards

Several organizations release annual report cards on various aspects of Bay health. Since they use different criteria, they can't be directly compared.

VIMS reported that the dead zone was smaller in 2020, partly due to an August hurricane that stirred up the waters, mixing oxygen-rich surface water into the oxygen-poor deep water.⁷

The University of Maryland Center for Environmental Science reported a modest improvement in Bay health, from C- to C.⁸ Starting last year, they also graded the huge Bay watershed, extending up to New York state. The grade for 2019 and 2020 was B-.

The grade from the Chesapeake Bay Foundation declined slightly, to D+, mostly due to ineffective management of the striped bass fishery.⁹ The good news was that nutrient levels decreased and the dead zone contracted, and oyster restoration projects are successful.

VIMS also issued a report card for sea-level changes at 32 locations along the Atlantic, Gulf, and Pacific coastlines, including Alaska.¹⁰ The analysis of 52 years of data revealed acceleration in sea-level rise at all locations except in Alaska and 1 station in California, where rising global waters were masked by uplifting land along the coast. Norfolk is the current “hot spot” for sea-level rise along the Atlantic Coast, due to rising global waters and local land subsidence. However, if current trends continue, the “hot spot” will shift southward from Virginia into the Carolinas. 

¹ Malmquist D. VIMS study reveals extent, seasonality, and causes of Bay warming. Virginia Institute of Marine Science, Oct. 19, 2021. https://www.vims.edu/newsandevents/topstories/2021/bay_warming_explained.php.

² Ress D. Commercial shrimp fishing could be coming to Virginia Beach. The Virginian-Pilot, June 25, 2021. <https://www.pilotonline.com/news/environment/dp-nw-commercial-shrimp-industry-virginia-beach-20210625-v7j7q3piuzfahj4raz3y44u6j4-story.html>.

³ Commonwealth of Virginia, Marine Resources Commission. Eastern shore commercial shrimp trawl permit. Aug. 1, 2021. <https://mrc.virginia.gov/Notices/2021/2021-07-29-ES-AppandLetter.pdf>.

Changing Waterfront Property Lines

Submitted by Jim Lang, Pender & Coward

Does The Property Line Move When the Shoreline Changes at My Waterfront Property?

The place where the waterfront property touches the water (i.e., the shoreline) differs from the other boundaries at the parcel. The upland boundaries have a fixed location – but wave action, water currents, wind, and other natural forces constantly change the shape and location of the shoreline. The important thing for the waterfront property owner is to know whether the changing position of the shoreline shrinks or expands the size of his or her upland acreage. In this article, I explain how Virginia riparian property rights law places the property boundary, relative to the changing situation at the shoreline.

Courts in Virginia recognize that the shoreline “shifts with the shifting sands.” Finding the property boundary at the shoreline is highly fact-specific. It can also be complicated. Let’s start with the simplest situation.

Waterfront Property on a Lake or Pond

If your Virginia waterfront property is located on a lake or a pond, the property line does not move, no matter how much the shoreline changes. The “calls” in the deed usually have all the information that you, or your land surveyor, need to locate the property line at the side of your property that faces the lake or pond. Complications can creep in, however, if the deed for your waterfront property, and those of the other waterfront owners at the lake or pond, were inexpertly drafted with respect to bottomland ownership. This wrinkle does not change the rule that the property line stays put when the shoreline moves. Rather, the inexpertly drafted deed requires extra effort – from you, your land surveyor, or perhaps a court – to find the location of the property line at or under the water.

All the bottomland beneath the lake or pond will be privately owned, typically (but not necessarily) by the various waterfront property owners. Hopefully, the deeds for all the waterfront property owners, taken together, spell out which waterfront property owner owns which part of the bottomland. These types of deeds give the individual waterfront property owner the greatest ability to control fishing, boating, and other activities on the water above the part of the bottomland owned by that person. Sometimes, however, the deeds fail to spell out which waterfront property owner owns which part of the bottomland – in which case, the courts have developed a set of rules to determine which parts of the bottomland are owned by which of the waterfront property owners. In any case, once the owner determines the location of the property line at the side of the property facing the lake or pond, that property line remains at that location no matter how much the shoreline shifts.

