



Virginia

Coastal Zone Management

Fall 2014



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Virginia Coastal Zone
MANAGEMENT PROGRAM

Protecting, restoring, strengthening
our coastal ecosystems & economy

Virginia Coastal Zone Management Program

The Virginia CZM Program is a network of state and local government agencies working to create more vital and sustainable coastal communities and ecosystems. 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 includes state and local laws and policies to protect and manage Virginia's coastal resources, implemented by:

Virginia Department of Environmental Quality—lead agency
Virginia Department of Conservation and Recreation
Virginia Department of Game and Inland Fisheries
Virginia Department of Health
Virginia Marine Resources Commission
Tidewater local governments

The program is guided by the Coastal Policy Team which provides a forum for managing cross-cutting coastal resource issues. The Coastal Policy Team is comprised of the partner agencies listed above as well as:

Virginia Department of Agriculture and Consumer Services
Virginia Department of Forestry
Virginia Department of Historic Resources
Virginia Department of Mines, Minerals and Energy
Virginia Department of Transportation
Virginia Economic Development Partnership
Virginia Institute of Marine Science
Virginia Planning District Commissions (8 Tidewater regions)

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.

This Virginia Coastal Zone Management magazine is funded through grants from the U.S. Department of Commerce, NOAA, under the Coastal Zone Management Act of 1972, as amended. The views in this publication are those of the authors and do not necessarily reflect the views of NOAA, the U.S. Department of Commerce, or any of its subagencies.



Virginia Coastal Zone Management highlights coastal resource management issues in the Commonwealth, with a focus on initiatives and projects coordinated and funded through the Virginia CZM Program. Please direct comments, ideas for future issues or subscription requests to Virginia Witmer, editor/graphic designer, Virginia.Witmer@deq.virginia.gov.

Visit us on the Web at www.deq.virginia.gov/Programs/CoastalZoneManagement.aspx

Cover image: Sinclair Landing, a 97 acre donation to the Middle Peninsula Chesapeake Bay Public Access Authority (see article on page 4). Photo by Laura McKay, Virginia CZM Program.



Message from the Manager

Who'd have thought shovelling shells out of dumpsters would get you on TV? But the comeback of Virginia's oysters is big news and recycling their shells is important to continued success. The Virginia CZM Program is delighted to support the Virginia Commonwealth University/ Rice Center's shell recycling program (see page 24) and I've enjoyed being the "shell collector" for my local seafood shop, Yellow Umbrella.

An integrated approach to environmental management is also important. As the lead agency for our networked CZM Program, DEQ is working to meet that challenge through its newly reconstituted Division of Environmental Enhancement. We welcome Sharon Baxter, (a long-time Coastal Policy Team member!) as the new Division Director and look forward to working with her on complex issues such as climate adaptation (see page 14) and long-range environmental planning (see page 33).

It's also important to have fun and be able to enjoy Virginia's coast. Our cover story focuses on all the wonderful work being done to acquire and enhance more coastal access sites and experiences. Fall is a fabulous time to get out and enjoy them. And don't forget our December 10-11 Biennial Coastal Partners Workshop. We hope to see you there.

Laura McKay



Richmond Channel CBS 6 filming at the oyster shell dumpster in Richmond (see page 24). Image by Virginia Witmer, Virginia CZM Program.

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Virginia CZM Program Office staff. Image by Julia Wellman, DEQ.



Virginia Coastal Zone
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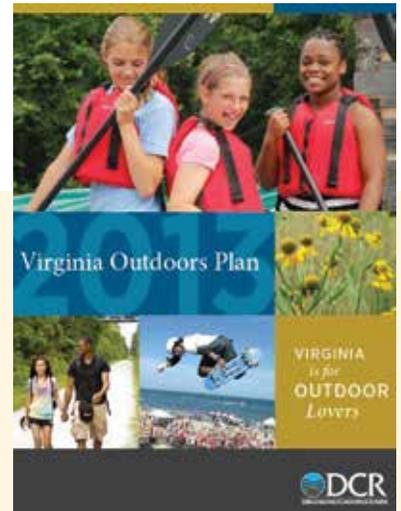


By Beth Polak, Virginia CZM Program

Increasing and improving public access continues to be a core goal of the Virginia CZM Program. With 99 percent of Virginia's coast being inaccessible to the general public, providing new access sites through construction of features such as nature trails, canoe and kayak floating docks or piers, and wildlife observation decks remains a locally welcome use of program dollars.

Most recently, the Virginia CZM Program has funded public access in four regions—Accomack-Norfolk, Hampton Roads, Middle Peninsula and Richmond. These efforts include planning for future public access as well as actual construction projects.

Virginia CZM Program staff also contributed to development of the new *Virginia Outdoors Plan* by serving on the plan's technical advisory committee. The new plan will help direct future CZM public access investments.



New Virginia Outdoors Plan!

By Julie Buchanon, DCR

Virginia's official guide for the planning of public outdoor recreation and land conservation has been revised and is now available online (www.dcr.virginia.gov/recreational_planning/vop.shtml). The *Virginia Outdoors Plan* (VOP) highlights the beautiful natural resources and historical attractions Virginia has to offer. Updated every five years, this plan covers the 2013-2018 time frame.

This is the 10th plan to be produced since the 1965 publication of "Virginia's Common Wealth," the first comprehensive study of Virginia's outdoor recreation facilities and resources. It is the first to be completely paperless, and its publication marks the debut of VOP Mapper, a user-friendly online tool for mapping outdoor recreation resources and conserved lands.

This plan's theme is "Virginia is for Outdoor Lovers," and recommendations focus heavily on expanding tourism opportunities and the economy through outdoor recreation and land conservation.

The Virginia Outdoors Plan is a requirement for Virginia to participate in the federal Land and Water Conservation Fund program. Since that program's inception 50 years ago, Virginia has received more than \$76 million in LWCF grants through

the National Park Service. The Virginia Department of Conservation and Recreation is tasked with dispersing these grant funds statewide for public outdoor recreation. More than 400 projects across the state have been made possible through this funding. These projects range from improvements at existing parks to land acquisitions for developing new parks.

The Virginia Outdoors Plan is developed using results of the Virginia Outdoors Demand Survey. The survey helps gauge the level at which Virginians are participating in specific outdoor recreation activities. It also measures respondents' attitudes about the importance of outdoor recreation and land conservation, their use of technology to find outdoor recreation opportunities, and the outdoor amenities they prefer.

The survey cited in this plan was administered in 2011 by the University of Virginia Center for Survey Research. The plan was developed using the responses from 3,100 Virginia households. In addition to the survey, input about outdoor recreation and land conservation was collected during 42 public meetings around the state. 



*Making Old Access
New Again in
Hampton Roads*

By Shep Moon, Virginia CZM Program

The Hampton Roads region has two new Virginia CZM funded access projects in the works. The Hampton Roads Planning District Commission received Virginia CZM funds to help the Cities of Norfolk and Suffolk improve access to their coastal waters.

Restoring & Repurposing an Old Ramp in Norfolk

Norfolk intends to repurpose an abandoned powerboat ramp on the Lafayette River adjacent to the Virginia Zoological Park, Lafayette Park and the Ernie Morgan Environmental Action Center. The project will entail demolition of an existing dilapidated dock and construction of a new pier and floating dock that will provide an ADA (Americans with Disabilities Act) accessible fishing pier/canoe/kayak ramp. The project also includes a shoreline restoration component, to be completed in partnership with the Elizabeth River Project, the Lafayette River Wetlands Partnership, and the Chesapeake Bay Foundation. Shoreline restoration will be completed using native plants, and an interpretive sign will be provided for educational programs.



Location of new floating dock in City of Suffolk.

A Kayak Launch for Suffolk

The City of Suffolk is planning a canoe/kayak launch to be located at Constant's Wharf Park, located near downtown Suffolk. Improvements will include a six-foot wide access pier, a fixed platform, a gangway and a 30 x 30 floating dock. The project is part of a larger effort by the City to improve access to the Nansemond River and will be included in a new map of the River that will be part of the Captain John Smith Water Trail. 



(map left/above) Location of new canoe/kayak launch and fishing dock in City of Norfolk.

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*Take Us to
the Rivah
in Middle
Peninsula!*

Captain Sinclair Landing

By Beth Polak, Virginia CZM

Coastal Virginia is experiencing what is hopefully an on-going trend in land-owner benevolence. Sizeable tracts of land are being donated specifically for coastal public access. And, it's not mediocre parcels that are being offered—but uniquely, diverse sites located right on the water!

The Middle Peninsula Chesapeake Bay Public Access Authority (MPCBPAA) has closed on 25 private land donations and has three additional sites pending which will close later this year. The MPCBPAA is a political subdivision created by the General Assembly for the express purpose of improving water access. In February 2013, the MPCBPAA received 96.81 acres of serene waterfront property on the Severn River in Gloucester County. Valued at \$1.6 million, much of the property is pristine coastal ecosystem, including emergent tidal wetlands and dense mixed hardwood and pine forests. Thousands of feet of shoreline provide water access and a pier extends hundreds of feet into the river. The property is divided into 21 parcels with three dwellings, several out buildings and a small swimming pool.

