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Protecting, restoring, and strengthening our coastal ecosystems and economy in partnership with NOAA.



Virginia Coastal Zone Management

Virginia Coastal Zone Management highlights coastal resource management issues in the Commonwealth, with a focus on initiatives and projects coordinated through the Virginia CZM Program.

Virginia's coastal zone includes the 29 counties and 17 cities of Tidewater Virginia and all tidal waters to the three-mile territorial sea boundary. The Virginia CZM Program is a network of state and local government agencies working together to create more vital and sustainable coastal communities and ecosystems through state and local laws and policies implemented by:

Virginia Department of Environmental Quality – lead agency
Virginia Department of Conservation and Recreation
Virginia Department of Wildlife Resources
Virginia Department of Health
Virginia Marine Resources Commission
Tidewater local governments

Virginia CZM is guided by a Coastal Policy Team that provides a forum for managing cross-cutting coastal resource issues and is comprised of the partner agencies listed above as well as:

Virginia Department of Agriculture and Consumer Services
Virginia Department of Emergency Management
Virginia Department of Forestry
Virginia Department of Historic Resources
Virginia Department of Energy
Virginia Department of Transportation
Virginia Economic Development Partnership
Virginia Institute of Marine Science
Virginia Planning District Commissions (8 Tidewater regions)
William & Mary Coastal Policy Center

The Virginia CZM Program is part of the national coastal zone management program, a voluntary partnership between the National Oceanic and Atmospheric Administration and U.S. coastal states and territories authorized by the Coastal Zone Management Act of 1972, as amended.

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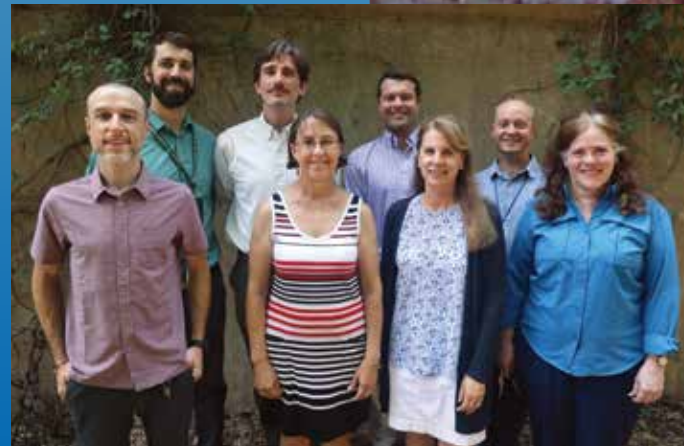
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On the Cover: Visitors enjoy the Cape Charles Natural Area Preserve boardwalk. Image by Martina Coker. Inside cover - Photo of Laura McKay by Lucas Manweiler, Virginia CZM. Photos of Virginia CZM staff and Ryan Green by Rob Monroe, DEQ.



Message from the Retiring Manager



Well, a whole lot has happened since we published our last magazine issue in the winter of 2020. Our apologies for the long hiatus! Between COVID, helping with the Coastal Resilience Master Plan, developing new 5 year coastal enhancement strategies for 2021 - 2026, preparing for 177 offshore wind turbines, our program evaluation in summer 2022, several major workshops, unprecedented staff changes and now what we call "The Summer of Money," we've been mighty busy!

The workload continues to intensify. With over \$7 million now flowing through the Virginia CZM Program in Bipartisan Infrastructure Law (BIL) and Inflation Reduction Act funds – and more to be competed over the next few years, we have even more on our hands. We were thrilled to be the only program in the country to receive two NOAA "Climate- Ready Coasts" BIL competitive grants: one for land acquisition for the Upper Mattaponi Tribe and one for eelgrass/bay scallop restoration for VIMS on the seaside of Virginia's Eastern Shore (see pages 4-7).

But it has all been great and as I retire this summer, I know I will miss terribly all of our partners and all the exciting projects we've been able to undertake to improve Virginia's coast and ocean. I guess it's time, after 35 years in this job, to move on and let someone else partake of all the fun, and of course the challenges.

I've been blessed to have this job for so long and I have so appreciated the wonderful staff I've worked with – they are the best and I thank them profusely! We welcome Ryan Green as our new Virginia CZM Program Manager and trust he will continue the fabulous work of the program. But it can't be done without the help and support of the many partners that *are* this networked program. So my thanks to all of you at our partner agencies, coastal planning district commissions, and NGOs – your commitment to this network makes everything possible and I know Ryan will ensure it endures for at least another 35 years.

Laura McKay

Welcome New Virginia CZM Manager, Ryan Green!



How does one follow in the footsteps of a public servant like Laura McKay? It would surely be impossible if not for the trails (literal and figurative) Laura blazed during her tenure at CZM. That and a phone to call her when I need some wisdom! I hope to get to know the CZM community quite well, so for now I will be brief. I have been at DEQ for ten years, primarily working in the water quantity and water quality worlds. Most recently I managed the Water Supply Planning and Analysis program, which is an interdisciplinary program that supports Virginia's localities as they engage in water supply planning, including developing strategies to address drought, climate resiliency, and sea-level rise. Prior to working at DEQ I was a special education teacher for ten years.

I was born in New Mexico but have lived most of my life in Virginia. I currently live in Richmond, with my wife and two boys. We love the falls of the James River but we spend as much time as we can living it up in Virginia's wonderful Coastal Zone.

Ryan Green

INCREASING CLIMATE RESILIENCE

Focused Funding Builds Capacity

By Will Isenberg, Virginia CZM

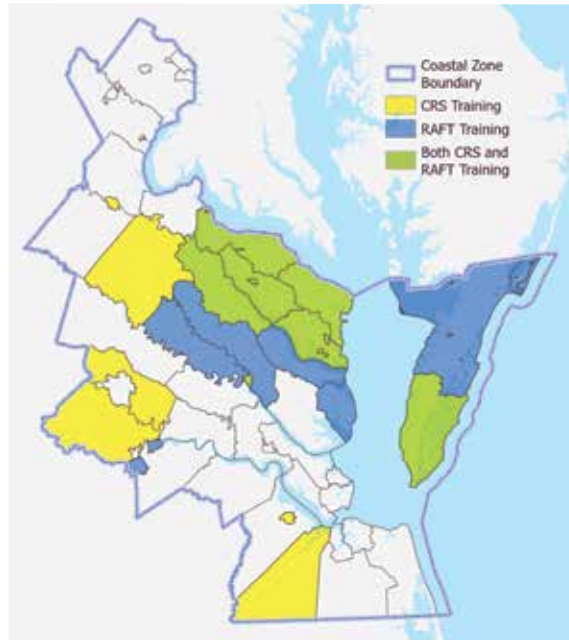
In early 2021, NOAA approved Virginia CZM's 2021-2025 Coastal Hazards Strategy. This strategy is the result of an evaluation process that is required every five years by the Coastal Zone Management Act. In this process the Virginia CZM Program assesses the status of Virginia's coastal resources and management efforts to identify high priority needs. Strategies to address these needs are then developed.

Five Year Resilience Strategies

After receiving extensive stakeholder input, Virginia CZM chose to continue efforts from the 2016-2020 Coastal Hazards Strategy. With approximately \$1 million allocated over five years, the Coastal Hazards Strategy will improve shoreline management planning and strengthen resilience at the local level.

One of the annual projects is the Resilience Adaptation Feasibility Tool (RAFT) undertaken by the University of Virginia, Virginia Technological Institute, and Old Dominion University. This project allows localities to score their resilience and guides them through a year of implementation to enact the resilience actions they have prioritized. Through this roughly 2-year process, localities build sustainable implementation teams to continue work into the future.

Another annual project under the Coastal Hazards Strategy builds capacity and support for local government participation in the National Flood Insurance Program's Community Rating System (NFIP-CRS). This grant to Wetlands Watch helps governments who participate in NFIP-CRS receive credits based on their resilience actions and programs. These credits then reduce flood insurance premiums for their residents. The project also provides NFIP-CRS training for up to two local governments each year where a discussion of the costs and



Map highlights communities that have participated in CRS and RAFT training.

benefits of joining the NFIP-CRS in combination with the potential cost savings for each community is provided.

To get a sense for Virginia CZM's impact with these projects, see the map at left of local governments that have gone through the RAFT process or received NFIP-CRS training supported by Virginia CZM and Wetlands Watch.

In the remaining years of the Coastal Hazards Strategy, other projects will include conducting resilience assessments for working waterfronts and incorporating sea level rise into living shorelines. All these efforts will develop or support enforceable policies that provide resilience to coastal hazards.

Three Year Resilience Focal Areas

Since 1999, Virginia CZM has funded projects that fall under unifying themes. In fall 2019, the Coastal Policy Team selected coastal resilience as the 2020-2022 focal area. Under the Coastal Resilience Focal Area, \$1.44 million was allocated over the three years. \$720,000 was split among the eight coastal PDCs to build resilience at the regional and local level, and \$720,000 was split among other projects that advanced resilience planning efforts coastal zone wide.

Regional Community and Ecosystem Resilience

Every year, the eight coastal PDCs receive funding from Virginia CZM to provide technical assistance for localities and other stakeholders in their regions. With the establishment of the focal area, each coastal PDC received an additional \$30,000 annually to coordinate regional resilience efforts, develop regional resilience priorities, and support statewide efforts related to the Coastal Resilience Master Plan development and implementation. Given the unique geographies of each region, the PDCs began this focal area from different starting points. Some regions already had established programs and stakeholder groups, while others

were earlier in the process. This continued support built capacity for resilience, by establishing a baseline of planning throughout coastal Virginia.