Waterfront Property on a River, Creek, Bay, or the Shore of the Sea

There are some important exceptions, but for the most part, the Commonwealth of Virginia owns the bottomland situated next to waterfront properties located on a river, creek, bay, or the shore of the sea. The general rule for these properties is that the upland extends to “the mean low-water mark but no farther” (Virginia Code §28.2-1202(A)). The practical effect is that property boundary changes will follow shoreline changes, subject to some important exceptions. Let’s take a deep dive into some (but not all) of the exceptions.

The Exception for Non-Tidal and Non-Navigable Rivers and Creeks

One important exception applies in the non-tidal rivers and creeks. If these waters are not “navigable,” then the waterfront property owner owns the bottomland out to the centerline of the watercourse. In this case, shoreline changes do not move the property line. The U.S. Army Corps of Engineers will, in some cases, conduct a study to determine if a non-tidal river or creek is navigable. Most non-tidal rivers and creeks in Virginia have no navigability determination, because studies of this type have not been made at most locations. One option that might substitute for an official navigability determination is the administrative standard used by the Virginia Marine Resources Commission (VMRC), in Section VII of its Subaqueous Guidelines. VMRC believes it has no jurisdiction if the non-tidal river or creek draws water from a drainage area of less than 5 square miles or the instream flow is less than 5 cubic feet per second. A further option to establish navigability or non-navigability is to seek a court determination, where the legal standard will be whether the waterway “is used, or susceptible of being used, in its ordinary condition, as a highway for commerce, over which trade and travel are or may be conducted in the customary modes of trade and travel on water.”

The Exception for Avulsions

An avulsion is a change to the shape or location of the shoreline brought about by a man-made change or by a rapid change brought about by a sudden force of nature. The property boundary does not change in the case of shoreline changes brought about by avulsions.

The Exception for Man-Made Canals That Connect to a River, Creek, Bay, or the Shore of the Sea

A land developer owning a large parcel of waterfront property adjoining a river, creek, bay, or the shore of the

See Changing Waterfront, cont'd on p. 7



Canadian Butter Tarts for Valentine's Day

A childhood memory from maple syrup season – these thin pastries filled with a soft, sweet, sticky filling. All the GranMères had their own traditional recipes – some with nuts, or raisins, or both. But just plain, sweet, maple-filled tarts – what a perfect treat.

Which brings up the matter of St. Valentine's Day. The kitchen warm with the scent of maple – and a really short wait to pull them out of the oven. A homemade gift to share with whoever turns up in your kitchen.

Canadian Butter Tarts

- 1 store-bought pie crust, rolled – at room temperature
- ¼ cup butter, softened
- ½ cup packed brown sugar
- ¼ tsp. salt
- ½ cup maple syrup (the darker the color, the more robust the flavor)
- 1 beaten egg
- 1 tsp. vanilla

Whisk butter, brown sugar, and salt – then whisk in maple syrup, egg, and vanilla.

Unroll pie crust on lightly floured wax paper. Lightly flour paper and top of crust. Roll out in all directions to make a thinner pastry. Using a 4" thin-edge cup or pastry cutter, cut circles from crust. Spray a cupcake tin with cooking spray and gently arrange cut circles in cups, pleating sides to fit. Reroll pastry scraps to get a few more circles.

Fill cups half full with butter mixture – bake in preheated 425° oven for about 12 minutes. Crust will be browned and filling will be bubbling. Run sharp knife around each cup to be sure they're loose. Cool at least 15 minutes before eating!!!