“This is a big deal locally,” comments Lewie Lawrence Executive Director of the Middle Peninsula PDC. *“The PAA has designated portions of the one-mile of waterfront for public waterfowl hunting. This is the only public waterfront area on the Mobjack and supporting tributaries that the public can access for public waterfowl hunting. This is very meaningful change.”*

The first group to directly benefit from the donation is the Gloucester Crew Team (*photo right*) which has made a new home there, using space in the out buildings to store their shells. The site is half the distance from the high school than the team's previous practice facility.



A view of the shoreline on the nearly 97 acres donated to the MPCBPAA to create the Captain Sinclair Landing Recreational Area, named after Captain John Sinclair, a mariner during the American Revolution. (below) More central and convenient access to the river, and a place to store their equipment, has been of significant benefit to the Gloucester Crew Team. Images by Virginia Witmer, Virginia CZM Program.

“With our move to a more central location in Gloucester County, we hope that more young people will have the opportunity to experience the sport of crew,” explains Chris Hutson, Vice President of the Gloucester Crew Team, and member of the Gloucester County Board of Supervisors.

Other groups and individuals will have an opportunity to use the Gloucester site as well, once the MPCBPAA decides



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what allowable and preferred uses will be for the property. The Virginia CZM Program funded preliminary planning. Ideas generated by stakeholders for use of the property range from costly items such as a conference center to very low impact uses like outdoor education. The MPCBPAA is now working on a waterfront property reuse and community development plan in partnership with Virginia Sea Grant. This October, the MPCBPAA will break ground on a CZM funded project to rebuild a pier, and to create a coastal landscape featuring native plants and rain gardens to improve wildlife habitat and increase flood protection.

...The Middle Peninsula Chesapeake Bay Public Access Authority has closed on 25 private land donations and has three additional sites pending.

Two additional donations valued at \$217,300 became official MPCBPAA properties on October 11, 2013, adding 7.28 acres of access on Mobjack Bay in Mathews County. One of these properties, a site of 5.25 acres located directly on the bay was a gift of James and Kelly Stuart. *"We are proud and happy to be able to do this,"* James Stuart says. *"We are pleased that we are able to donate something that will provide public access to Middle Peninsula that people are going to enjoy. My wife and I feel strongly about giving and serving others. This has a mutual benefit to both the giver and receiver."*

While the Stuarts will receive a tax deduction for their donation, they explained that giving is a way of life for them. *"Giving on an annual basis,"* states James, *"this was as valid as giving to any organization."* Kelly continued, *"There are a lot of people who give money to various charitable causes who are not aware of [land donation] as being on par with those other kinds of donations."*

Private Donations to the MPCBPAA

County	Location	Acres	Value
Gloucester	Severn River*	97	\$1,423,500
Gloucester	Severn River	14	\$ 226,500
Mathews	Billups Creek	9	\$ 305,700
Mathews	Mobjack Bay	5.5	\$ 167,900
Mathews	Mobjack Bay	1.78	\$ 49,400
TOTAL		127.28	\$2,173,000

Pending Private Donations to the MPCBPAA

Mathews	Bethel Beach	21	\$ 61,000
Mathews	Winter Harbor	5.05	\$ 111,800
Middlesex	Piankatank River	8.85	\$1,300,000
TOTAL		34.9	\$1,472,800

Overall Totals **162.18** **\$3,645,800**

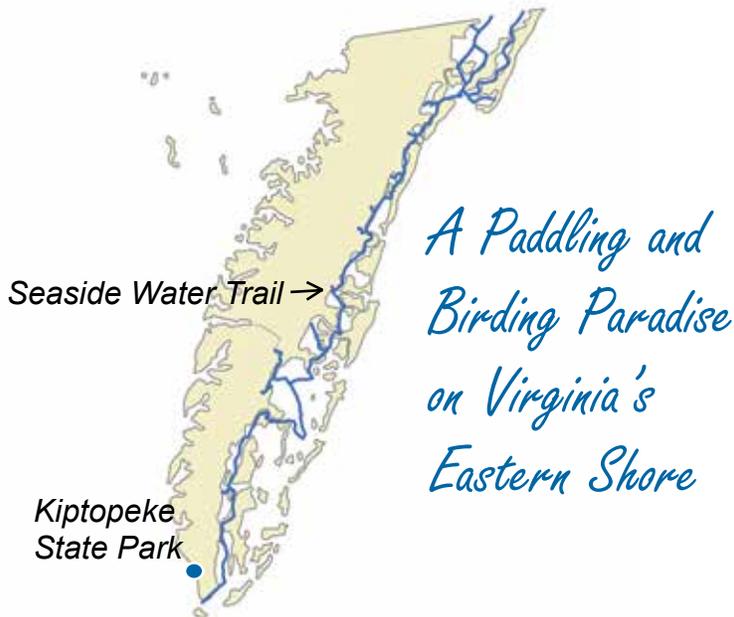
*This donation includes 21 parcels.

Other properties in Mathews as well as in Middlesex County, are awaiting legal closing for the MPCBPAA. This could develop into a welcome influx of sorely needed public access sites for the region. The hope is that land donations for public access will become a growing trend that spreads throughout Virginia's coastal zone.

Like Middle Peninsula, the Northern Neck also has a Public Access Authority in place, with CZM funding, with a mission to own and manage properties for public benefit. Although Northern Neck Chesapeake Bay Public Access Authority (NNCBPAA) has not yet received land donations, the region is ready and hopeful. *"The Northern Neck Chesapeake Bay Public Access Authority is available to receive donations of land with water access, hold easements on land with water access, in addition to working with its member counties in securing funds to provide all types of new public access points to the waters of the Chesapeake Bay and its tributaries,"* states Stuart McKenzie of the NNCBPAA. And, the Eastern Shore was recently granted authority by the General Assembly to create a Water Access Authority (see page 7).

It is encouraging to see how even a small amount of CZM funding (\$10,000 in 2000 to the MPPDC) can, over time, yield such significant results. 🦋

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*A Paddling and
Birding Paradise
on Virginia's
Eastern Shore*

By Laura McKay, Virginia CZM Program

Seaside Water Trail Camping Platform

In 2002 the Virginia CZM Program funded the Accomack-Northampton Planning District Commission to create a paddling trail spanning the entire length of the Seaside of Virginia's Eastern Shore from Fisherman Island to Chincoteague. Since then 17,000 copies of the Seaside Water Trail brochure have been distributed to eager kayakers and canoeists who can go to the trail website (www.deq.virginia.gov/Programs/CoastalZoneManagement/CZMIssuesInitiatives/SeasideWaterTrail.aspx), choose a put-in location and skill level, download it and print their own trip map. While that has been very useful, paddlers began wanting more from the trail—namely the ability to take multi-day trips and stay overnight near the trail so that they could paddle the entire trail in one vacation.

So in 2006, we gave a Virginia CZM Program grant to the Eastern Shore ShoreKeeper to investigate the potential for constructing camping platforms at strategic locations along the trail. The full report is available through the link above and identifies locations where there are no convenient overnight accommodations for paddlers. It also researched how other states have built and maintained their “on-the-water” camping platforms.

In summer 2013 the PDC began work on another CZM grant to follow up on this effort. The PDC convened interested businesses and paddlers to discuss the 2006 camping platform report and the need for better accommodations along the trail.



In the future, paddlers enjoying the sights and sounds of Virginia's seaside may be able to continue their water journey after an overnight stay on new camping platforms, similar to the Sweetwater Chickee camping platform in Everglades National Park shown in inset. Image by Doug Cameron.

They identified two priority camping sites in each county for further investigation of improvement opportunities. They also organized into a 501C3 (non-profit) called the *Virginia Eastern Shore Paddlers Association (VESPA)* to:

- Promote paddling on Virginia's Eastern Shore (both bayside and seaside)
- Develop paddling opportunities and facilities
- Protect the environment along the water trails
- Develop a community of paddlers and serve as an information resource for paddlers

There is a great deal of enthusiasm around this effort. Curt Smith, A-N PDC's Director of Planning, reports that, *“The paddling community has really come out in force to support this project. Their enthusiasm is bound to pay dividends as we attempt to develop a unique paddling experience that will draw people to our region and benefit local businesses.”*

Although both Accomack and Northampton Counties' Boards of Supervisors approved the camping platforms concept, none of the sites proved suitable in the end. But there's still hope...

A Water Access Authority for the Eastern Shore

The 2014 General Assembly passed the Eastern Shore Water Authority Act which allows Accomack and Northampton Counties to create an operating agreement to form an Eastern Shore Water Access Authority. This authority could be similar to the Middle Peninsula Chesapeake Bay Public Access Authority (see page 5) and identify land with access to the bayside or seaside; acquire or receive donations of such lands for public access; develop access amenities; and implement management plans for the properties.

Curt Smith, Director of Planning for the Accomack-Northampton Planning District Commission, explains, “The A-NPDC is very interested in pursuing the development of a PAA considering the successes occurring in other regions. The Chesapeake Bay and Atlantic Ocean are vital assets to our region and having such an entity would greatly enhance our localities’ ability to provide and ensure public access and use of the water.”