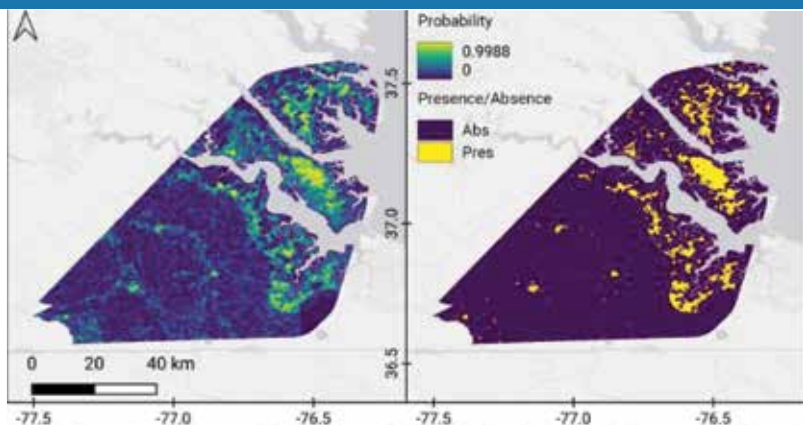
Other Resilience Projects

Other coastal partners also benefited from the Coastal Resilience Focal Area funding, resulting in four additional projects.

One of the projects, led by the Virginia Institute of Marine Science (VIMS), involves targeting high priority areas for conservation. Sea level rise poses a substantial threat to coastal habitats and the species living there. Considering this, VIMS partnered with the Department of Conservation and Recreation's Natural Heritage Program to develop a targeting process that prioritizes areas resilient to sea level rise that also contain species of conservation interest.

Another project by rural planning district commissions was aimed at promoting ecotourism in rural coastal Virginia as a resilience tool. This was accomplished through a variety of efforts including business resiliency training and assessments of public access site resilience to sea level rise. (See page 15.)

Other projects focused on shoreline planning. These projects worked to develop a community of practice for nearshore restoration projects, guidance for restoration site selection and design, and shoreline plans for three locations.



Results from a species distribution model informing the Conservation Priorities project.

Two of the integrated shoreline plans, developed by Middle Peninsula PDC, were for moderate and high energy shorelines to explore how advancements in modeling, alternative materials, and other innovative measures can advance the practices used in these more challenging environments.

What's Next?

Noting the success of the Coastal Resilience Focal Area and continued resilience needs, in fall 2022 the Coastal Policy Team voted to continue this work by establishing the 2023-2025 Coastal Resilience Focal Area. Each PDC will continue to receive \$30,000 each year to build upon their resilience work while also tackling new initiatives. Similarly, DCR Natural Heritage plans to take the work conducted on conservation priorities and use it to estimate the resilience contributions of land adjacent to protected lands to inform future conservation actions. 🐼

Thank You Shep!



Shep Moon is now enjoying retirement after 37 years in public service, especially time on his custom-built boat on the Potomac River. Shep's career began in 1985 with the Lord Fairfax Planning District Commission. His road to Coastal Planner in the Virginia CZM Program Office in 2002 included eight years with the Chesapeake

Bay Local Assistance Department, and three years with Council on the Environment, Virginia CZM's previous lead coordinating agency. "Working at the Virginia CZM Program office for the last 20 years of my 37 year career was a true pleasure," said Shep. "I was so fortunate to work with, and learn from, so many dedicated professionals. The entire CZM network should be proud of all they've accomplished!"

Welcome Will!



Will Isenberg joined Virginia CZM in March 2022 as a Coastal Planner following the retirement of Shep Moon. Will spent nine years working in water quality programs at the Department of Environmental Quality. He worked on watershed clean-up plans, water quality monitoring and assessments, the citizen monitoring program, and development of a Salt Management Strategy for Northern Virginia. Will attended Virginia Commonwealth University where he earned his Bachelor's of Science in Environmental Studies in 2010 and his Master of Science in Environmental Science in 2012. Will's work with Virginia CZM will focus on coastal resilience and marine debris.

CONSERVING AND RESTORING HABITATS



Conserving Coastal Lands & Habitats with BIL & IRA Funds

By Lucas Manweiler, Virginia CZM Program

The National Oceanic and Atmospheric Administration is set to increase the Virginia CZM program's capacity over the next five years. Under the recently passed Bipartisan Infrastructure Law (BIL) and Inflation Reduction Act (IRA), Virginia CZM is set to receive \$2,060,000 in capacity funds through the Climate Ready Coasts initiative, highlighting the United States' commitment to buttress our coastal zone in the face of changing climate patterns.

With these increased capacity funds comes better ability to compete for grants with a new Conservation Coordinator to manage them. These competitive BIL and IRA funds are available to government and conservation organizations and for projects focused on land acquisition, habitat restoration, or restoration planning. With over \$425 million yearly through the BIL and \$635 million for fiscal year 2024 through the IRA, these national competitions will allow groups around the country to restore the coastal environment, increase resilience to climate change, increase public access, and invest in underserved communities.

Two projects funded with BIL funds are already under way in Virginia. The Virginia Institute for Marine Science



(Top) Bay scallops, Argopecten irradians, depend on dense and expansive eelgrass beds for their survival. The scallop's captivating blue eyes use a mirror instead of a lens to focus light, and are made from crystals of guanine, a highly reflective material that can be seen in everything from fish scales to chameleon skin. Photo by Lucas Manweiler, Virginia CZM. (Bottom) Bay Scallop in eelgrass. Photo courtesy of VIMS.

(VIMS) applied for a \$2.2 million grant which was approved by NOAA in April 2023. Continuing on previous efforts, VIMS will be planting 60 acres of eelgrass (*Zostera marina*) in Burton's Bay on the ocean-side of Virginia's Eastern Shore. This will be part of a four-year project to breed and increase a naturalized population of Bay Scallop (*Argopecten irradians*).

"Project activities and results will be broadly disseminated through engagement with volunteers, open house events and



"This represents a wonderful opportunity for the Tribe to reacquire ancestral land along our beloved Mattaponi River,"

—Chief W. Frank Adams, Upper Mattaponi Tribe



Upper Mattaponi Indian Tribe

lectures, communication with the management community, and peer reviewed publications," explained Chris Patrick, project lead, VIMS.

The Upper Mattaponi Indian Tribe resides in King William County along their namesake river. In April 2023, NOAA approved a \$3 million grant to Virginia CZM for the Upper Mattaponi's Return to the River project. These funds (along with \$610,000 from the Virginia Land Conservation Foundation, the Trust for Public Land, the previous property owner, and Cultural Heritage Partners) were used to purchase an 853-acre property along the Mattaponi river. The re-acquisition of this ecologically and culturally significant area marks the Tribe's first opportunity to return to the river. The Tribe plans on restoring the property and establishing a fish and mussel hatchery that will provide sustainable economic opportunities.

Once the property is in a suitable state, hunting and fishing, public nature trails, and a personal watercraft launch are also planned to be installed to expand access to the river.

These multi-year projects are a look into the types of conservation that the BIL and IRA will be funding over the next five years. Virginia CZM is excited to make contact with future partners, and hopes to work with a wide range of groups in order to fund a diverse mix of projects.

"We are proud to be able to work in partnership with the Tribe to preserve these important lands, and recognize the natural ecosystem services that eelgrass restoration will provide" said Michael Rolband, DEQ director. 🐼



At a public meeting in Wachapreague on Virginia's Seaside, community members learn about the Burton's Bay eelgrass and Bay Scallop restoration project. Photo by Lucas Manweiler, Virginia CZM.

Welcome Lucas!



Lucas Manweiler joined Virginia CZM as the **Coastal Habitat Conservation Coordinator** in March 2023 to coordinate new projects funded through BIL funding. Lucas previously worked as a Conservation Assistant for the Virginia Outdoors Foundation for three years, stewarding conservation easements held across Eastern Virginia. Lucas graduated from James Madison University in 2019, where he received degrees in both biology and anthropology. Lucas' love of nature comes from growing up in the mountains of Southwestern Virginia, where he learned first-hand the importance of conserving our natural resources and spaces.

Using Traditional CZM Funds to Acquire Land, Restore Habitats, and Improve Public Access

By Laura McKay, Virginia CZM Program

The Virginia CZM Program also uses its annual Section 306A funds for land acquisition and habitat restoration. Since 2020, nine, exciting, large projects have been completed or are underway.

Cape Charles NAP Land Acquisition

The first two Virginia CZM grants, completed in September 2020 provided \$658,368 to the Department of Conservation and Recreation (DCR) to acquire a 21-acre addition to the Cape Charles Natural Area Preserve. The Preserve contains important migratory songbird stopover habitat and has a long boardwalk that Virginia CZM funded in the 1990s. It traverses maritime forest and secondary dunes and ends at an overlook onto the Chesapeake Bay. Due to expansion of the adjacent concrete plant on the Preserve's northern border, and aging of the boardwalk, DCR is planning upgrades.

The boardwalk has become a main attraction for residents and visitors in the booming town of Cape Charles on Virginia's Eastern Shore.

Oyster Restoration

The next two projects were grants to the Virginia Marine Resources Commission. In April 2020 they completed a \$472,826 Virginia CZM grant to restore 14 acres of oyster reef in the Lynnhaven River. 3,800 tons of crushed stone were used to form the substrate and the stone was covered with about 15,000 bushels of oyster shell. In August 2022 they completed a \$390,351 Virginia CZM grant to create 17.5 acres of oyster reef in the lower York River. About 4,300 tons of crushed granite were placed in the river to form a hard substrate for oyster settlement. These projects along with many others are helping ensure we meet the goal of restoring oyster populations in 10 tributaries of the Chesapeake Bay by 2025.