Reprinted with permission: *The Kitchen Hive* <https://www.talkrealnow.com/canadian-butter-tarts-on-valentines-day/>

Originally published in April 2019 *ShoreLine*

Nearly 3 years ago, ShoreLine/CBES did extensive research on the connection between the increase of vacation rentals and the decrease of year-round rentals for local workers in other tourist-oriented communities. We asked those questions with the hope that the Board would consider the possible consequence, now apparent in the county – the disappearance of rental housing for local residents.

Vacation Rentals – By Right or Minor Special Use Permit?

The Northampton Board of Supervisors will vote soon on this issue. A Public Hearing was held last August and ever since, the Board has been discussing where and how to permit Short-Term Rentals and to create performance standards and guidelines for neighborhood compatibility. The county stands to gain additional Transient Occupancy Tax when vacation lodging options are increased. And more vacation rentals can accommodate more vacationers, which can lead to more tourism dollars for local businesses.

The flip side of the discussion concerns how residential neighborhoods are impacted by these transient rentals – by noise, parking, and increased traffic. If there is no county permit required, a house can become a short-term rental with no notice to the neighbors. Some states with tourism destinations are now considering “full disclosure” on real estate sales about proximity of vacation rentals. Noise, and the stigma of a “party house,” are often the major problems.

With or without a required permit, the county needs a clear, enforceable definition for the Use. Designated limits on numbers of occupants and parking spaces, and noise and fireworks standards – with a consequence for non-compliance – would help to mitigate these issues for neighbors.

Will this new Use encourage the disappearance of yearly rentals for the community's workforce? Would the owners of affordable cottage or mobile home rentals succumb to market pressure and turn them into “fisherman's rentals” for seasonal use? Will neighborhoods continue to be hollowed out of year-round residents, when short-term rentals become a high proportion of the community? The pros and cons, and possible impacts, need careful balance as decisions are made.

RECYCLING CORNER

By Sue Mastyl

Are “Free” Returns Really Free?

With online sales booming after almost 2 years of a pandemic, it’s worth taking a look at what happens to all those items that get returned, because they don’t fit, the color’s not right, or we just don’t like them.

Where Our Returns End Up

Although around 10% of purchases from brick-and-mortar stores are returned, up to 40% of online purchases are returned. Most returned items are women’s clothing, appliances, and toys. For clothing and shoes, this is partly due to the practice of “bracketing” – ordering a size above and below your normal size, which means ordering 3 items when you only need 1. More than \$100 billion of merchandise was returned last year from online purchases in the U.S. The hard reality is that most of this merchandise probably doesn’t get restocked.

While the front end of online sales is straightforward – getting goods from the manufacturer to the consumer – the back end is much messier. It’s time- and labor-intensive, including sorting through packaging and determining whether a product has been used or not. It can cost an online retailer \$10 to \$20 per item to process a single return item, in addition to shipping costs. Many retailers have policies preventing any opened products from being resold as new, although some brick-and-mortar stores do still allow this. Some products, such as bathing suits, underwear, and cosmetics, are destroyed for sanitary reasons.

Some returns are sold in bulk at a fraction of their original cost to liquidators, discount retailers, or secondary markets overseas, where they may or may not actually be resold (see Feb. 2021 *ShoreLine*). For many big companies, it’s cheaper to trash them. More than 2 million tons of returned items are thrown away each year, enough to fill more than 200,000 garbage trucks. That waste in the landfill contributes 15 million metric tons of carbon dioxide to the atmosphere, in addition to the emissions and energy use from the transportation and shipping.

What Can We Do?

First, realize that nothing is free. We can advocate for better regulations, by following France’s lead in outlawing the destruction of unsold or returned non-food items, including electronics, clothing, & cosmetics. We can also advocate for retailers to look for new solutions to resell, recycle, or donate their returns, and to minimize their packaging and offer clearer descriptions of their products.