Kiptopeke Hawk Observation Platform

Since 1992, the Virginia CZM Program has given 8 grants worth \$1,048,800 to the Department of Conservation and Recreation for Kiptopeke State Park. A 1993 grant funded construction of the Kiptopeke Hawk Observation Platform. As you might imagine, 20 years take quite a toll on a wooden structure close to the Chesapeake Bay’s salty winds. So part of a recent grant to the park provided for replacement of sun-bleached signage and much of the deck’s decaying wooden planking and stringers with recycled plastic lumber which should, according to the manufacturer, last for 50 years. The Hawk Platform has become an iconic structure at the park where each fall avid hawk watchers congregate for weeks



Kiptopeke Hawk Observation Platform. Image by Stacie Martin/DCR.

to watch the thousands of migrating hawks, merlins, eagles, peregrines and other raptors circle the skies in search of a meal— often the tired, tasty songbirds that are also headed south for the winter.

Kiptopeke State Park Deer Hunting Stands

An excess of deer can wreak havoc on the tender native trees and shrubs the Virginia CZM Program and its many partners have been planting on the Eastern Shore to restore migratory songbird habitat (see page 22). So Kiptopeke State Park has a deer hunting season within its boundaries. To facilitate the hunt, and drive deer away from newly planted areas, Virginia CZM Program funded the purchase of 7 deer stands which can be moved safely around the park to position hunters in the best locations.

Ecotour Guide Certification

The Virginia CZM Program has helped develop and fund several Ecotour Guide certification courses over the years. Last spring, through a grant to Eastern Shore Community College and for the first time to Rappahannock Community College, the



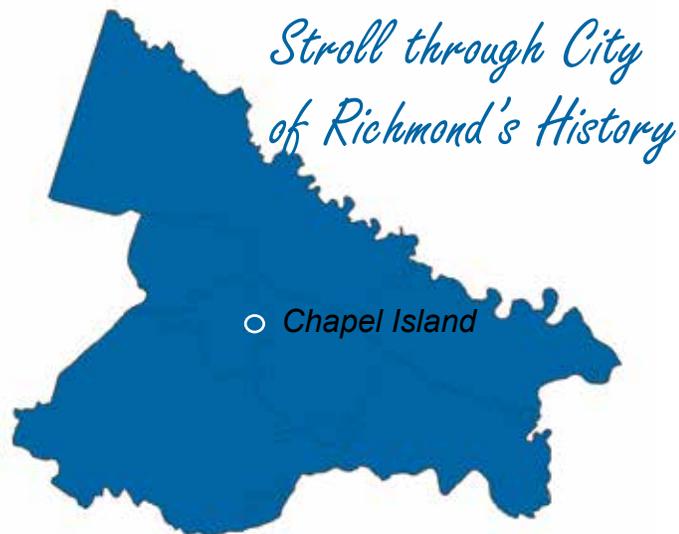
Virginia CZM Program was able to support an online class to 8 guides, all of whom passed the course. Course organizers Shannon Alexander of Bay Country Kayaking and Paula Jasinski of Chesapeake Environmental Communications report they hope to offer the classes again and that “*running this as an online course allowed us to reach people that otherwise would not have been able to take the class.*” They even had a student from Norway participate and share interesting ideas about her Norwegian Ecotour practices. 🐾

2014 Certified Ecotour Guides

- Kelly Barker, Smithfield
- Dan Bowen, Nassawadox
- Dan Davis, Chincoteague, Captain Dan Tours
- Rick Kellam (re-certified), Exmore, Broadwater Bay EcoTours
- James Moore, Poquoson – Chesapeake Adventures
- Meriwether Payne, Locustville
- Doug Purcell, Gloucester
- Emma Arthur, Norway

Watch our website for a video on the course!

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*Stroll through City
of Richmond's History*

By Shep Moon, Virginia CZM

Chapel Island, located just below the fall line in the City of Richmond, marks the beginning of the tidal portion of the James River. Because of its location, the island has a long and important history, dating back to 1607 when it was the probable landing site of John Smith and Christopher Newport as they sailed, and explored, up the James River from Jamestown. Starting in 1898 it was also the site of the Trigg Shipbuilding Company, which built steam-powered torpedo boats and destroyers for the United States Navy. Today, the dense woods and quiet tidal waters of the eastern portion of the island provide a natural oasis on the edge of Richmond's bustling downtown.

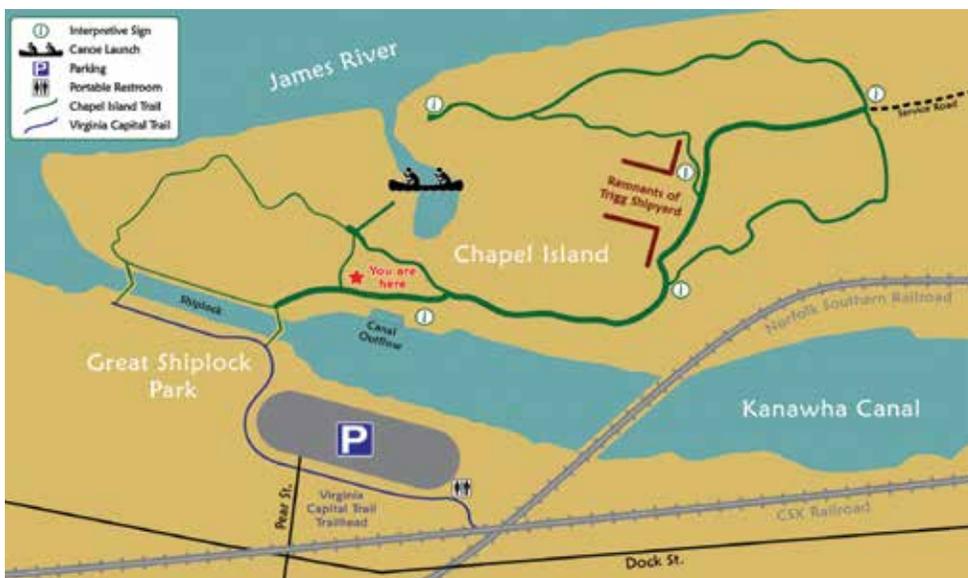
Owned by the City of the Richmond and adjacent to Great Shiplock Park, the eastern end of Chapel Island has been accessible to the public for many years, but has never



Trigg Cove - canoe-kayak launch. Image courtesy of RRPDC.

met its potential as an access point to the James River. That has changed now as a result of public access improvements provided through Virginia CZM Program funding to the Richmond Regional Planning District Commission (RRPDC) and the help of the James River Park System staff and many volunteers.

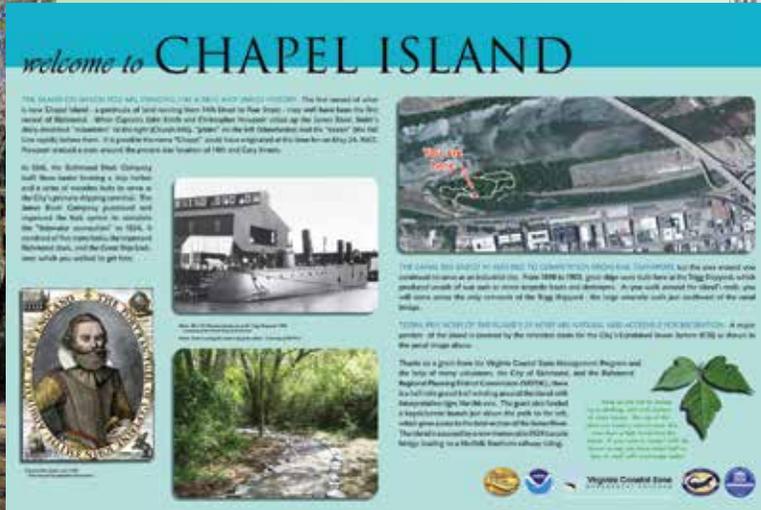
The project included construction of a half-mile trail loop, a kayak launch, four interpretive signs, a kiosk and a ramp to help make the island universally accessible. Construction of the western trailhead of the Virginia Capital Trail (VCT) complements these improvements and will draw more people to the area. The VCT bike trail, when completed, will link Virginia's past and current capitols—Williamsburg and Richmond. According to Barbara Jacocks of RRPDC, "Arising from a two-decade old planning effort in support of the original Tobacco Row redevelopment, Chapel Island is gaining renewed public attention and appreciation as the centerpiece for Phase I implementation of the City's Riverfront Development. It is exciting to see the island's varied history linked to present-day activity with a nearly seamless connection to the proposed Brown's Island Dam Walk." 



(left) This map illustrates the significant waterfront access provided through the Chapel Island project. Just across the canal from Great Shiplock Park, the Chapel Island site links to the Virginia Capital Trail head in Richmond. Map courtesy of RRPDC.