Hog Island, Mobjack Bay Shoreline Restoration

The fifth project, completed in September 2023, was a \$412,229 Virginia CZM grant to the Middle Peninsula Planning District Commission to restore the shoreline of Hog Island off the southeast corner of Gloucester County on Mobjack Bay. Leveraged funds are being provided through a grant from



Crushed granite being placed at the site of oyster reef restoration in the York River. The granite will form the hard substrate on which oyster spat will settle and ultimately form a 3-D reef. Photo by Andrew Button, VMRC.



Site map outlining shoreline to be restored through placement of oyster structures around Hog Island, located off the southeast corner of Gloucester County on Mobjack Bay. Figure by Donna Milligan, Shoreline Studies Program, VIMS.



Ben Sagara, Dept of Wildlife Resources, standing in a forest to restore upland bird habitat at Gloucester County during a visit to the site. Photo by Lucas Manweiler.



Accomack County Wetland and Upland Bird Habitat Restoration

The sixth project began in 2023. This \$396,964 Virginia CZM grant to the Department of Wildlife Resources (DWR) will restore 200 acres of upland bird habitat and 100 acres of recently acquired wetlands on lands in Accomack County. The project presents an outstanding opportunity to facilitate the migration of wetlands inland as sea level rises and to provide habitat for migratory birds of greatest conservation need. The site was visited by NOAA and Virginia CZM staff in July 2023. Staff from NOAA's Grants Management Division (GMD) appreciated the opportunity to see the project site.

*Common Yellow Throat, *Geothlypis trichas*. This songbird visits open habitats ranging from marsh to grassland to open pine forest.*

the National Fish and Wildlife Foundation. The restoration will use proprietary, innovative 3D concrete oyster structures specifically designed to meet the expected wave conditions of the site. About 514-800 linear feet of stacked oyster structures will be installed using the Virginia CZM funds. The project will have multiple benefits including decreased erosion and nutrient inputs to the adjacent waters, creation of natural habitat, enhanced oyster populations, and storm surge protection for the businesses and homes southwest of the island.

"We usually only see the numbers and paperwork," noted Jennifer Jackson, NOAA/GMD. "Seeing it first hand helps us appreciate the end result of our efforts."

Public Access Improvements

The last three projects include boardwalk restoration and signage at the Brinkley Nature Preserve in Northampton County, improving parking at the North Landing Natural Area Preserve in Virginia Beach, and restoring the boardwalk/overlook at New Point Comfort in Mathews County. All three of these projects had initial funding from Virginia CZM back in the 1990s. 🐾



resources describes plans and wetlands in Accomack by NOAA and Virginia CZM for, Virginia CZM.



Signage at the Brinkley Nature Preserve highlighting wildlife in the preserve's freshwater in Northampton County. Photo by Martina Coker.



NOAA and Virginia CZM staff listen to Lewie Lawrence, Middle Peninsula PDC, describe the shoreline situation as they visit the boardwalk/overlook at New Point Comfort in Mathews County during a July 2023 field visit that followed NOAA's evaluation of the program (see article on page 16). Photo by Lucas Manweiler, Virginia CZM.

MARKETING NATIVE PLANTS

Grounded in Community Collaboration

By Virginia Witmer, Virginia CZM

The Plant Virginia Natives Initiative has been helping grow public demand for over 14 years. The Initiative leverages existing and new resources, encourages consistent messaging, and provides a rallying point for over 200 partner organizations. What makes the Initiative's regional native plant marketing model unique is that it's a Community-Based Social Marketing approach that goes beyond awareness to make planting natives the social norm rather than the exception.

Effectively Using Captivating Communications

When Virginia CZM's Plant Eastern Shore Natives campaign published the first regional native plant guide in 2009, no one dreamed how immensely popular these guides would become. Well over 100,000 copies of six coastal regional guides have been distributed.

Garden centers on the Northern Neck have noticed many customers arriving with a regional guide in hand. One manager gives a copy to all staff.

"The campaign and guide has encouraged them to stock more native plants," reports Betsy Washington, coordinator of Plant NNK Natives and president of the Northern Neck chapter of VNPS. Washington also writes a monthly Plant of the Month column published in local newspapers on the Northern Neck, Williamsburg and Gloucester. "I believe we have greatly expanded our influence and outreach to a new, enthusiastic audience."

Collecting Pledges and Providing a Reminder

The campaigns collect commitments or pledges to plant natives, such as signatures during public events.

By pledging and then displaying a decal in a publicly visible way, those who pledge also help spread the campaign's message. The Plant RVA Natives campaign has collected thousands of signature pledges at public events. An increasing number of pledges from across Virginia are submitted through PlantVirginiaNatives.org.

To help make the norm for Virginia natives more visible, campaigns highlight places people can go and see native plants used in a garden and landscape setting where cues for care, companion plants, plant density, and year-round interest and blooming are exemplified. The native



As its common name suggests, Butterfly Weed attracts butterflies and is a larval host and nectar source for the Monarch Butterfly. Image by Lucille Kossodo, VNPS.

plant demonstration landscape in Cedell Brooks, Jr., Park in King George County—installed by the Plant Central Rapp Natives campaign through a Virginia CZM grant—was the headquarters for the Fredericksburg-King George Tour during the 2023 Garden Club of Virginia Historic Garden Week.

Prompting Consumers

Campaigns are partnering with local and regional providers to promote native plants with noticeable point-of-sale materials, such as signage and plant tags. That makes it easier for customers to find the plants.

Fifty volunteers have already applied thousands of "Northern Virginia Native" stickers and plant tags at twenty-five garden centers in Northern Virginia.

"This program has proven so popular that the garden centers have noticeably increased the numbers of native species that they offer for sale," said Margaret Fisher, outreach coordinator of the Plant NoVA Natives campaign in Northern Virginia.

"It's a win, win, win," stated Bobby Lewis, vice president of marketing for Meadows Farms. "Win for us, win for you guys, win for the environment."

Meadows Farms is a chain of centers in Virginia, Maryland, West Virginia and D.C., and a partner in the NoVA campaign.



<input type="checkbox"/>	THANKS FOR STOCKING VIRGINIA NATIVE PLANTS. I'LL BE SURE TO LET MY FRIENDS KNOW!
<input type="checkbox"/>	PLEASE CONTACT ME
Signature phone number _____	
WHEN YOU STOCK THE FOLLOWING NATIVE PLANTS:	
Species of plants: _____, name if you know it: _____	
Provided by the Virginia Coastal Zone Management Program	



All regional guides are downloadable from PlantVirginiaNatives.org, which hosts regional campaign pages and was designed to provide a gateway to information about Virginia native plants and the resources that the initiative's many partners have to offer.



Expanding Beyond Virginia's Coastal Zone

Since 2009, the network of campaigns has expanded across the Piedmont and into the mountains, with funding from a variety of non-CZM sources. Today, almost every county of the state is within 10 regional marketing campaign boundaries.

Over 10,000 copies of the Northern Piedmont guide have been distributed. Guides are in production for Southwest Virginia and Southern Piedmont, both with expected releases this year. After the release of 2,000 copies of the Ridge and Valley guide in June, the campaign is already reprinting the guides.

In the Northern Piedmont, garden center liaisons work with retailers to highlight the native plants they sell. The Plant Southwest Virginia Natives campaign is also propagating its own plants for residents, localities, and community groups across the New River Valley through a grant from the Virginia Outdoors Foundation to the New River Valley Planning District Commission.

Collaborating for Statewide Marketing

To facilitate cross-regional collaboration, Virginia CZM hosts virtual meetings with regional campaign coordinators. With so many people to reach, an important focus of the Plant Virginia Natives Initiative is on behavior change-inspired tools and techniques that are transferrable and effective across the Commonwealth.

In 2021, the Plant Virginia Natives Initiative offered a 12-part webinar series, which attracted over 3,000 registrants. The series, coordinated by Virginia CZM, engaged all the regional campaigns. Special thanks go to Zoom hosts, Lewis Ginter Botanical Garden and Blue Ridge PRISM. One participant shared, "I was clueless until I heard these first two webinars and now I'm hooked."

An unplanned benefit of the series was raising funds that will enable production of state-wide suitable marketing material. Virginia CZM previously designed and printed a "Plant Natives for Pollinators" pledge decal as well as "Please Carry Cards" for gardeners to leave with retailers, which were distributed to all campaigns and have been very popular. A portion of the proceeds from the webinar series is funding production of an animated video on the benefits of Virginia's native trees to be released in fall 2023 during a statewide message to Celebrate Virginia Native Trees. Protection of our mature native tree canopy is especially important to maintaining the native vegetative biomass critical to providing essential ecosystem services, such as clean air, water, wildlife habitat, cooling, and carbon sequestration.

Expanding the regional native plant marketing model statewide is one of the strategies in the Plant Virginia Native Marketing Partnership Action Plan. We have a long way to go to meet all the goals in that plan, but we are certain that the yard-sized victories have a cumulative impact that is helping us accomplish the big picture intent of this plan. There will be much to report in our next issue of the magazine.

In a fundraising letter to Virginia Native Plant Society members and supporters, which raised \$34,000 to help produce and reprint regional guides, VNPS President, Nancy Vehrs, summed it up.

"The interest in planting natives is growing," said Vehrs. "We are at a pivotal moment to keep public sentiment moving in the right direction. Imagine what an impact we can have on plants and wildlife, including the birds and pollinators we love, by helping influence whole communities to Plant Virginia Natives."



PLANNING OCEAN USES

Seas-ing the Day!

By Laura McKay, Virginia CZM

"With every drop of water you drink, every breath you take, you're connected to the sea. No matter where on Earth you live."