As consumers, we can resist the impulse to order more than what we need online; buy from (and return to)

New Delmarva Bike Route

By George Mapp

The Adventure Cycling Association, the “AAA” for touring cyclists, has recently designated a route along secondary roads from Philadelphia to Currituck, NC – a little over 300 miles. There are 2 alternative northern routes that converge and enter Virginia near Greenbackville and pass through our area along the seaside. At the Chesapeake Bay Bridge-Tunnel, cyclists can request in advance a shuttle across the Bay, and then resume the route through Virginia Beach and on to NC. When the Eastern Shore rail trail is finished, the route will be updated to include the new trail.



Adventure Cycling has over 50,000 members and they publish *Adventure Cyclist* magazine 9 times a year, covering bike travel in the U.S. and abroad. They publish maps showing cyclists where to eat, drink, sleep, tour, and find bike repair shops. The maps and addendums are frequently updated to keep up with changing conditions.

The organization was founded in 1976 to celebrate the bicentennial. Their first route, the Transamerica Bicycle Trail, extends 4,200 miles from Yorktown to Astoria, Oregon; passing through Yellowstone and the Grand Tetons, and ending at the point where Lewis and Clarke first came upon the Pacific Ocean. Like many other churches along the route, Grace Episcopal Church in

See **New Bike Route**, *cont'd on page 7*



brick-and-mortar stores whenever possible; ask retailers up-front about their policies; and reduce the amount of frivolous items we buy, especially during the holidays (at least two-thirds of holiday gift recipients return one item or more). We can also donate unwanted items locally (to thrift stores, or on Buy-Nothing or Freecycle groups) rather than returning to retailers; some retailers like Amazon and Target are actually willing to refund your money without requiring you to send the item back.

Sources:

- How our culture of “fast and free returns!” is not free. Full Frontal with Samantha Bee. Dec. 15, 2021. <https://www.youtube.com/watch?v=07in8aa3oy8>
- Mull A. The nasty logistics of returning your too-small pants: what happens to the stuff you order online after you send it back? *The Atlantic*, Oct. 7, 2021. <https://www.theatlantic.com/magazine/archive/2021/11/free-returns-online-shopping/620169/>
- Renwick D. The hidden environmental cost of your free holiday returns. *The Guardian*, Jan. 2, 2020. <https://www.theguardian.com/environment/2020/jan/02/as-americans-send-back-millions-of-holiday-gifts-theres-a-hidden-environmental-cost>

New Bike Route, cont'd from p. 6

Yorktown hosts cyclists in their fellowship hall. Grace's parish house is located on a bluff above the York River, with a panoramic view of the river. Their guests come from all over the world and comment in their logbook about the warmth and generosity of their hosts, and what the journey means to them in their path through life.

If the Delmarva route becomes popular, travelers on it can be identified by their slow-moving, heavily laden bikes. According to Champe Burnley, past president of the Virginia Bicycling Federation, "if you're taking this adventure, you don't just breeze through at 55 mph: I think most of these folks will be taking at least 7 to 10 days to complete this trip. They will be staying in your campgrounds, hotels, and B&Bs, visiting your restaurants in search of the biggest seafood platter available, and consuming locally produced beverages to quench that well-earned thirst!"

A recent study of the Great Allegheny Passage trail found that the average overnight rider spends \$90 per person, per day on camping, motels, and food. 

Sources

Adventure Cycling Association. 2022. *Delmarva*. <https://www.adventurecycling.org/routes-and-maps/adventure-cycling-route-network/delmarva/>

Gaptrail.org. 2021. *Great Allegheny Passage-Economic Impact Report*. <https://gaptrail.org/wp-content/uploads/2021/11/2021-Great-Allegheny-Passage-Economic-Impact-Report-Spreads.pdf>

Grace Church Yorktown. 2022. *Sharing and Hospitality - Grace Church Yorktown*. <https://gracechuryorktown.org/serve/sharing-and-hospitality/>



Bay Health cont'd from p. 3

⁴ Kitch T, Lewitus A. Dealing with dead zones: hypoxia. NOAA Ocean Podcast, episode 13, 2021. <https://oceanservice.noaa.gov/podcast/feb18/nop13-hypoxia.html>.