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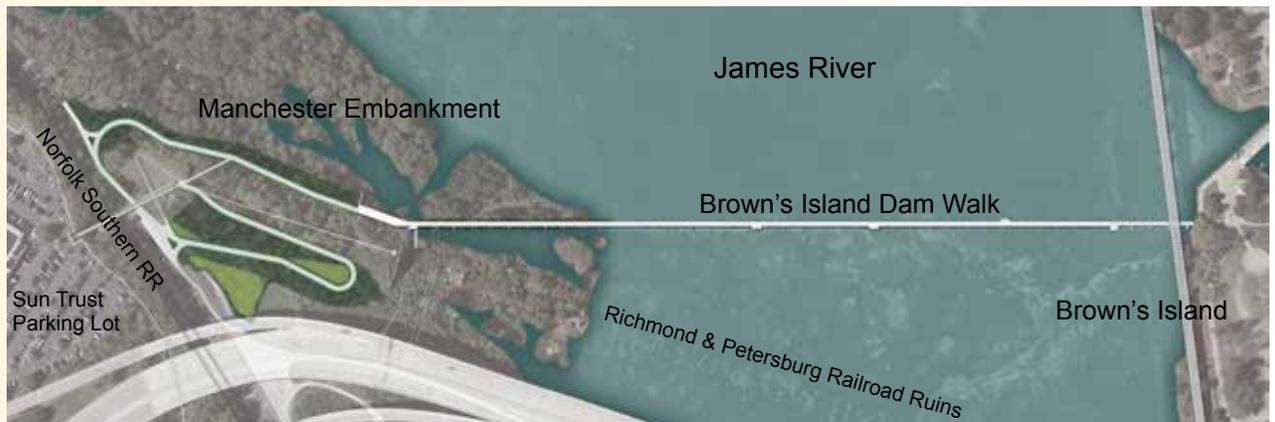


Brown's Island Dam Walk: Habitat Restoration and Native Plant Demonstration

As a follow-up to the Chapel Island public access improvements, the Richmond Regional PDC worked with the City of Richmond to develop a proposal for more work upstream. The Brown's Island Dam Walk is an important component of Richmond's Riverfront Plan and will transform an industrial era structure into a key connection between the north and south banks of the James River Park System in the heart of Downtown Richmond. The grant proposal to the Virginia CZM Program includes clearing of invasive plant species on the southern bank of the James and restoring the area with native plants, bioswales and rain gardens to filter runoff. Interpretive signage will be installed to educate the public on the importance of native plants and the ecosystem services they provide. The project was one of five selected by members of the Coastal Policy Team for FY 14 PDC Competitive Grant funding. Work on the project could begin in the fall of 2014, pending final approval by NOAA.



(photo top left and right) Interpretive signage funded by the Virginia CZM Program explores the history, flora and fauna of Chapel Island and the James River. (directly above) Sarah Stewart and Barbara Jaycock of the Richmond Regional Planning District Commission in front of the new Chapel Island kiosk. Images courtesy of Virginia CZM Program.



(aerial image right) Site plan for Brown's Island Dam Walk. Courtesy of City of Richmond.

WORKING WATERFRONTS

Workshop on Preserving Access

By Beth Polak, Virginia CZM Program

Earlier this year, on a cold February morning, more than a hundred coastal residents filed into Waterman's Hall at the Virginia Institute of Marine Science (VIMS). At the same time, on the Eastern Shore in Melfa, close to 30 people arrived at the community college and all for the same reason — to share thoughts on something they clearly care about, Virginia's working waterfronts. Over the last decade, these critical places on the water in Virginia and all across the United States have begun to disappear to the point where local concern has risen, and private citizens as well as public officials are taking note and taking action.

Working waterfronts are the places where watermen tie up to refuel their boats, or themselves, and offload daily catch. They are the places where oysters and clams are grown and boats are built, serviced or repaired. Working waterfronts are places where restaurants emerge featuring succulent seafood caught or cultivated in our local waters. They are alive with the noise and odor of diesel engines and resound with the local vernacular still audible in a waterman's voice. Working waterfronts contribute much to Virginia's economy and carry forth its longstanding heritage of union with the water.

Sharing Information, Seeking Solutions

The Virginia CZM Program and its partners are working to protect these culturally and economically valuable waterfronts. The February workshop, sponsored by Virginia CZM Program with help from VIMS, rural planning district commissions and water-related industry groups, brought a broad range of stakeholders together to discuss the needs of working waterfront communities and think about how they could be addressed. The program featured talks from veteran watermen such as Bill Pruitt, a native of Tangier Island and former Commissioner of the Virginia Marine Resources Commission for 25 years and Ken Smith, President of the Virginia Waterman's Association and resident of Heathsville. Participants represented business owners, marina operators, local government officials, educators, planners, attorneys, water-dependent recreation providers and individual watermen.

Earnie Asaff, owner of Norview Marina in Deltaville, shares, "I think it was a terrific effort and result. I thought the workshop was very useful, with good quality speakers and valuable information. The turnout was very impressive. It confirms that there is a great deal of interest in the topic from a variety of quarters."



Image courtesy of the Middle Peninsula Planning District Commission.

The workshop included presentations on legal cases concerning working waterfront issues from both the federal and state perspective. Economic "snapshots" of Virginia localities with a working waterfront presence were presented by economists, Danielle Molnar and Jeff Adkins from NOAA. Gloucester County Planning Director, Anne Ducey Ortiz, shared planning considerations for managing working waterfronts at the county level, and the program wrapped up with presentations on emerging markets for working waterfronts, like ecotourism, and the development of a statewide plan to stabilize the working waterfront on our coastal landscape. The statewide plan, funded by the Virginia CZM Program, will help communities with existing water-dependent commercial infrastructure, understand the long-term costs associated with the loss of working waterfronts, develop new policy tools to help them manage increasing growth pressures, and build capacity to develop working waterfronts as thriving components of local economic development.

Matt Rowe, Director of Planning and Economic Development for Charles City County, attended the workshop. Rowe grew up on the water in Northumberland County working with his Dad's commercial fishing operation since he was 11. According to Rowe, a comprehensive approach to tackling working waterfront issues is best.

"There are so many reasons as to why we are facing these difficulties," Rowe said. "The main one is economics. One thing localities could do is establish a no net loss waterfront policy." This, Rowe explains, would prevent rezoning of areas where working waterfront businesses are located.

WORKING WATERFRONTS

A Few Recommendations from the Virginia Working Waterfronts Workshop

- Find mutually beneficial land use policies and economic development strategies to ensure that water-dependent businesses and the communities they support remain economically viable.
- Use comprehensive plans to set the tone for land use policy.
- Update planning and zoning to clarify ambiguities or misperceptions—often longstanding cultural tradition—related to shoreline access for commercial endeavors.
- Ensure that real estate taxation policies enhance and do not stifle working waterfronts.
- Establish policies that anticipate new business models, as exemplified by the recent growth of shellfish aquaculture, while allowing the flexibility that will retain traditional enterprises.
- Consider succession planning for individual or privately owned water-dependent enterprises to ensure that such businesses continue or adapt in the future.
- Ensure that all sectors of the working waterfront community are represented in creating a shared vision for the future.

A summary is available at www.deq.state.va.us/Portals/0/DEQ/CoastalZoneManagement/Virginia_Working_Waterfronts_Workshop_Summary_Feb_2014.pdf.

“Watermen must have places to land and process their catch, maintain equipment, obtain supplies, and secure safe-harbor for their resources,” says Beverly Ludford of Ludford Brothers Oyster Company. *“As we work on the water, we are well aware of the limitations in these areas.”*

Recommendations from the workshop and other input will be included in the Virginia working waterfronts plan being developed by the Virginia CZM Program, partners at VIMS and the Accomack-Northampton, Hampton Roads, Middle Peninsula and Northern Neck Planning District Commissions. So far in developing the plan, specific definitions of a working waterfront have been established specifically for these four regions. Also, a comprehensive inventory of more than 500 working waterfront sites in the four regions has been completed. Virginia CZM is currently working to include each site in our mapping portal: www.CoastalGEMS.org.

Next Steps

Now underway is a Virginia CZM Program funded economic analysis of four distinct examples of working waterfronts: a seafood wholesale dock in City of Hampton, a shellfish culture cluster in Northampton County, a marine railway in Lancaster County, and a mixed-use seafood aquaculture dock dredging project in Gloucester County. This project is directed by Tom Murray, VIMS Marine Advisory Service, with support from ANPDC, HRPDC, MPPDC, and NNPDC and will be complete in Spring, 2015.

With regard to future efforts, Asaff offers some ideas. *“I think the outcome of future workshops would benefit from addressing more narrow topics so that breakout groups could focus on different issues,”* he said. *“As a marina/boatyard owner, I see a variety of hurdles affecting the survival of working waterfronts. Many of those hurdles are not the same as those faced by watermen. A discussion of those issues in depth would be very helpful in leading to some actionable ideas for improvement.”*

Narrowing the focus on these issues and digging deeper is what the Virginia CZM Program has planned. A CZM funded effort led by the Middle Peninsula Planning District Commission beginning in October, will establish a coast-wide working waterfronts steering committee, conduct in-depth research on potential policy tools and connect with working waterfront industry leaders and other stakeholders through a series of local meetings. The purpose will be to identify enforceable policy action that would be politically achievable and locally supported.

For more information on this Virginia CZM Initiative see www.deq.state.va.us/Programs/CoastalZoneManagement/CZMIssuesInitiatives/VirginiaWorkingWaterfronts.aspx. 



Lee Allain, Commissioner, Northumberland Economic Development Commission, and Stuart McKenzie, Planner, Northern Neck PDC, discuss local working waterfront issues at the February 2014 Virginia Working Waterfront Workshop. Image courtesy of Virginia Sea Grant.