– Sylvia Earle, *Oceanographer, aka "Her Deepness"*

So it behooves us to plan carefully to keep that connection to our oceans healthy. The pace of ocean development is speeding up, including construction of about 177 turbines offshore of Virginia to begin in 2024 and more to come in the Central Atlantic. There is much to do to prepare *now*. Thankfully many people and organizations are working on it.

Developing a Virginia Ocean Plan

The Virginia CZM Program began its third round of a five-year efforts on ocean planning in October 2021. The first two rounds of effort focused on Mid-Atlantic Ocean planning. But the goal of this third round is to develop a Virginia Ocean Plan. Step one was to form a Virginia Ocean Planning Committee. To date this government committee includes five state agencies, four Tribes, three universities and six federal agencies. Several states have formed ocean plans. Virginia CZM funded the law students at William & Mary's Coastal Policy Center to review them for successful aspects that could be replicated in Virginia. Many questions arose concerning how to establish, fund, conduct, monitor, and update a state ocean plan.

Five meetings were held in 2022 culminating in the development of a fact sheet on the process (see *image at right*) and a draft outline for the plan. The draft outline includes:

- Introduction
- Supporting existing ocean uses to ensure sustainability and a healthy ocean (e.g., fishing, shipping, military, recreation)
- Preparing for emerging ocean uses to ensure sustainability and ocean health (e.g., offshore wind, ocean aquaculture, ecotourism, carbon sequestration)
- Addressing the changing ocean climate
- Plan implementation
- Appendices

The plan will also cross-reference the Virginia Marine Debris Reduction Plan, the Virginia Energy Plan, and others as appropriate.

LAUNCHING A VIRGINIA OCEAN PLAN

Fact Sheet Series: Issue One

Why a Virginia Ocean Plan?

With existing ocean uses expanding (e.g., shipping), new ocean uses emerging (e.g., offshore wind) and ocean health declining (e.g., increased plastic pollution and ocean acidity), the need for a comprehensive plan to meet all needs is urgent. The ocean offshore of Virginia is becoming exceedingly busy. In order to simultaneously allow for these existing and new uses and improve ocean health for wildlife, fisheries and habitats, we need a comprehensive approach and an integrated plan that engages all stakeholders.

Vision

Although Virginia only has jurisdiction out to three nautical miles, federal agencies are willing to work with the states to understand state-specific needs and goals. So we need you to help shape Virginia's vision for how the ocean offshore of Virginia should be managed now and for future generations.

How Do We Start?

Planning work actually began back in 2009 when the five Mid-Atlantic state CZM Programs (Virginia, Maryland, Delaware, New Jersey and New York) created an Ocean Conservation Agreement signed by each state's governor. The Agreement created the Mid-Atlantic Regional Council on the Ocean (MARCO). In 2010 Virginia CZM launched the first version of MARCO's Mid-Atlantic Ocean Data Portal. In 2013 the states were joined by federal agencies, Tribes and the Mid-Atlantic Fishery Management Council. In 2016 together they published a Mid-Atlantic Ocean Action Plan.

This has laid rich groundwork for development of a Virginia-specific plan. The Virginia Coastal Zone Management Program, with five years of funding (October 2021 - September 2026) from the National Oceanic and Atmospheric Administration, has now begun to pull together a Virginia Ocean Planning Committee. To date Virginia state agencies and CZM grantees have worked together to develop a draft outline for the plan and shared that with Virginia Tribes. Moving forward, federal agencies will be added to the planning committee.

A rendering of a whale shark off Virginia's coast. Shaped like a whale shark, it is a symbol of the Mid-Atlantic Ocean Data Portal. Photo by NOAA.

A fact sheet highlighting the need for a Virginia Ocean Plan.

Things slowed a bit in 2023 as we learned of the dissolution of the Virginia Coastal Policy Center, which was assisting in plan development. However, work continues and UVA's Institute for Engagement and Negotiation has been contracted to assist. In the current and next fiscal year, the CZM Program is funding the Department of Wildlife Resources (DWR) to develop marine mammal and sea turtle conservation plans which will be integrated into the Virginia Ocean Plan. A workshop hosted by DWR is scheduled for late October 2023 to convene experts to work on the Marine Mammal Conservation Plan. Virginia CZM also funded work to determine the appropriate number and location of passive acoustic monitors to better understand how whales move in and around Virginia's offshore wind (OSW) area.

In October, Virginia CZM will fund the Marine Resources Commission (VMRC) to work with DWR and the Virginia Aquarium to create a MOU to identify long term needs for dealing with marine mammal stranding efforts. Currently the

burden falls on the Aquarium. This MOU will lay out ways in which the state agencies can assist.

Virginia Commonwealth University is receiving funds from both Virginia CZM and VMRC to continue fisheries stakeholder engagement. This work will focus on a more thorough valuation of Virginia's ocean-caught fisheries and work with 11 other east coast states to develop a fund to compensate the fishing industry for potential losses due to offshore wind development.

In 2022, the Secretaries of Natural & Historic Resources and Commerce & Trade created an Offshore Wind Coordination Team to ensure all state agencies involved in offshore wind development are coordinating on the state's overall goal to support the success of Virginia's offshore wind efforts. At a meeting in May 2023, the group, which continues to meet monthly, agreed to several priorities through 2026:

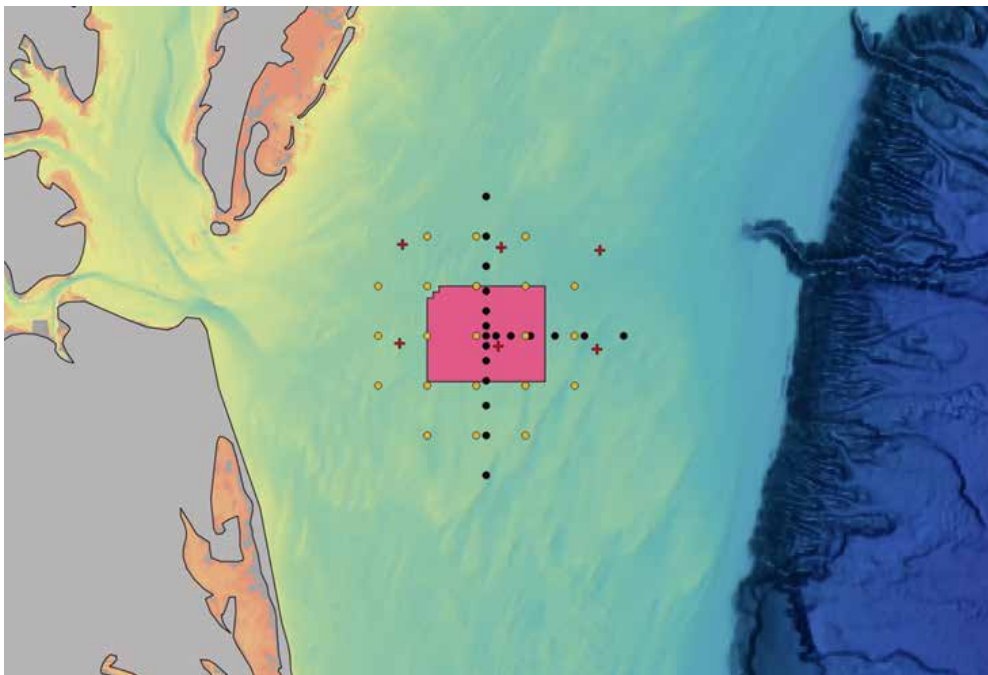
- Develop analyses to better understand competitiveness of the Commonwealth for offshore wind
- Develop a comprehensive "Compete to Win" strategy for offshore wind
- Develop a comprehensive Virginia Ocean Plan

This team's support of the Virginia Ocean Plan will be crucial to its success.

In August 2023, Virginia CZM contracted with UVA's Institute for Engagement and Negotiation to assist with development of the Virginia Ocean Plan. After initial meetings with the Ocean Planning Committee in fall 2023, Virginia CZM and UVA will host a public workshop in mid-January 2024 to gather public input on the draft plan outline. A draft plan is expected by September 2024.



The flukes of a Right Whale. Image courtesy of NOAA.



To determine the best way to document whale presence with acoustic monitors around the Virginia Offshore Wind Area, various scenarios were tested against existing whale distribution data. Yellow dots indicate a 10 x 10 km grid of passive acoustic monitors; black dots indicate a T-design; red crosses indicate a 20 x 20 km spacing of monitors. Scientists recommend using the 20 x 20 km grid and the T-design. Monitoring over a larger area with a 40 x 40 grid of monitors would reduce the false positive rate.