⁵ Virginia Institute of Marine Science. Menhaden background. 2021. <https://www.vims.edu/research/units/projects/menhaden/about/>.

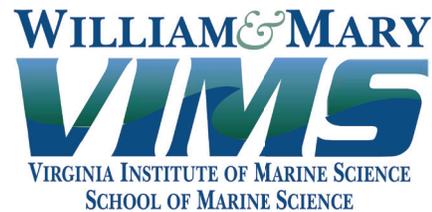
⁶ 13News Now. VMRC: 400,000 dead fish spill into Hampton Roads waters. Sept. 10, 2021. <https://www.13newsnow.com/article/news/local/vmrc-omega-protein-fish-spills-menhaden/291-15a80dde-aaa7-4f43-a28d-47aca756a1ba>.

⁷ Virginia Institute of Marine Science. Dead-zone report card: compare the annual severity of Chesapeake Bay hypoxia. 2021. https://www.vims.edu/research/topics/dead_zones/forecasts/report_card/index.php.

⁸ Condon C. University of Maryland environmental scientists give the Chesapeake Bay a C on health report. Baltimore Sun, June 22, 2021. <https://www.baltimoresun.com/news/environment/bs-md-chesapeake-bay-report-card-umces-2021-20210622-p4nkmfvoubegbn64kt4bx3sizu-story.html>.

⁹ Chesapeake Bay Foundation. 2020 State of the Bay Report. <https://www.cbf.org/about-the-bay/state-of-the-bay-report>.

¹⁰ Virginia Institute of Marine Science. U.S. sea-level report cards. 2021. <https://www.vims.edu/research/products/slrc/>.



2022 Summer Internships Available at VIMS Eastern Shore Lab

The Virginia Institute of Marine Science's Eastern Shore Laboratory will again offer summer intern opportunities for senior high school and college students who are primary residents of the Eastern Shore, to work at the lab on various research projects related to marine science.

Interns will have the opportunity to work directly with research scientists on projects such as shellfish aquaculture, water quality, restoration ecology, and marine ecology. The goal of the program is to provide hands-on learning and employment opportunities for local students interested in careers in science.

Admission to the internship program is by competitive application.

To apply, please send a cover letter and resume to Hollis Parks at hfparks@vims.edu or mail to VIMS, P.O. Box 350, Wachapreague VA 23480 by February 14, 2022.

William & Mary is an Equal Opportunity/Affirmative Action employer and encourages applications from women, minorities, protected veterans, and individuals with disabilities.

Changing Waterfront, cont'd from p. 4

sea may in some instances subdivide the property into multiple buildable lots. The internal, land-locked, lots can be converted to more highly valuable waterfront lots if the developer excavates canals that connect the internal, land-locked, lots to the water. Changes to the shape or location of shoreline on these canals do not change the property line.

Conclusion

Finding the property boundary at the shoreline is highly fact-specific. It can also be complicated. For more information on this and other topics, go to <https://www.pendercoward.com/practice-areas/waterfront-law/>. 

CBES 2021 Bike Tour a Shore Win

By Donna Bozza, Executive Director, and Mary Ehmann, 2021 Bike Tour Coordinator

The economics of CBES 28th *Between the Waters Bike Tour* stretched beyond a fundraiser for our nonprofit as it strongly impacted Shore towns and businesses. The iconic Eastern Shore event was a sellout last October with 800 riders (capped from the usual 1,000 to ensure a safe event during the ongoing pandemic). The tour’s start and finish at the Eastern Shore of Virginia National Wildlife Refuge once again was a key promoter of the Shore’s ecotourism industry.

How Do We Know This?

At the conclusion of the 2021 sellout ride, CBES sent a Bike Tour Survey to participants asking, among other things, how much they spent during their stay and on what. Responses reflected approximately 350 riders, nearly 50% of participants.