WORKING WATERFRONTS

Expanding Access

By Harrison Bresee, Middle Peninsula Planning District Commission

In the Middle Peninsula and in most coastal communities nationwide, the commercial seafood industry has had to adapt and shift as coastal land use and waterfront property ownership is altered. Historically, as epicenters of economic development, coastal communities were the location of strong fishing industries and shipbuilding as well as public access areas for recreational and commercial uses. However, as more and more people move toward the coast, the demographics and coastal dynamics change. This affects traditional and culturally significant working waterfront industries, specifically commercial seafood. Jack Wiggins of the Urban Harbor Institute produced a research paper titled *Preserving and Promoting a Working Harbor: The Experience of Gloucester, Massachusetts*. In this report, Wiggins captures the true nature of the challenge faced by many coastal communities:

“Without economically viable waterfront business, property owners are unable, and lending institutions unwilling, to invest in capital improvements needed to maintain piers, wharves and other waterfront infrastructure,” states Wiggins. *“The viability of many businesses on the Gloucester waterfront has been and remains tied to the health of the commercial fisheries.”*

Coastal Gloucester, Virginia, is no different. It is well known that key commercial seafood businesses have closed in Gloucester for a variety of reasons. To compound the problem, traditional access points are built upon, fenced off, posted “No Trespass,” or purchased by new owners who are unwilling to continue old patterns of public access uses. Consequently, as watermen are forced to move from or are restricted from using traditional access points, they struggle to sustain their commercial seafood business. With limited sites available for mooring their boats, as well as limited safe infrastructure on which to conduct business, watermen must seek new and innovative options to continue their business.

Improvements at Perrin River Wharf

Last year, the Middle Peninsula Chesapeake Bay Public Access Authority (MPCBPAA) received a 320 foot-long wharf from VDOT on the Perrin River, traditionally used by commercial watermen for vessel moorage and offloading seafood. The Perrin River serves as the urban working waterfront for Gloucester County. With the recent closure of several key docking locations, up to 25 commercial workboats have been displaced and were



Perrin Wharf—inset image shows new slips at the end of the pier where boats are tied perpendicular to the pier to allow space for more boats. Images courtesy of MPPDDC.

rafting up horizontally, sometimes 3 boats deep, at the Perrin Wharf, creating a need to revitalize and reorganize the public wharf mooring space.

In September 2013, the Virginia CZM Program funded the reorganization of the first 100 feet of the pier. Eleven new slip poles and three finger piers were installed to create slips to assist with mooring boats and off loading seafood for commercial watermen and for general use by the public. Vessels will now be able to tie up perpendicular to the pier, making more efficient and safer use of public space.

Karen Carmen Haywood a resident in the area said the community is excited about the new dock improvements at Perrin Wharf. *“Our community does use it as well as the little children we bring down there to look at the water and wildlife”*, Haywood says. *“We appreciate the [MPCBPAA’s] hard work, and Virginia CZM funding, and look forward to making our community a little brighter.”*

Maintaining Access at Aberdeen Creek Harbor

Another unique working waterfront location in Gloucester receiving help from the Virginia CZM Program is Aberdeen Creek. Just off the upper York River in Gloucester County, Aberdeen Creek provides seasonally critical access for landing, docking, and mooring in close proximity to the public and private oyster grounds and public crabbing grounds on the upper York River. Interviews with local watermen revealed that water access sites on the upper York River are vital to their businesses and that Aberdeen Creek is one of the few locations they use, have traditionally used, and want to continue to use.

WORKING WATERFRONTS



The waterfront property on Aberdeen Creek is predominantly developed as single family residences, with the exception of a working waterfront area consisting of one public landing and one commercial property. While both of the working waterfront properties are in disrepair, they continue to be over utilized by commercial watermen during crab and oyster seasons.

The public landing has two piers and records show that the property was deeded in 1947 to government ownership specifically to be used as a public landing. However, determining which government entity owns the landing is complicated.

Adjacent to the public landing is the former seafood processing facility, Gloucester Seafood, Inc. This property was used for processing long before Gloucester County adopted a zoning ordinance in 1984. Gloucester Seafood, Inc. maintained a business license until 2010, but did not renew it after that year. The property was zoned single family residential when zoning was adopted. This zoning remained in place as part of the county-wide rezoning and zoning ordinance updates of 1998. The zoning ordinance classified seafood processing as a use permitted only by special exception in certain zoning districts and not at all within the Single Family (SF-1) zoning district.

Because the seafood processing use on this property in 1984 was established prior to the enactment of the zoning ordinance and subsequent amendments, it was allowed to continue as a legally non-conforming use. However, pursuant to both state and local regulations, once a use ceases to exist for more than two years, it no longer has vested rights to that nonconforming use. Therefore, Gloucester Seafood, Inc. became inactive for more than two years, after 2010, the legal nonconforming status of the property ceased. It should be noted that Gloucester County recently revised its ordinance, as a direct result of the York River Use Conflict Study and Report – also CZM funded, to allow aquaculture uses in the SF-1 zoning district. Gloucester County continues to address the local barriers to working waterfronts by incorporating the recommendations of this study in their Comprehensive Plan update; however, re-establishing the commercial use of the Gloucester Seafood, Inc. building would require complying with various state and federal regulations

...there was particular urgency for a master plan that assesses the needs of the commercial seafood industry, harbor management, and current and future infrastructure improvements for Aberdeen Creek...

that are not controlled by local government. With commercial watermen depending on sites such as those found on Aberdeen Creek, there was particular urgency for a master plan that assesses the needs of the commercial seafood industry, harbor management, and current and future infrastructure improvements for Aberdeen Creek, as well as other critical working waterfront areas within Gloucester County. This is where the Virginia CZM program has come in to support development of a master plan through the Middle Peninsula Planning District Commission. A well designed and focused strategy for Aberdeen Creek will help ensure that current and future commercial watermen have access to local infrastructure and business support services.

While there are potentially a myriad of steps associated with permitting a business on coastal waters, at the federal, state and local level, the Aberdeen Creek project focuses on issues and solutions at the local level to help facilitate the preservation of working waterfront businesses. 🐟

Aberdeen Creek Harbor Master Plan Recommendations

Former Gloucester Seafood, Inc. Property

- Amend the zoning ordinance to create a commercial waterfront district which allows certain working waterfront uses by right.
- Sponsor a rezoning of existing working waterfront properties to commercial districts and issue zoning permits documenting the established by-right use of each site.

Public Landing/Wharf on Aberdeen Creek

- Negotiate single ownership status and decouple joint ownership with Virginia Department of Transportation and the Commonwealth.
- Designate, by ordinance, commercial and recreational use as permitted uses of the landing.
- Further clarify the ancillary uses associated with the permitted uses.
- Develop a potential public-private partnership with the owners of Gloucester Seafood that may allow cooperative use of both facilities for certain commercial amenities such as sanitary facilities and storage.

Dredging of Aberdeen Creek

- Gloucester County and the Middle Peninsula Chesapeake Bay Public Access Authority should collaborate with other stakeholders to develop and implement a plan to maintain the channel on Aberdeen Creek.

CLIMATE ADAPTATION

Phase Two

By Shep Moon, Virginia CZM

Things have changed quite a bit since 2008 when the Virginia CZM Program first reported on the potential impacts of climate change, and Virginia's response to those impacts, in the Summer/Fall issue of this magazine. That article discussed how in the absence of significant national initiatives, the issue had become more localized as state governments had begun to consider the implications of climate change and to evaluate what their response should be.

In the years since our first article, federal agencies have placed increasing emphasis on adapting to climate change and have targeted more resources to help state adaptation efforts. The National Oceanic and Atmospheric Administration has made coastal resiliency a priority issue for state CZM programs. The U.S. Army Corps of Engineers, the U.S. Fish and Wildlife Service, the Environmental Protection Agency and other federal agencies have all initiated new climate adaptation programs. Some of these efforts are in response to natural disasters, such as Hurricane Sandy in 2012, while others have evolved as a result of Presidential directives or simply a growing sense of urgency about the need to be better prepared in the face of predicted changes that seem more certain than they did six years ago.

Also at the state level, climate change adaptation and coastal resiliency are now receiving much more attention. Throughout this timeframe, however, the Virginia CZM Program has continued to support local efforts to plan for climate-related changes and to improve coastal resiliency through a wide range of initiatives.

Laying the Groundwork at the Local Level

Our 2008 article described the Virginia CZM Program's plans to support regional climate adaptation efforts through about \$1.1 million (2008–2010) in grants targeted at enhancing coastal resiliency and protecting blue and green infrastructure at the local level. Three planning district commissions (PDCs) received funding for three years each to help improve coastal resiliency in ways that best addressed the needs of the respective regions. The Northern Virginia Regional Commission (NVRC), the Middle Peninsula Planning District Commission (MPPDC) and the Hampton Roads Planning District Commission (HRPDC) undertook projects involving research into the impacts of climate change on their regions,



Flooding in Norfolk. Image by Skip Stiles/Wetlands Watch.

...the momentum on sea level rise adaptation in Virginia was carried forward by the strategic investments made by our Coastal Zone Management Program...

Skip Stiles, Wetlands Watch

including options for adaptation measures and the identification of research and data needs.

Each of these regional projects laid the groundwork for current CZM-funded adaptation efforts, and helped generate greater interest in coastal resiliency in general. The Hampton Roads region, however, has been especially active in this issue. Rising sea levels and land subsidence are of particular concern and make Hampton Roads the second most vulnerable area to floods and storm surge in the nation, behind only New Orleans.