Continued on next page

PLANNING OCEAN USES

Seas-ing the Day Continued from page 11

Continuing Work in the Mid-Atlantic

The Mid-Atlantic Regional Council on the Ocean (MARCO), which was formed through a 5-state Governors' Agreement, has continued to make great strides since its inception in 2009. Its executive director, Avalon Bristow, along with the MARCO Management Board's concurrence, has hired three new staff: Janet Reimer, September Meagher, and Jess Watts. The additional staff will be a huge help to MARCO's Mid-Atlantic Committee on the Ocean (MACO), a federal, state, Tribal and Fishery Management Council committee, as well as other work groups, including the Marine Debris Work Group, which is currently chaired by Virginia CZM and NOAA, the Ocean Mapping & Data Team, and the newly formed Ocean Conservation Work Group. There are also work groups for ocean acidification and offshore wind. MARCO's 2022 annual report is available on its website (www.midatlanticocean.org/)

In 2022, MARCO contracted with the Middlebury Institute to prepare a report on "New Perspectives on the Ocean Economy of the Mid-Atlantic States" based on data from the Economics National Ocean Watch section of NOAA's digital

Table 1 Ocean Economy Summary for MARCO Region

Ocean Sector	Establishments	Employment	Wages (\$M)	GDP (\$M)
Marine Construction	595	8,977	\$769.09	\$1,422.41
Living Resources	1,668	14,026	\$619.88	\$1,923.38
Offshore Mineral Extraction	289	1,527	\$107.04	\$292.01
Ship and Boat Building	154	40,837	\$3,024.82	\$4,278.06
Tourism and Recreation	39,597	628,927	\$18,616.81	\$41,596.83
Marine Transportation	3,336	153,373	\$10,303.62	\$17,184.25
ENOW Ocean Sectors	44,612	847,667	\$33,341.25	\$66,896.93
Marine Research and Education	37	7,231	\$235.35	\$316.87
State Government*	31	6,369	\$397.64	\$654.66
Tourism & Recreation Revised	21,852	417,411	\$2,615.40	\$5,810.70
Electric Power Generation	328	24,522	\$3,182.37	\$22,408.61
ENOW +	21,920	431,003	\$3,248.39	\$6,782.22
TOTAL REVISED OCEAN ECONOMY	26,935	649,743	\$17,972.83	\$32,082.32
Tourism & Recreation Peak	37,534	696,447	\$4,531.02	\$10,093.85

For more information see <https://www.midatlanticocean.org/wp-content/uploads/2022/12/MARCO-New-Perspectives-on-the-Ocean-Economy-of-the-Mid-Atlantic-States.pdf>.

coast website. This report shows that tourism and recreation are the number one drivers of the Mid-Atlantic's ocean economy.

In August 2023, MARCO's Marine Debris Work Group completed a multi-year grant from NOAA for the *Mid-Atlantic Prevent Balloon Litter* Campaign, which builds on Virginia CZM's Community-Based Social Marketing campaign, *Joyful Send-off*. This social normative strategy encourages the use of balloon release alternatives during celebratory, memorial, and other events. Partnering with the Virginia Aquarium, National Aquarium, and New York Aquarium, the campaign produced messaging on the impacts of balloon litter on wildlife including posters, pledge decals, a social media plan, digital and print ads, and more. Visit www.PreventBalloonLitter.org, which offers many "inspirational, colorful, balloon and litter-free ideas to celebrate, to remember and to honor" along with a pledge form to never release balloons, a new Teacher Kit, fact sheets, a Media Room, and animated videos in English and Spanish.

Also in 2023, MARCO and MACO launched an Ocean Conservation Work Group. The group is considering how to create an ocean conservation theme for MARCO's Ocean Data Portal that will help users make sense of the 6,000+ layers of ocean wildlife and habitat data. The theme will include maps of existing and proposed protected areas such as the Lautenberg Deep Sea Coral Protection Area and the proposed Hudson Canyon Marine Sanctuary. The more we learn about ocean wildlife, the more complicated visualizing their distribution and abundance over time and three-dimensional space becomes.

Welcome MARCO Staff!



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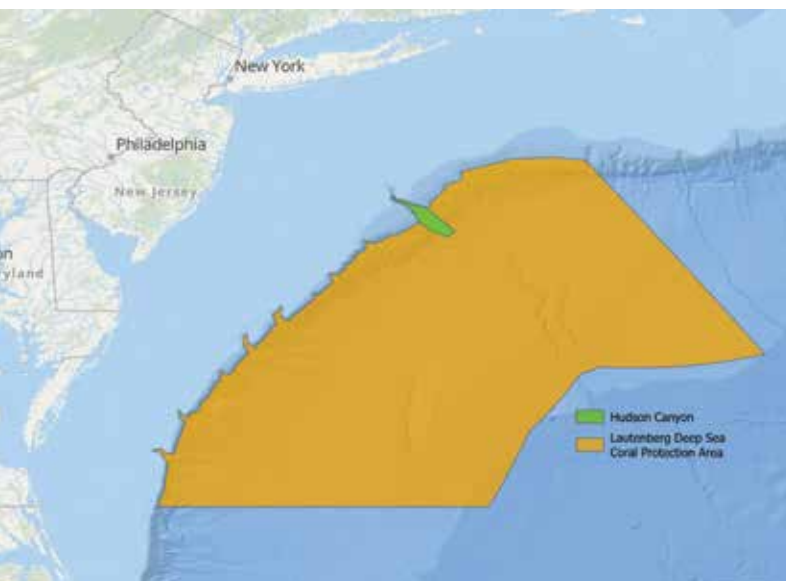


As part of the Mid-Atlantic Prevent Balloon Litter campaign, a series of seven posters were designed and displayed by aquarium partners. Graphics courtesy of Virginia CZM and MARCO.

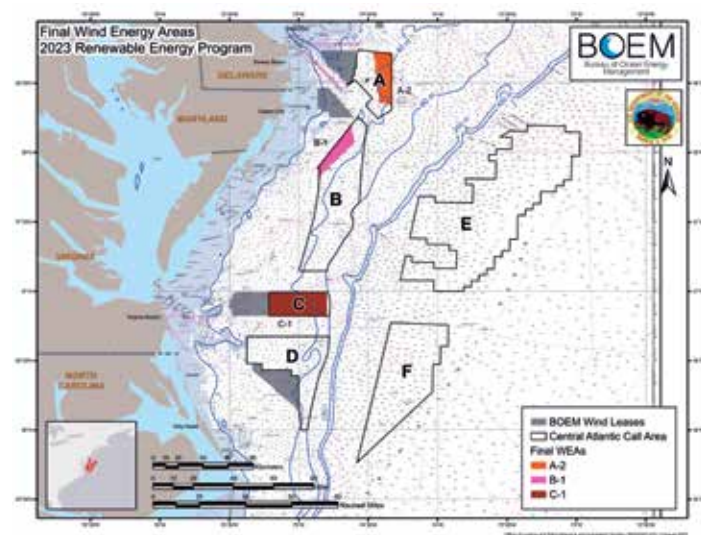
This topic, along with several others, was highlighted at the May 2023 Mid-Atlantic Ocean Forum. For a summary of the 2023 Forum and the session slides, go to www.midatlanticocean.org.

In July 2023, BOEM announced a Notice of Intent to prepare an environmental assessment of potential impacts from offshore leasing in the Central Atlantic. Three Wind Energy Areas were identified. See colored portion of blocks A, B and C in map below. Gray blocks are existing off-shore

wind leased areas. One is 101,767 acres/26 nautical miles (nm) from Delaware Bay; another is 78,285 acres/23.5 nm offshore of Ocean City; and the largest is 176,506 acres/35 nm off Virginia's coast. 🐬



MARCO portal map showing Lautenberg Coral Protection Area and proposed Hudson Canyon Marine Sanctuary.



If fully developed, the final WEAs could support between four and eight gigawatts of energy production. BOEM published its Notice of Intent (NOI) to prepare an environmental assessment of potential impacts from offshore wind leasing in the WEAs in the Federal Register on August 1, 2023, which initiated a 30-day public comment period. Map courtesy of BOEM.

PROMOTING ECOTOURISM

A Promising Strategy

By Laura McKay, Virginia CZM

Promoting ecotourism, especially in rural coastal Virginia, is a long-standing goal of the Virginia CZM Program. Since 1988, the program has invested over \$2.8 million in 100 ecotourism planning and infrastructure projects.

Why This Emphasis on Ecotourism?

Rural coastal communities often contain some of the richest ecological and recreational resources. But they also have a limited tax base and are looking for ways to generate revenue. Too often we look to residential or industrial development for additional revenue, but that can be a drain on local budgets due to the increased need for services such as roads, schools, hospitals, police, trash collection, etc. It can also lead to loss of important habitats for wildlife, stormwater runoff, and water quality degradation. Conserved land has been proven to save localities money—see the Virginia CZM funded George Mason study on this topic at: <https://www.deq.virginia.gov/home/showdocument?id=17962>

Local planners often heard from visitors and residents that there is a lack of places to paddle, hike, and recreate to enjoy peaceful coastal environs and a lack of information on where to find those places. All things considered, this presents an opportunity to develop the ecotourism industry and grow local economies in a sustainable way, minimizing ecological impacts and increasing economic and climate resiliency.

What Has Virginia CZM Program Done?

In the early years, the Virginia CZM Program focused on *public access planning and the construction of trails, piers and boardwalks*. From 1988-1993, eight plans or guides were created and twelve construction projects undertaken such as the Wilcox Wharf Pier in Charles City County.

Beginning in 1993, through a series of Special Area Management Plans (SAMPs), there was an added focus on funding *festivals* to highlight the natural resources of special areas such as the Eastern Shore Birding Festival (1993-2017) to celebrate the fall migration of millions of songbirds. Virginia CZM also funded a Green Sea Festival in Hampton Roads and a Dragon Run Festival in the Middle Peninsula.

In 1993, through the Northampton County SAMP, as more was learned about the critical habitat for birds on the Eastern



At the Brinkley Preserve, visitors traverse a long, Virginia CZM-funded, boardwalk through maritime forest and secondary dunes, and reach an overlook to view the Eastern Shore's Seaside barrier island-lagoon system. Photo by Martina Coker.

Shore, Virginia CZM staff became concerned that the public was not aware of how sensitive some of these bird habitats are to human disturbance, especially at certain times of year. So the program began funding the development and offering of *ecotour guide certification classes*. The first curriculum was developed in 1994 through a grant to the Department of Conservation and Recreation (DCR) and later through Virginia CZM grants to the Virginia Institute of Marine Science, the Eastern Shore and Rappahannock Community Colleges, and now through the Accomack-Northampton Planning District Commission (PDC). Scores of guides have been certified and now advertise using the certification logo. The PDC created a 4-minute video describing the value of the course: <https://a-npdc.org/water-trails/virginia-certified-ecotour-guide-course/>.