Below are the highlights of the Bike Tour’s estimated infusion of dollars into the Shore economy, extrapolated from survey data.

CBES Between the Waters Bike Tour Economic Impact

Lodging Expenditures:	\$128,976
Food Expenditures:	\$83,960
Bike Tour Registration Fees [800 registered]:	\$52,230
Shopping Expenditures:	\$41,264
Miscellaneous Expenditures:	\$26,056
Estimated total dollars spent by bike tour participants and their guests:	\$332,486

Customer Satisfaction

The Bike Tour survey also collected and recorded customer satisfaction and gauged if the tour can influence repeat visits to the Shore. Here are the results.

- 98% of cyclists rated overall ride experience as either EXCELLENT or VERY GOOD, with 80% rating the bike tour EXCELLENT.
- 93% of cyclists stated they were VERY LIKELY to participate in future CBES Between the Waters Bike Tours.
- 89% of cyclists stated they were VERY LIKELY to return to the Eastern Shore because of their bike tour experience, with an additional 10% stating SOMEWHAT LIKELY.

Demographic Statistics

Where did they come from and how long did they stay? The data support that the CBES Bike Tour continues to be a true tourism event that extends to a 2- to 3-day stay for visitors, many of whom are repeat participants.

- 90% of the riders came from places other than the Eastern Shore. Many came from other parts of Virginia, and from as far away as Alabama, Florida, Connecticut, Illinois, and Michigan.
- 65% of cyclists stayed 1 or more nights during their visit to the Eastern Shore.
- 19% of the cyclists stayed the Bike Tour day, with the remaining 16% being Eastern Shore residents.



Oh, the places they did go! Cyclists wend their way to and from UVA’s Anheuser-Busch Coastal Research Center in Oyster, where they were treated to catered lunches and live music. Participants in this year’s Bike Tour echoed comments from past tours, citing the beauty of the Shore and the friendliness of Shore residents. Photo credit: JBOutdoors

2021 Donors to CBES

(Gifts received during the 2021 calendar year)

"When we give cheerfully and accept gratefully, everyone is blessed."

Maya Angelou

In this, our 34th year, Citizens for a Better Eastern Shore is once again honored by a membership that invests in our efforts to INFORM – ENGAGE – EMPOWER our community. Some of you just joined the CBES team, others have been steadfast supporters for many a year. We count you all as friends as we work together for a better Eastern Shore for all.

Bald Eagle

Over \$2,000

Norman & Susan Colpitts
Dr. & Mrs. Michael Peirson

Blue Heron

\$1,001 to \$2,000

Anonymous
Liz & Will Jones
Sharon & Frank Renshaw

Osprey

\$501 to \$1,000

A. Marshall Acuff
Sam & Julie Barker
Adelaide "Scottie" Franklin
Barbara & Steve Johnsen
Laurie & Walter Jones
Bill & Jeanne Reynolds
Dave & Chris Wilson

Peregrine Falcon

\$201 to \$500

David Boyd
Donna E. Bozza
Lilly & Bruce Bradley
Mark & Jody Bundy
John & Beth Calder
Jane Cody
David & Nadine Costenbader
Chip Dodson & Katherine Will
Joseph Dunn
David & Lee-Ann Fick

Peregrine Falcon (continued)

Eleanor Gordon
David F. Harris
Brian Hickman
Ms. Lee Jordan-Anders
Terry & Judy Malarkey
Wendy Martin
Hank & Sandy Mayer
H. Turney McKnight
Katherine T. Mears
Virginia Morgan & Debbie Belote
Frank & Rose Moore
Eunice J. Payne
Meriwether Payne
Mr. Matthew Perrie
Janet & Haydon Rochester
Mr. & Mrs. David Tankard
Ashby & Sandra Taylor
Mr. & Mrs. Jeff Walker
Scott Walker