Focusing on Hampton Roads

In response the HRPDC has developed a coastal resiliency and climate adaptation plan for the Hampton Roads region which builds on previous CZM funded research into climate change impacts and adaptation options. The overall goal is to increase the region's knowledge base and technical capacity to plan for sea level rise. The regional adaptive management plan includes: 1) an analysis of expected impacts and when they might occur, 2) planning horizons for infrastructure and planning decisions, and 3) best practices and recommendations for incorporating adaptive climate management into existing planning processes. HRPDC also expanded outreach efforts by combining direct public engagement through a series of meetings, and a new effort using their environmental education efforts under the HRGreen program.

The Virginia CZM Program is also supporting HRPDC's efforts to help the City of Virginia Beach develop a climate change adaptation plan that can serve as a model for other localities. The project includes a review of codes, ordinances, and plans inside and outside of the City related to flooding and sea level rise, as well as development of sophisticated maps, an online map viewer showing projected impacts, and enhanced public outreach.

But perhaps the most important outcome of the Virginia CZM Program's climate change adaptation efforts in the Hampton Roads region has been a heightened awareness of sea level rise issues by the general public and a better understanding of potential adaptation strategies by local officials. Virginia CZM grants to HRPDC have provided much more detailed, localized information and an on-going forum for discussion of an issue that was not being addressed elsewhere in state government at the time.

The region experiences widespread flooding, both from storms and from certain more common tidal events, and citizens affected by flooding have expressed their concern to their elected officials. The combination of this citizen interest, along with CZM funded adaptation projects, has led to the Hampton Roads region taking a leadership role in addressing this issue that has now gained momentum at the state level. Other organizations have joined forces to expand the effort within the region, and political leaders from the region have been successful in renewing interest within the executive branch of state government as well as the Virginia General Assembly.



Other CZM Initiatives to Improve Coastal Resiliency

- * Shoreline management strategy to address climate change by promoting the use of living shorelines and provide opportunities for wetlands to migrate landward as sea level rises.
- * Blue and green infrastructure planning to identify our most valuable coastal natural areas and provide valuable information for assessing climate change impacts to these areas.
- * Land acquisition to protect our most valuable and endangered lands and to ensure that development is not placed in harm's way.

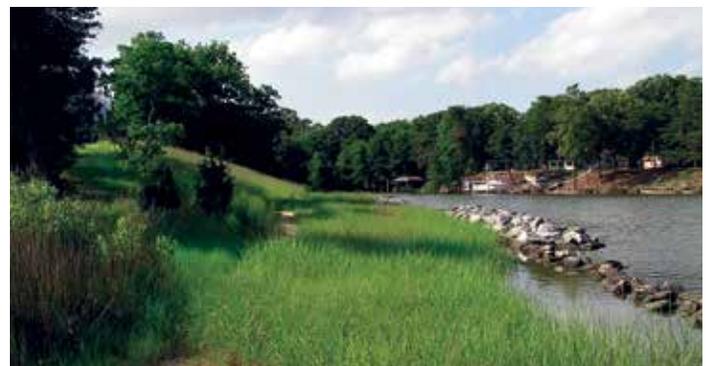
State Level Efforts

In 2012, the General Assembly requested a report from the Virginia Institute of Marine Science on Recurrent Flooding, and in their 2014 session passed a resolution for creation of a Joint Legislative Subcommittee on Recurrent Flooding. The Subcommittee's charge is to undertake a "comprehensive and coordinated planning effort." The executive branch also has begun initiatives, first by creating the Recurring Coastal Flooding Subpanel of the Secure Commonwealth Panel, and then most recently by Governor Terry McAuliffe's reconvening the Governor's Climate Change Commission.

Virginia's Congressional delegation has also been involved as evidenced by a bipartisan meeting held at Old Dominion University in June, 2014, to discuss the Hampton Roads region's

(map left) Category 1 Storm Surge Inundation and the Green Infrastructure Network in Hampton, Virginia. From the 2010 Virginia CZM-funded HRPDC report "A Green Infrastructure Plan for the Hampton Roads Region" Map courtesy of HRPDC.

(photo below) Living shorelines, as opposed to bulkheads or rock revetments, can provide an opportunity for wetlands to migrate landward as sea level rises. The marsh sill shown here, built seaward of the wetlands with openings that allow water and animals to move through it, stabilizes the shoreline and protects the wetlands. A hard structure built directly on the shoreline (landward of the wetlands) would prevent movement of the wetlands in response to higher water levels, and eventually cause their destruction. Image courtesy of the Virginia Institute of Marine Science.



CLIMATE ADAPTATION

sea-level rise issues. All of these actions illustrate the elevated status that climate change adaptation has achieved since the 2008 article. While the Virginia CZM Program's initiative was not the only one targeted at improving coastal resiliency, it seems to have provided a good foundation for future efforts.

According to Skip Stiles, Executive Director of Wetlands Watch, and a member of former Governor Tim Kaine's Climate Change Commission, *"In the absence of state government action in recent years, the momentum on sea level rise adaptation in Virginia was carried forward by the strategic investments made by our Coastal Zone Management Program. Their funding of Tidewater's planning district commissions, especially grants to the Hampton Roads Planning District Commission, have fueled progress on adaptation planning that is paying off, now that state and local government interest is growing. Instead of having to re-start adaptation work in Virginia after the hiatus in state agency interest, the CZM investments have created a momentum that will drive this resurgence of activity."*

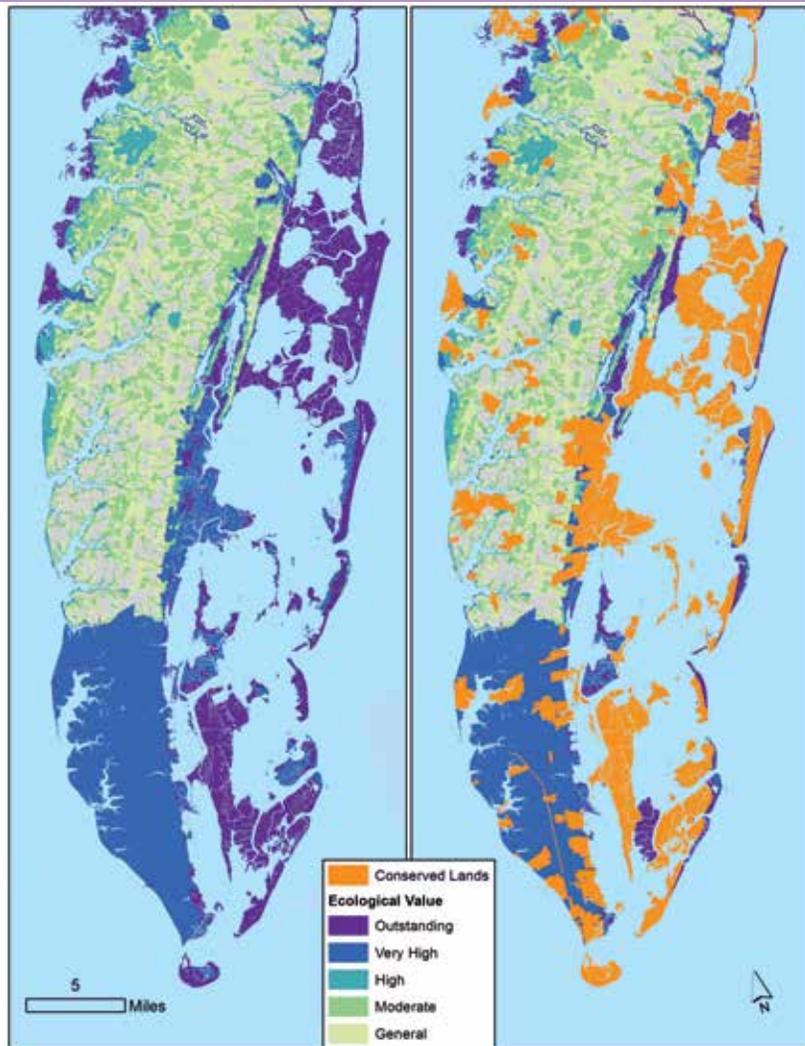
Next Steps

A small FY14 grant from the Virginia CZM Program to HRPDC will provide funds for continued public outreach.

Virginia's next 5 year Coastal Needs Assessment Strategy (see "Looking Forward" article on page 33) will provide an opportunity to focus state CZM resources on coastal resiliency projects and allow Virginia to better compete for national competitive CZM funds. Assistance will also continue for PDCs for climate change adaptation initiatives through annual PDC

(maps above) For the past 24 years Virginia CZM, the US Fish and Wildlife Service, VA Dept. of Conservation and Recreation, VA Dept. of Game and Inland Fisheries and The Nature Conservancy have worked together to acquire over 6,000 acres (pooling \$37M from various funding sources – including CELCP and CZM 306A) for important coastal migratory songbird habitat through the Southern Tip Partnership. Acquisition of these high ecological value lands is important for creating resiliency in the face of sea level rise and providing space for habitats to migrate inland. Maps courtesy of Virginia CZM Program.

(maps at right) More accurate elevation data is critical for informed coastal resiliency planning. These illustrations vividly show improvements in data for the southern tip of Northampton County. Maps courtesy of The Nature Conservancy.



NOAA Digital Coast sea level rise data now on Coastal GEMS: www.coastalgems.org

The potential impacts of 1 to 6 foot increments of sea level rise can now be compared to other Coastal GEMS data.