From 2018-2022, almost 50 ecotour guides were certified, inspiring the establishment of new ecotourism focused businesses and events.

In 2006, the Virginia CZM Program began focusing on *interpretive signage* with a major investment in a series of three-panel kiosks to highlight the ecological and economic value of the coastal resources on the seaside of Virginia's Eastern Shore where the program made a \$1.8 million investment in eelgrass and bay scallop restoration. This emphasis on signage was renewed with the seaside kiosks updated in 2020. The grant also included the "Explore Our Seaside" campaign with a companion website, posters, and brochure.

In 2022, four Virginia CZM funded signage projects were completed: by the Department of Historic Resources



at Chippokes State Park, by The Nature Conservancy at the New Point Comfort boardwalk in Mathews County, by several PDCs at various sites, and by the Virginia Aquarium at the Virginia Beach boardwalk. At the boardwalk, three kiosks were installed highlighting ocean resources, marine debris, and climate resiliency. They also provide stationary binoculars for tourists and trash and recycling bins (*photo below*).

Coastal **land acquisition** that provides opportunities for ecotourism has been another key focus. In fall 2020, DCR closed on a Virginia CZM funded acquisition of a 21-acre addition to the Cape Charles Natural Area Preserve. Over the years, the program has spent over \$10 million to acquire over 4,300 acres of coastal land available for ecotourism.

An emphasis on **water trails** began in earnest in 2002 with Virginia CZM funding for an 80-mile-long Seaside Water Trail, including an on-line guide. Other Virginia CZM funded water trails followed in Port Royal, Hampton Roads, Northern Neck, and Middle Peninsula. As the coastal PDCs worked on their water trail networks independently, it became clear that their efforts would benefit from a collaborative marketing approach. In 2017, the Virginia CZM Program began funding a \$486,000 six-year effort by the three rural coastal PDCs (Accomack-Norhampton, Middle Peninsula, and Northern Neck). Later PlanRVA joined the effort focusing on rural portions of their district. The group created the Virginia Water Trails website (<https://virginiawatertrails.org/>) which hosts the water and oyster trail maps and interpretive information. They continue to offer the Ecotour Guide Certification course. This project ended in September 2023 with a focus on economic and

climate resilience. Ecotourism business resiliency trainings were held and an analysis of ecotourism infrastructure at risk for sea level rise is nearing completion.

What Is the Impact?

Total Virginia CZM Program Investment in Ecotourism					
Planning/ Guides	Construction	Signage	Festivals/ Events	Ecotour Guide Certification	Total Investment
\$1,240,966	\$1,135,766	\$197,659	\$93,500	\$134,549	\$2,802,440

All of these projects have vastly improved our ecotourism infrastructure. They have helped to protect economic and climate resiliency by creating multiple reasons to appreciate and conserve coastal land.

A recent Virginia CZM funded economic impact analysis of ecotourism in the Middle Peninsula showed ecotourism has a \$33.1 million dollar impact, employing 442 individuals, and raising \$1.6 million in state and local tax revenues in the Middle Peninsula alone (*see the full report and the summary infographic at <https://mppdc.com/articles/reports/Ecotourism%20Infographic.pdf>*).

Since October 2019, there have been 82,664 visits to the Water Trails website with 85% of the visits from unique users. With this heightened awareness and centralized approach, visitors and residents can easily access a multitude of ecotourism information. The success of the Virginia Water Trails program was recognized in 2022 with a Governor's Environmental Excellence award. 🐢



Explore Our Seaside brochure developed under a Virginia CZM grant to The Nature Conservancy.



Interpretive signage at Folly Creek Landing communicates the ecological importance of the Seaside of Virginia's Eastern Shore. Photo courtesy of The Nature Conservancy.



Explore Our Oceans of Plastic kiosk on Virginia Beach Boardwalk. Photo courtesy of Virginia Aquarium.

EVALUATING VIRGINIA CZM

NOAA Commends Virginia's Program

In August 2022, NOAA conducted an evaluation of the Virginia Coastal Zone Management (CZM) Program, covering the period from June 2015 through September 2021. These evaluations, required under the federal Coastal Zone Management Act (CZMA), focus on review of the operation and management of the program. NOAA notes the program's successes and challenges and provides recommendations to guide future program actions.

Although an in-person evaluation with field visits was planned, meetings were conducted virtually due to high rates of COVID in Richmond. Virginia CZM staff provided an overview of the program's activities, NOAA staff heard directly from partners and stakeholders, met with the Coastal Policy Team (CPT), held a public comment period, and learned about the program's work in three target areas: natural and community resilience, ocean planning, and marine debris.

NOAA highlighted the value of the CPT and how Virginia CZM effectively brings together the program's network partners. They also commended the development of concise narrative enforceable policies to improve federal consistency implementation. NOAA recommends that the program work to educate federal license and permit applicants and agencies regarding the CZMA federal consistency requirements. To address this, a workshop was held on July 19, 2023, with NOAA experts and state and federal agency representatives. NOAA also recommended that the program continue efforts to develop a Geographic Location Description (GLD) and list of associated activities to better protect ocean fisheries areas important to Virginia.

NOAA recognized Virginia CZM's skilled leadership and support of ocean management in the Mid-Atlantic region through the program's leadership of the Mid-Atlantic Ocean Data Portal Team and engagement with the fishing industry, as well as its leadership of the marine debris and ocean conservation workgroups. NOAA encouraged the program to continue development of a state ocean plan to address Virginia ocean policy and planning issues.

NOAA recognized Virginia CZM as a leader in efforts to address marine debris at the state and Mid-Atlantic regional level through efforts like the statewide campaign to stop balloon releases, Joyful Send-off, that was scaled up to a regional campaign (see [PreventBalloonLitter.org](https://www.preventballoonlitter.org)).



Staff from NOAA's Office for Coastal Management and Grants Management Division visited Virginia on July 17 and 18. Above - Laura McKay describes Virginia CZM's grants to build and restore the New Point Comfort observation deck and shoreline. Below - Chris Patrick of Virginia Institute of Marine Science Describes eelgrass and Bay scallop restoration on the seaside of Virginia's Eastern Shore. Photos by Lucas Manweiler, Virginia CZM.

NOAA recognized Virginia CZM's work with partners to improve public access and grow rural communities' ecotourism economies. They also highlighted the program's long-term investment in supporting eelgrass, bay scallops, and oyster restoration with over 9,000 acres of eelgrass created. Additionally, NOAA acknowledged the program's coordinating role in the development of a memorandum of understanding between tribal nations and local governments in the Lower Chickahominy Watershed to identify, establish, and implement an overarching vision for land use, land conservation, and economic priorities that support conservation. Finally, NOAA commended the program for the Plant Virginia Natives Initiative that the program has successfully grown across the state.

NOAA's additional recommendations for Virginia CZM are to:

- a) continue to support coastal planning district commissions and communities in their efforts to build resilience;
- b) develop a social marketing campaign to support living shorelines;
- c) continue efforts to develop a GLD of important ocean fisheries areas. 🐟

The full NOAA Evaluation Report at www.deq.virginia.gov/our-programs/coastal-zone-management/about-czm/noaa-evaluation

CONSERVING the CHICKAHOMINY



“The signing of the MOU between the Tribes and localities is significant because it acts to affirm that Tribes are sovereign Nations, each with its own functioning government.”

—Dana Adkins, Environmental Director, Chickahominy Tribe

Jeff Flood, VA CZM

Collaborating to Preserve a Gem

By Jeff Flood, Virginia CZM

What began as a natural resource assessment has matured into a ground-breaking model of stakeholder engagement that appears to have staying power.

Since 2015, Virginia CZM prioritizes conserving the Lower Chickahominy River Watershed due to its high ecological value as modelled by the Coastal Virginia Ecological Value Assessment mapping tool on Coastal GEMS (see *article on page 20*).

Virginia CZM developed a five-year funding strategy to verify the presence of unique habitats and to engage watershed stakeholders to protect these resources from development pressures.

Fieldwork and natural resource inventory updates by the Departments of Wildlife Resources and Conservation and Recreation verified the presence of the high value habitat and an economic study by George Mason University demonstrated that conserving land would financially benefit the localities in the region.

In 2018, stakeholder engagement began. This included interviews and surveys, followed by direct engagement with locality staff, businesses, state and federal agencies, land trusts, and advocacy groups in 2019.

In 2020, the project team, consisting of PlanRVA, Hampton Roads Planning District Commission, Virginia CZM, and UVA's

Institute for Engagement and Negotiation, began collaborating with the Chickahominy Indians—Eastern Division, and Pamunkey Tribes. They added valuable insight on how the watershed has changed over time as well as interest in collaborating more closely with their locality neighbors. Despite

the pandemic, progress was made to forge closer relationships between the Tribes and Charles City, James City, and New Kent counties, culminating in the signing of a Memorandum of Understanding (MOU) that created the Lower Chickahominy Watershed Collaborative in 2021. The MOU, believed to be the first of its kind in Virginia, promotes continued collaboration on resource conservation and partnering on eco-friendly economic development.

Since the final Virginia CZM grant ended in 2022, stakeholder workgroups have continued to meet to pursue additional watershed priorities, including land conservation and ecological stewardship, sustainable economic development and protection of tribal sites and traditions, and recreational infrastructure and marketing.