Piping Plover

\$101 to \$200

Betty B. Badger
Tersh & Chappell Barber
Mr. James Bell
Jill Bieri
Melinda Blanchard
Jeffrey & Diane Blodgett
Tim & Susie Brown
Don & Price Clarke
Dick & Ann Conrad
Davis Disposal, Inc. & Mike Davis
Dr. & Mrs. William Andrew Dickinson
Jennifer & Steven Elliott
David Handschur & Mary Miller

Piping Plover (continued)

Pam & Rick Holley
Kathy & Roger Kidwell
Adam & Somiah Lattimore
George Mapp
Mark & Martha McNair
John Monroe
Carl & Linda Nordstrom
Tonya & Van Tankard
Samuel Taylor
Ann Hayward Walker
Franci Wayland
Joan Wehner
John W. Wescoat
Tom & Linda Zeiger

Sanderling

\$51 to \$100

Mr. Shelton Alley
Anonymous
Anonymous
Mary Arginteanu
Assateague Coastal Trust
Patricia K. Bloxom
Donald Brennan
Mr. & Mrs. Jim Brown
Lisa Cannon & David Johnson
Joe & Catherine Chaddic
Walter & Randy Childs
Dan & Sally Dickinson
Jerry N. Doughty
Mary Ehmann
Marshall & Jane Feaster
Joanna Frescoln
Megan Gallagher
Linda Haberman
Anne Hallerman
Liz Hancock
Mr. & Mrs. Bernard Herman
Elvin & Annie Hess
Patricia W. Holland
Tammy & Jim Holloway
Robert & Elaine Howell
Frank & Sallie James
Luke & Patty Kellam

Sanderling (continued)

Mr. & Mrs. E. Polk Kellam
Sally Kellam
John & Melody Kolos
Bernard Leister
Roland & Heather Lusk
Charles Marshall
Laura & Jim McGowan
Linda & Jim Mehne
Sarah Morgan
George & Wilma-Motley Heinrichs
Jack & Linda Murray
J.J. Neville
David Outten
Polly Ransone
Monika Relman
Mr. John M. Roberts
Alice S. Rucker
Linda Schulz
Christopher Shepherd
Ann & John Snyder
Doug Tanner
Mr. Barry Truitt
Suzanna Turner
Vanguard Marking Corporation
John H. Verrill
George & Janis Walsh
Sally & Doug Williams

Curlew

\$26 to \$50

Nan Arpino
George & Joan Bryan
Victor Cabanas, MD
Marietta Carter
Jim & JoAnn Clark
Rita Coutts
Tommy & Ann Custis
Roger & Gigi Davis
Dawn & Randy Diamond
Patty Driscoll
Tilly-Jo Emerson
Donna Fauber
Gene H. Gibson
Kenneth Goldsmith
Bill Hafker

Curlew (continued)

Peter & Suzanne Henderson
 Ms. Jayne Jeney
 David & Sandra Kelly
 Terry & Karen Kolet
 Diane Langley
 Mr. & Mrs. Robert K. & Bonnie P. Lewis
 Kathy Louthan
 Pat & Ellen Lusk
 Andrea & Zach McCready
 Ben & Emarie Payne
 Art & Claire Poole
 Margaret Reinhardt
 Charles Rhyne
 K. Michael Rouke
 Mr. J. Thomas Savage
 Yvonne Schultz
 Nancy Stewart
 Bill & Diane Stramm
 Terry Swain
 Robert Toner
 Arthur & Eleanor Tross
 Ann Violi
 Peg Snowden Volk
 Mary G. Walker

Avocet

Up to \$25

Eric & Ruth Acra
 Rick & Sarah Bingman
 Suzanne Conrow
 Matthew & Grace Cormons
 Kitty Crandall
 Paul & Freda Cross
 Sandy DeCain
 Mr. & Mrs. James Drebes
 Kathy Durmick
 Joe & Kim Fehrer
 Mr. Andrew Follmer
 Karen & Rich Gliedman
 Mr. & Mrs. William J. Harvie
 Julie Jones
 Caroline & Stephen Kaczmarek
 Mr. & Mrs. Keith Kellum
 Holly Kidd