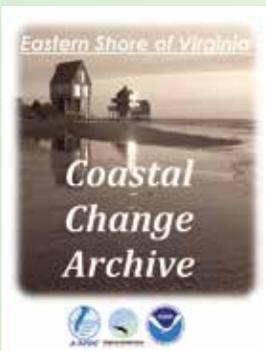
technical assistance grants and PDC competitive grants. Other Virginia CZM Program initiatives, such as shoreline management, blue and green infrastructure planning, and land acquisition, will also continue to help mitigate the impacts of climate change. Finally, Virginia CZM Program staff will continue to support state climate adaptation committees and commissions. Virginia participates on the Mid-Atlantic Regional Council on the Ocean

Climate Change Action Team, which is currently working with Rutgers University and others to identify and address climate change issues that may affect the entire Mid-Atlantic region. The Team also will be using funds from a US Fish and Wildlife Service grant to better communicate information on coastal resiliency. Together, these efforts should help the Commonwealth be more prepared for the range of predicted climate change challenges. 🐟

Virginia CZM Program Funded

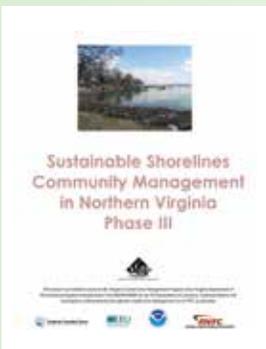
Climate Adaptation Activities in other Coastal Planning Districts

Accomack-Northampton Planning District Commission



- Supports a Climate Adaptation Workgroup which meets regularly and has worked with The Nature Conservancy and the Coastal Services Center to secure funding for LiDAR and to create stunning new elevation models and sea level rise scenarios that have been shared publicly.
- Created an innovative “Coastal Change Archive” that engages residents using Participatory Geographic Information System (GIS) tools to code their stories and observations to a map of the Shore. It will serve as a historical resource for current and future generations to better understand how seascapes, landscapes, plants, animals, and humans are responding to changes in the natural environment. The Archive will also provide a baseline for evaluating the impacts of future climatic changes. Nick Meade, Virginia CZM Program GIS Coordinator, helped with the mapping sessions, processed the data, and developed the maps for inclusion on Coastal GEMS. Go to CoastalGEMS.org and click on the “Coastal Land” category to see the Archive’s “mapped stories.”
- Conducting an Eastern Shore Transportation Infrastructure Inundation Vulnerability Assessment.

Northern Virginia Regional Commission



- Facilitated a collaborative planning effort among the localities, major landholders, and universities in the region that border the 100 miles of tidal Potomac River shoreline.
- Developed an inventory of existing data resources and policies for natural and man-made resources, maps identifying shoreline vulnerability, and strategies for adaptation and communication of project outcomes.
- Conducted a meeting for dialogue on climate adaptation policy with the Embassy of the Kingdom of the Netherlands. More than 100 scientists, researchers, technical experts, academicians, non-profit organization officials and elected officials participated.

Middle Peninsula Planning District Commission



- Identified potential impacts of climate change and sea level rise and assessed the associated economic and ecologic losses.
- Provided outreach to the general public and elected officials.
- Elevated local social perceptions of the topic.
- Developed a START (Start Adaptation and Response Today) kit which organizes information that localities can consider when addressing potential climate change and sea level rise impacts. The START kit includes local scientific data, a natural hazard vulnerability assessment tool, local, state, national, and international case studies, as well as sample adaptation ordinances from other communities.

VIRGINIA NATIVE PLANTS

Increasing the Market Regionally and State-wide

By Virginia Witmer, Virginia CZM Program

Increasing the amount of native vegetation in Virginia's coastal zone can accomplish many goals: protecting water quality and quantity, increasing carbon dioxide absorption, enhancing wildlife habitat and improving aesthetics and quality of life. In spring 2009, the Virginia CZM Program and its partners launched the Plant ES Natives campaign using proven social marketing tools and techniques with a focus on making planting natives fun, easy and popular. Plant ES Natives is going beyond awareness to change individual behavior and make planting natives the social norm rather than the exception.

The campaign strategy was designed after listening to Eastern Shore residents, and identifying: the barriers that were inhibiting their planting of natives; the benefits they would receive by increasing their use of natives; and the outlets through which they receive information. The campaign's planning team then selected social marketing methods that would most effectively convey a campaign message that would resonate with this audience: "They're Shore Beautiful!"

The Plant ES Natives campaign social marketing strategy has been a model for development of three other regional campaigns funded by the Virginia CZM

Program. These regional campaigns are visibly linked through their names and shared design elements in their campaign logos, and they are programmatically linked as they share their progress and experiences (see page 20). A colorful guide to Eastern Shore native plants highlights their beauty and makes it easier for residents to identify native plants, and a series of noticeable, eye-catching, self-explanatory prompts at point of sale makes it easier to find them. Nine native plant demonstration gardens follow the rule that seeing is believing and showcase the beauty of Eastern Shore native plants. Most importantly, leaders in the community are helping make planting natives more popular. In addition, many of the same organizations are participating on regional campaign planning teams, including local chapters of the Virginia Native Plant Society, Master Gardeners, Master Naturalists, Audubon and Virginia Soil and Water Conservation Districts.

(top left) A native plant garden in Northern Virginia. Image by Sue Dingwell, VNPS. (right - top to bottom) "John Clayton" visits with residents in Wachapreague. Garden Center banner beckons gardeners on the Northern Neck. Helen Hamilton, author, highlights the value of native plants and pollinators and her book "Wildflowers and Grasses of Virginia's Coastal Plain on Eastern Shore. Virginia Delegate Robert Bloxom and "Clayton" planting butterfly weed in Wachapreague. Plant NNK Natives Campaign leaders, Jeff Waincott and Paula Boundy, share the regional native plant guide at an exhibit. Images courtesy of Plant NNK Natives campaign and Virginia CZM Program.



VIRGINIA NATIVE PLANTS

Components of the *Plant ES Natives* Campaign strategy—such as a regional plant guide based on the *Flora of Virginia* published in December 2012 (<http://floraofvirginia.org/>) and garden center plant tags, have been easily transferrable to all the regions. Each region is unique however, and the planning teams have adopted, and are continuously evaluating, which place-based approaches are most effective in reaching their gardening population.

Native Plants Marketing Partnership Growing

In 2011, the Virginia CZM Program reached out to other state and regional partners engaged in native plant marketing efforts and initiated the *Virginia Native Plants Marketing Partnership* (VNPMP), a forum for collaboration and coordination, leading to more consistent messaging to the general public and greater efficiencies in the use of limited resources (www.deq.virginia.gov/Programs/CoastalZoneManagement/CZMIssuesInitiatives/NativePlants.aspx.) A Steering Team for the VNPMP was formed (member organizations are listed at right).

To engage other interested organizations, businesses and individuals, the Virginia CZM Program and the Department of Game and Inland Fisheries hosted a forum in May 2013 to gather input on priorities for the partnership.

Together the VNPMP Steering Team has compiled a Native Plant Marketing Partner and Resource Directory www.deq.virginia.gov/Portals/0/DEQ/CoastalZoneManagement/Virginia_Native_Plants_Marketing_Partners_and_Resources_Directory_revised_April_2014.pdf and has identified collaborative projects that will be more effectively and efficiently addressed through the partnership. In August 2013, the Team prioritized the following goals: 1) support for a Virginia conservation landscaping certification; 2) strategies to help increase the availability of native plants including a framework and guidelines for native plant seed collection/propagation; and 3) coordination of state-wide native plant marketing strategies. Another forum was held in January 2014 to solicit more specific ideas on addressing these priorities

At its May 2014 meeting, the Steering Team established a Native Plants Availability Workgroup and a Chesapeake Bay Landscaping Professional Certification Workgroup, which will focus on providing support for Virginia specific plants design, installation and maintenance modules and content for the certification curriculum.

The partnership has improved communication and collaboration. In its *2014 Guide to Virginia Growers*, the Virginia Nursery and Landscaper Association (VNLA) highlighted for the first time the availability of plants that are native to the Chesapeake Bay region (according to the US Fish and Wildlife Service Chesapeake

Marketing Partnership Steering Team

Albermarle County
Alliance for the Chesapeake Bay
Chesapeake Bay Foundation
Chesapeake Bay National Estuarine Research Reserve of VA
Chesapeake Conservation Landscaping Council
Flora of Virginia
Hampton Roads Planning District Commission
Lewis Ginter Botanical Garden
Norfolk Botanical Gardens
Northern Neck Planning District Commission
Northern Virginia Regional Commission
Piedmont Environmental Council
Virginia Audubon Council
Virginia CZM Program (Co-Chair)
Virginia Dept of Conservation and Recreation/Natural Heritage
Virginia Dept of Environmental Quality
Virginia Dept of Forestry
Virginia Dept of Game and Inland Fisheries (Co-Chair)
Virginia Institute of Marine Science
Virginia Master Gardener Program
Virginia Master Naturalist Program
Virginia Native Plant Society
Virginia Nursery and Landscape Association
Virginia Society of Landscape Designers
VA Soil and Water Conservation Districts
Wetlands Watch

Bay native plant database). The guide also includes ads for the *Flora of Virginia* and an ad outlining the habitat value of natives. The guide will help to reach growers, landscape architects and designers, and contractors and is a great first step in efforts to increase the wholesale availability and distribution of Virginia natives. In August 2014, team members attended the VNLA Field Day in Blacksburg to speak with attendees and solicit responses to a commercial industry survey—an informal survey of VNLA members and other growers and plant specifiers to gauge their perspectives on the efficacy of propagating and selling a broader diversity of native plant species.