The Capital Region Land Conservancy and the Chesapeake Bay National Estuarine Research Reserve in Virginia also signed the MOU as supporting cooperative partners and other organizations have been encouraged to support the collaborative. PlanRVA continues to produce and refine materials for public outreach and ecotourism marketing, which can be found on their project page (<https://planrva.org/environment/lower-chickahominy/>). CZM is grateful for all the stakeholders involved in the project and continues to be an active facilitator for continued discussion of watershed issues, ensuring that the network is supported over time. 🦋

REDUCING MARINE DEBRIS

Removing Derelict Vessels from Virginia Waters

By Jeff Flood, Virginia CZM

The Virginia CZM Program identifies coastal policy issues that cut across jurisdictions and develops recommendations. Marine debris is one of those issues.

In November 2021, in partnership with Clean Virginia Waterways, Virginia CZM published the 2021-2025 Virginia Marine Debris Reduction Plan, a roadmap for working together on sustained approaches to reduce the flow of plastic and other litter. In October 2014, Virginia became the first state on the east coast to publish a Marine Debris Reduction Plan. The plan grew out of the program's 2010 Coastal Needs Assessment, where marine debris ranked as a high priority, and was an important goal of Virginia CZM's FY 2011-2015 Ocean Management Strategy.

The updated plan revolves around major goals to reduce consumer debris, derelict fishing gear, microplastics, and abandoned/derelict vessels. This format aligns with NOAA's 2021-2026 Mid-Atlantic Regional Marine Debris Action Plan, which includes Delaware, Maryland, New Jersey, New York, Virginia, and Washington, D.C.

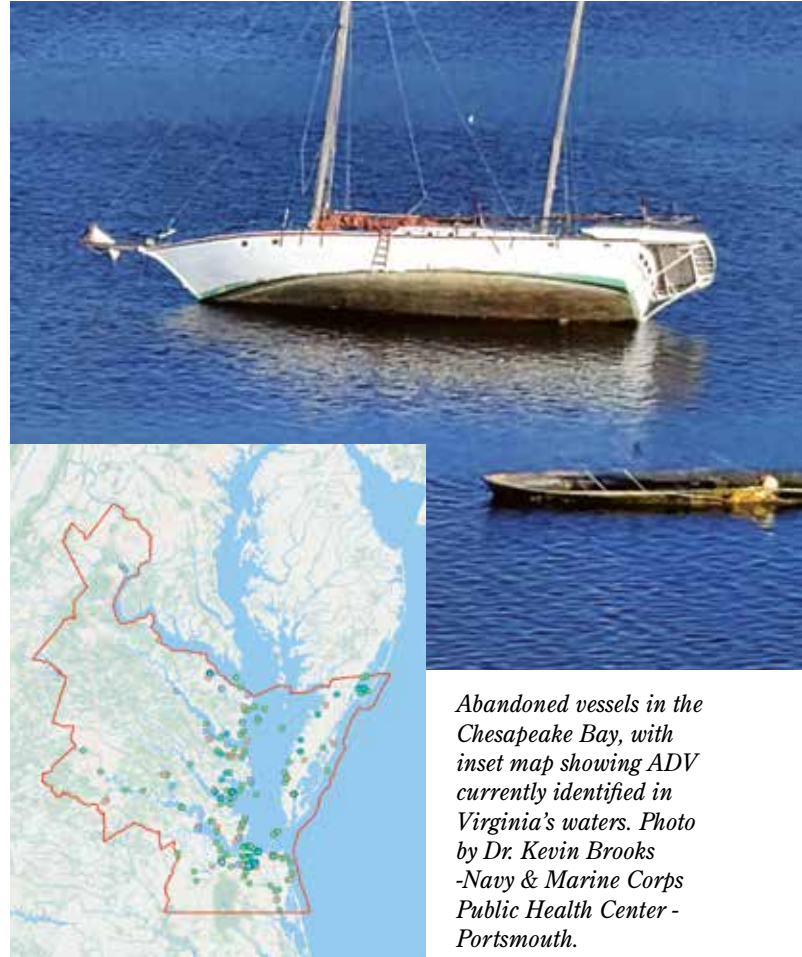
"The Virginia CZM Program's elevation of marine debris as a priority has led to great increases in the amount of coordination within Virginia on this urgent issue," stated Katie Register, Clean Virginia Waterways (CVW). "CZM's leadership inspired more than 70 agencies, universities, and nonprofit organizations to engage in development of the first plan."

Virginia CZM and CVW have since partnered to promote and facilitate communication and collaboration on marine debris issues by creating the Virginia Plastic Pollution Prevention Network, the Virginia Abandoned and Derelict Vessel (ADV) Work Group and targeted campaigns to reduce the amount of debris entering Virginia's waterways and coastal waters.

Removal of Derelict Vessels from Virginia Waters

In January 2021, Virginia CZM and CVW convened the work group to better understand and tackle the growing ADV problem. Membership includes federal, state, local, and Tribal government representatives as well as environmental NGOs, the towing industry, boating communities, and marina owners.

Meeting 34 times from January 2021 to May 2023, the work group and its four subcommittees had robust and frank

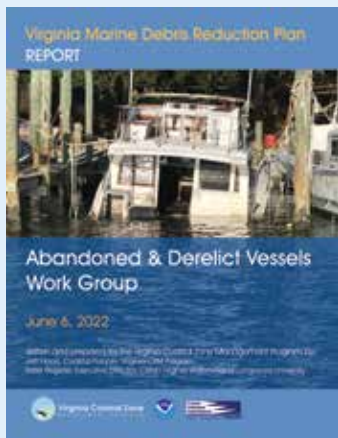


Abandoned vessels in the Chesapeake Bay, with inset map showing ADV currently identified in Virginia's waters. Photo by Dr. Kevin Brooks -Navy & Marine Corps Public Health Center - Portsmouth.

discussions about the nature of the ADV problem, existing resources available, and policy recommendations to ensure a more streamlined and sustainably funded path forward.

The work group was aided by the Virginia Coastal Policy Center of the College of William & Mary's Law School, which published a white paper containing information gathered from other states' ADV programs, a detailed analysis of existing Virginia law pertaining to ADVs, and policy recommendations. With the Policy Center's analysis, stakeholder feedback, and interviews conducted by Virginia CZM and CVW with nine other coastal states, the work group completed a report documenting the effort and its own policy recommendations in early May 2022.

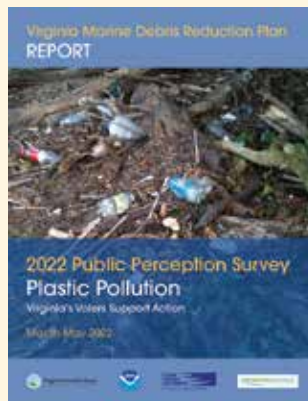
The Virginia ADV report was reviewed and approved for public release by state agency leadership as well as by the Secretary of Natural and Historic Resources in early July 2022.



(Above) A video about ADV in Virginia produced by the Virginia CZM Program and Clean Virginia Waterways.

The ADV Work Group report describes abandoned and derelict vessel research conducted in Virginia from 2021-2022 and outlines the work group's recommendations to address ADVs in Virginia's waterways.

Survey Shows Virginia Voters Concerned About Plastic Pollution



Virginia voters are concerned about plastic getting into our rivers, bays, and ocean, and they support action to decrease littered plastic bags, bottles, cups, food containers, and other plastic items, according to a new statewide survey released in September 2022 by Virginia CZM, CVW, and OpinionWorks.

The publication, *Public Perception Survey: Plastic Pollution*, explores the perceptions and attitudes of Virginia's voters about several problems, and measured voters' support for policies that have been adopted in other states. As a follow-up, OpinionWorks invited a cross-section of voters into deeper, one-on-one interviews to better understand their attitudes and reasoning around these issues. Data from this survey will assist in crafting successful behavior change campaigns as well as public policies.

The survey can be downloaded from the Virginia CZM website at www.deq.virginia.gov/our-programs/coastal-zone-management/coastal-conservation/marine-debris.

During the latter stages of the report's development, Delegate Barry Knight (Virginia Beach) also provided support for approximately \$3 million in Virginia General Assembly funding to the Virginia Marine Resources Commission (VMRC) to remove derelict vessels from Virginia's waterways. Following this state funding allocation, VMRC, CVW, and Virginia CZM worked closely to develop a new program, run by VMRC, that solicits funding proposals from localities to remove vessels across the coastal zone. Virginia CZM has maintained an ADV database since 2021, based on reports from the U.S. Coast Guard, VMRC, PDCs, localities, NGOs, and private citizens, which will be used to prioritize and track ADV removal.

Virginia CZM will continue to support abandoned and derelict vessel removal and prevention efforts by tracking removals, exploring additional policy options for ADV prevention, and creating educational materials about the ADV issue and steps for responsible disposal. 🐢

Thank You, Katie!

At the center of the Virginia marine debris effort is Katie Register, who will retire after 28 years as the Executive Director and founder of CVW. CVW is a long-time Virginia CZM grantee and partner. Katie has had an accomplished career in this field, leaving a lasting legacy.

She brings passion, expertise, and stakeholder engagement savvy to every project.

Zach Huntington will take over Katie's duties following her retirement. Virginia CZM is immensely grateful for this valuable and enduring partnership with CVW.

In September 2022, Katie had the great pleasure of releasing Waffle Crisp, a Kemp's Ridley sea turtle rehabilitated at the Virginia Aquarium's Darden Marine Animal Conservation Center. 🐢



MAPPING OUR COASTAL RESOURCES

Digital Storytelling for Virginia's Coast

By Nick Meade, Virginia CZM

Since its inception, Coastal GEMS was always more than just a map. In fact, “GEMS” stands for “Geospatial and Educational Mapping System.” The launch of Coastal GEMS v4 takes this concept to a new level. The mapping application is still the focus, and v4 includes an entirely new mapping interface with powerful new functionalities. The v4 mapping application has a new home on the all-new Coastal GEMS landing page. Instead of going directly to the mapping application, navigating to www.coastalgems.org now takes you to a Coastal GEMS landing page, where you can launch the mapping application, explore our growing collection of story maps, or browse the new Coastal GEMS data library. Together these new products have transformed Coastal GEMS into a full-fledged data portal.