Avocet (continued)

Robert & Sarah Lentz
 Vernon A. Lewis
 Mr. & Mrs. Greg Low
 Jane McKinley
 Paul Muhly
 Marion & David Naar
 Louis & Thelma Negretti
 Sarah Nock
 Ms. Jan Noonan
 Jennifer Peirson
 Wallace & Hannah Pickworth
 Deb & Michael Pollio
 T.P. Powell
 Mary Preston
 John Reiter & Soheir Ellithi
 John Reuther
 George Savage
 Peter & Rachel Sengenberger
 Mr. Jonathan Sidway
 Grace Silverstein
 Marie Silverstrim
 Richard Snyder
 Dora Sullivan
 Shuli Tor
 Mr. Frederick Turner
 John M. Vaughan
 Nancy Vogt
 Suzanne Wolff

CBES cherishes donations made in remembrance of a loved one. 2021 saw the passing of a community leader who served our grassroots organization with distinction and heart.

In Memory of Gene Hampton by



Donna Bozza
 Robert Lentz
 James Mehne
 Sarah Morgan



CBES does its best to acknowledge donors and donations accurately, but errors can occur. We apologize in advance and ask that you please notify us with corrections: info@cbes.org or 757-678-7157. Please note: If part of your donation was applied to a CBES membership, IRS rules prevent inclusion of that amount in your tax-deductible donation total.

Citizens for a Better Eastern Shore
P. O. Box 882
Eastville, VA 23347-0882

Address Service Requested

INFORM, ENGAGE, EMPOWER!

Check your label – if it doesn't show '22 or Life, you need to renew (cbes.org).

Nonprofit Organization
U. S. Postage Paid
Eastville, VA
Permit No. 8

**ESVA Broadband Authority
Board Meeting**

February 15, 2022

2:00 PM

4174 Lankford Hwy
Exmore, VA 23350

Across from McDonald's



**ANEC to Hold Member
Engagement Forum**

A&N Electric Cooperative (ANEC) has announced a Member Engagement Forum on Thursday, March 17, at their Tasley facility, to provide members the opportunity to discuss local issues with cooperative officials.

Preregistration is required, and seating will be limited due to COVID protocols. You can preregister at 757-787-9750, or email: billing@anec.com. Preregistration will close on March 15.

Community Calendar*

**NOTE: For current status of public meetings, go to the appropriate website or contact by email or phone.*

Accomack County
757-787-5700

www.co.accomack.va.us

- 1st Wed **Board of Zoning Appeals**
10 AM, Accomac
- 2nd Wed **Planning Commission (PC)**
7 PM, Accomac
- 3rd Tues **School Board**
6:30 PM, Accomac
- 3rd Wed **Board of Supervisors (BOS)**
5 PM, Parksley
- 4th Tues **PC Work Session**
7 PM, Accomac
- 4th Thur **Wetlands Board**
10 AM, Accomac

CBES and Other Activities

- 3rd Tues **ES Ground Water Committee**
10 AM, Accomac or Machipongo
- 3rd Tues **CBES Board Meeting**
7 PM, via Zoom

Northampton County
757-678-0440

www.co.northampton.va.us

- 1st Tues **Board of Zoning Appeals**
10 AM, Eastville
- 1st Tues **Planning Commission (PC)**
6 PM, Eastville
- 2nd Tues **Board of Supervisors (BOS)**
6 PM, Eastville
- 2nd Thurs **School Board Work Session**
6 PM, Machipongo
- 3rd Wed **Wetlands Board**
Meets as needed, Eastville
- 3rd Wed **PC Work Session**
2 PM, Eastville
- 4th Tues **BOS Work Session**
5 PM, Eastville
- 4th Thurs **School Board**
6 PM, Machipongo

For membership and other
CBES information:
www.cbes.org