Landing Page

Built using ArcGIS Hub, the new page (above right) was designed to be a simple interface to access the suite of Coastal GEMS products. This platform leaves room for additional content in the future and can be quickly edited and updated by the CZM GIS Coordinator.

Data Library

The all-new data library provides users with an alternative way to access the many data layers available through Coastal GEMS. The layers are browsed by category and include brief data abstracts and links to data sources, as well as the ability to view the full Coastal GEMS fact sheets and open each layer in the map.

Mapping Application

The new Coastal GEMS web mapping application (at right) has a clean interface and several new features that allow users to perform GIS functions previously only possible using expensive desktop GIS software.

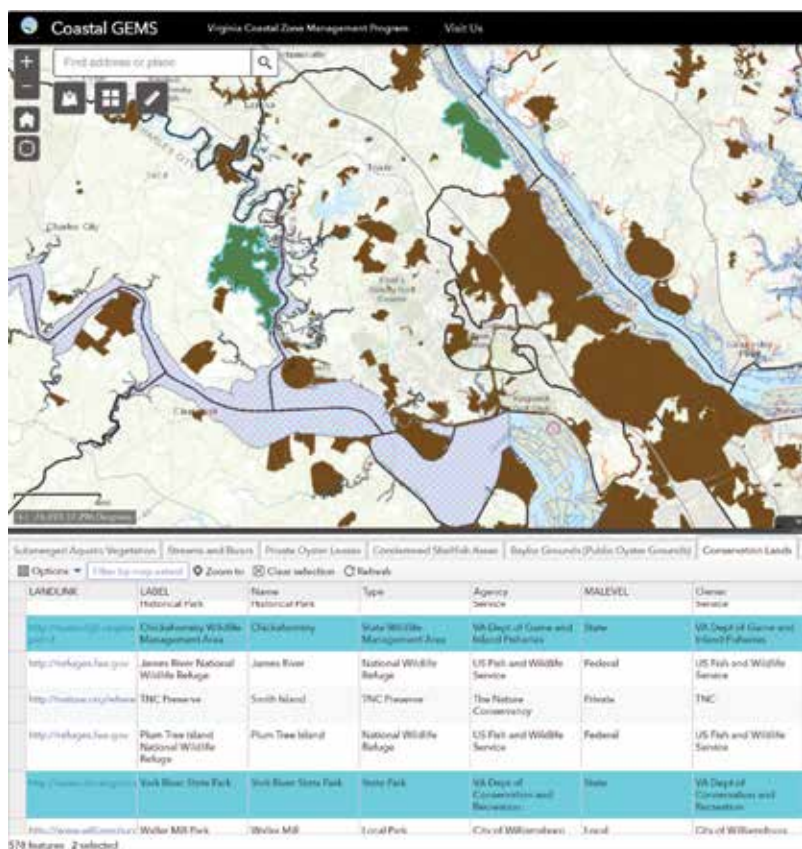
Share Maps

Just like v3, the v4 mapping application allows users to create map layouts that can be printed or shared in various image formats. The v4 application adds a clever new way to



New landing page on the Coastal GEMS website.

share maps with the fantastic “Share This Map!” widget. This tool creates a link that opens the application with the data layers and map extent already selected, allowing you to share interactive maps that recipients can continue to explore and add too. Hot tip: Working on something you might want to revisit? Send yourself the link and pick up later where you left off!

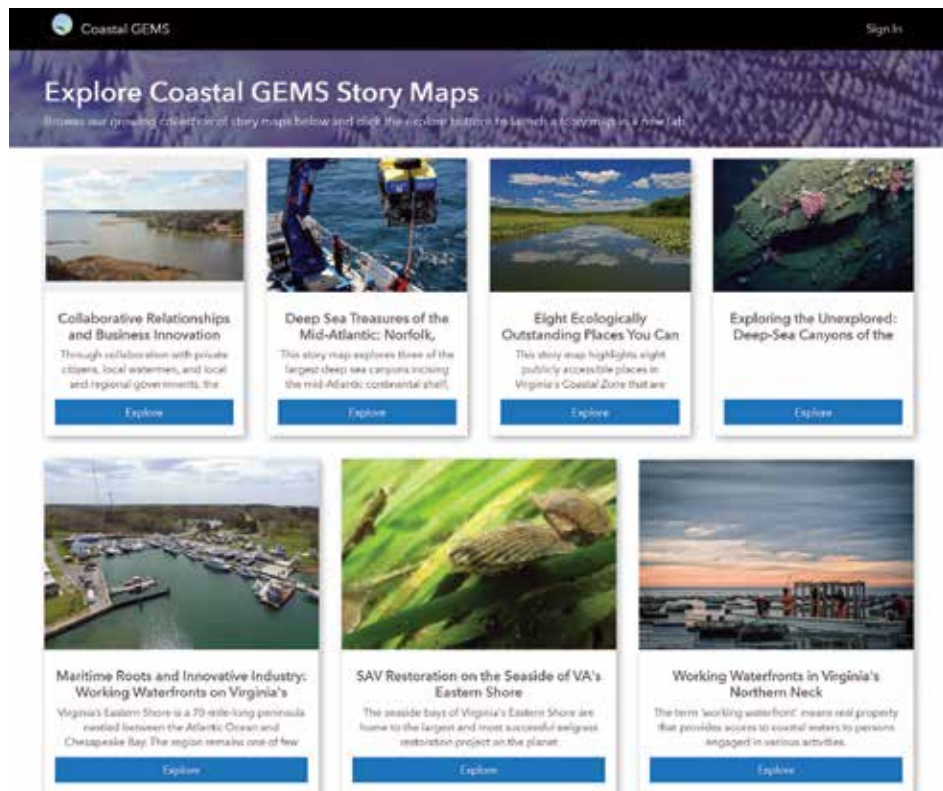


Story Maps

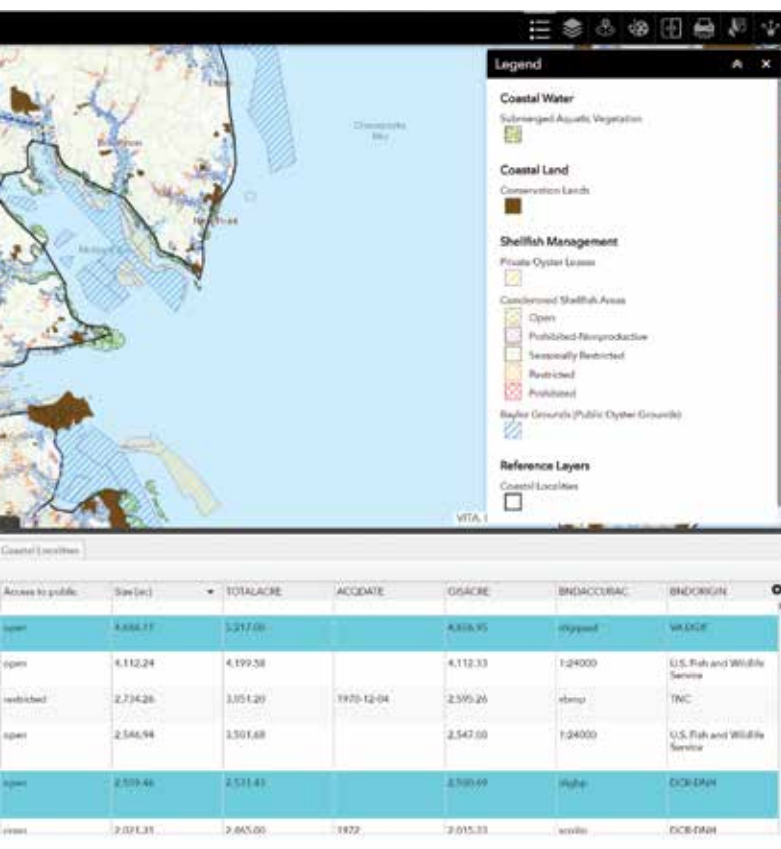
Virginia CZM has been creating story maps for several years (*like those at right*), but until now there was not a single location where they could all be accessed. The story map page allows visitors to explore this growing collection of story maps associated with Coastal GEMS data layers and VA CZM initiatives.

Add Outside Data

Coastal GEMS still houses a lot of data, over 100 individual layers! Occasionally though, a user might want to add an additional layer from an outside source to their Coastal GEMS map, and with v4 that is now possible! Using the “Add Data” widget, it is possible to search and add data from ArcGIS online, add data hosted as a web service, or add data from your own computer in shapefile, kml, or CSV format.



Coastal GEMS offers a number of Story Maps to explore Virginia CZM topics and projects.



“I had no idea GEMS let you pull in your own data, this is exactly what I needed! It definitely allowed me to get hard data for my assessment. I love Coastal GEMS!”

—Jessica Steelman, Coastal Planner, Accomack-Norhampton Planning District Commission

Access Attributes

While v3 did allow Coastal GEMS users to see selected attribute information for individual features by clicking on them, it was not possible to view the full attribute table for each dataset. Coastal GEMS v4 allows users to harness the full potential of GIS datasets, both spatial and non-spatial data, by viewing, selecting, filtering, and even exporting attribute data.

What's Near You?

In addition to filtering data by attributes, Coastal GEMS v4 users can also filter data by location in two ways. Attribute table data can be filtered by the current map extent, or you can use the new “What's Near Me?” widget to define a search radius for any point and see the features from all of the Coastal GEMS layers that fall within that area! 🦔

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