The VNPMP Steering Team met in September to draft an Action Plan to clarify the partnership's short and long-term goals.

The VNLA Field Day featured Doug Tallamy, author of Bringing Nature Home: How You Can Sustain Wildlife with Native Plants and The Living Landscape; Designing for Beauty and Biodiversity in the Home Garden (photos right). Images courtesy of Virginia CZM Program.



VIRGINIA NATIVE PLANTS



www.deq.virginia.gov/Programs/CoastalZoneManagement/CZMIssuesInitiatives/NativePlants/PlantESNatives.aspx

The *Plant ES Natives* campaign continued this fall with a 3 day “Fall Native Plant Celebration”, a series of events to celebrate the beautiful native plants that flower and fruit in fall on the Shore, and to spread the message that the arrival of cool weather is the ideal time to plant trees, shrubs and other perennial plants. Dr. Jeff Kirwan, author of the book “Remarkable Trees of Virginia” gave a presentation at the Eastern Shore Community College. Dr. Kirwan, a Virginia Tech Emeritus professor, also visited Kiptopeke and Metompkin elementary schools, to speak with 4th graders about the special place native trees have in our lives and Virginia’s history. “John Clayton”, 18th century naturalist, sailed into Wachapreague Harbor to tour the town’s native plant demo garden. Clayton, portrayed by living history re-enactor Richard Cheatham, described his observations of Virginia’s natural world in the 1700s, and his work documenting the magnificent diversity of Virginia’s native plants, which led to the publication of *Flora Virginica* in 1762, Virginia’s first, and until 2012, only plant guide.



<http://vnps.org/northernneck/go-native-grow-native/>

The *Plant NNK Natives* campaign, launched in 2013, is making a great impact on Virginia’s Northern Neck. One of the key marketing materials of the campaign strategy is clearly helping to sell the beauty of Northern Neck native plants. Over 3,000 copies of the guide - *Native Plants of the Northern Neck*, have been distributed by the campaign. “Customers come in with plants circled in the guide and ask how they can get them,” one local retailer reported to volunteer campaign staff. “During a Native Plant Day at the store, sales more than doubled what they had anticipated,” says Janet Pawlukiewicz, Northern Neck Chapter, Virginia Native Plant Society secretary and *Plant NNK Natives* Campaign coordinator. The Rappahannock Record cited the guide as the “best regional catalog” in 2013.

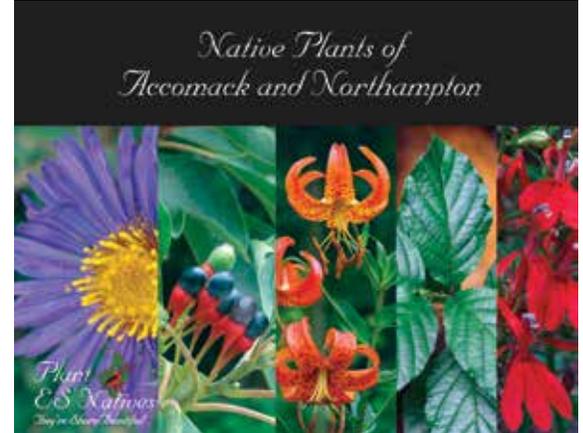


www.plantnovanatives.org

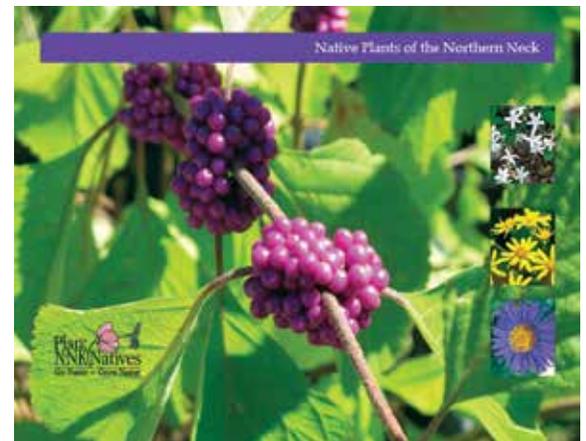
The *Plant NoVA Natives* campaign – Fairfax, Arlington, Loudon and Prince William - will be publically launched during a pilot this fall and fully implemented in spring 2015. The campaign is being coordinated by the Northern Virginia Regional Commission, and guided by a planning team chaired by the current president of the Potowmack Chapter of the Virginia Native Plant Society. Design of the campaign is being guided by pre-campaign research conducted in 2012. “We couldn’t be more pleased with the level of interest the *Plant NoVA Natives Campaign* has received from people throughout the region,” comments Corey Miles, Northern Virginia Planning District Commission, and Director of the campaign. The four workshops the campaign held earlier this year to introduce folks to the campaign and recruit

VIRGINIA NATIVE PLANTS

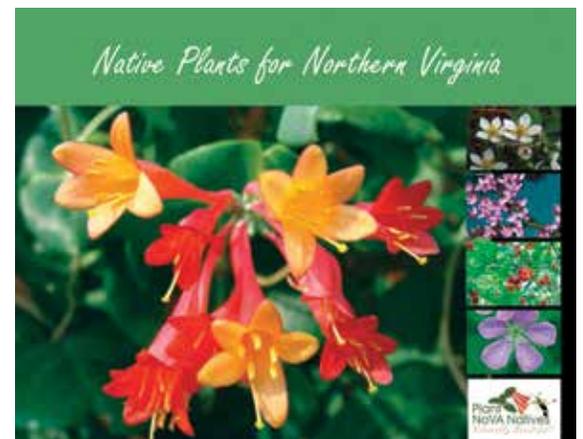
Virginia Delegate Robert Bloxom helped dedicate the planting of a Water Oak, *Quercus nigra*, in the park, one of many that will be planted as part of the “Shore Big Tree” program to encourage the planting of native trees in public spaces for the benefit and enjoyment of generations to come. The Accomack-Northampton Planning District Commission (A-NPDC) dedicated the planting of a White Oak, *Quercus alba*, in Accomac. *“These trees have been planted with the intent that they will grow to one day become “Shore Big Trees” and hopefully these markers will help inspire Eastern Shore residents to appreciate these trees as cornerstones of our communities.”* states Curt Smith, Director of Planning at the A-NPDC. said. Later this fall, a tree will be planted and dedicated in Onancock. New technology is being used to make it even easier for gardeners to access information about Eastern Shore native plants, including the addition of a QR code (a 2D bar code used to provide easy access to Internet information through a smartphone or other mobile device) on plant markers in demonstration gardens. Partners also are currently completing production of demo garden video tours to encourage visitors. Over 6,000 copies of the native plant guide have been distributed.



“To increase demand we knew we had to highlight the beauty as well as the environmental benefits of native plants in our campaign. To increase supply, we partnered with local garden centers, asked them to stock more Northern Neck natives and in exchange, we provide colorful banners and plant tags to promote sales,” according to Pawlukiewicz. The campaign also is showcasing native plants in monthly newspaper articles, in a new brochure of garden designs, and in area demonstration gardens. This spring the campaign held additional “native plant days” at local garden centers and farmers markets. In October 2014, the campaign will sponsor a native plant celebration at Stratford Hall, including dedication of a new native plant habitat garden and a visit from 18th century botanist John Clayton. A 2014 grant from Virginia CZM will fund an evaluation survey to gauge the effectiveness of the campaign strategy.



Community Leaders were attended by almost 200 people in all. As a result of the overwhelming interest in the campaign, the Northern Virginia Regional Commission, with Virginia CZM Program funding, hired a Community Leader Coordinator to help manage volunteers and campaign launch activities. *“We also have been very lucky to have incredibly enthusiastic and knowledgeable partners on our planning team,”* shares Miles. The collaborative effort of the planning team has resulted in a new CZM funded and designed Guide to Native Plants for Northern Virginia. *“Members of the planning team and our new Community Leader volunteers can’t wait to distribute this new guide as well as the other multi-media materials we are developing for the campaign’s pilot launch this September,”* states Miles. Partners will distribute 2,500 copies of the guide.



HABITAT RESTORATION

Food for the Birds

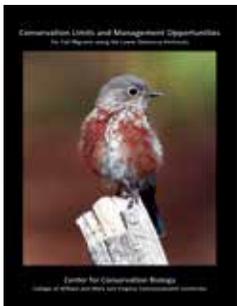
By Laura McKay, Virginia CZM Program

Ever since the Virginia CZM Program's seminal studies in the early 1990s confirmed the importance of the southern tip of Virginia's Eastern Shore as a hemispherically important "stopover" habitat for neotropical migratory songbirds, we have been working with partners to protect and restore this critical coastal habitat.

Fortunately we've had the best possible partners—the "Southern Tip Partnership"—folks from the United States Fish & Wildlife Service, The Nature Conservancy, the Virginia Department of Conservation & Recreation and the Department of Game & Inland Fisheries. Since the early 90s our Southern Tip partnership pooled over \$37 million to purchase, or conserve through easements, over 6,000 acres of stopover habitat for migratory birds.

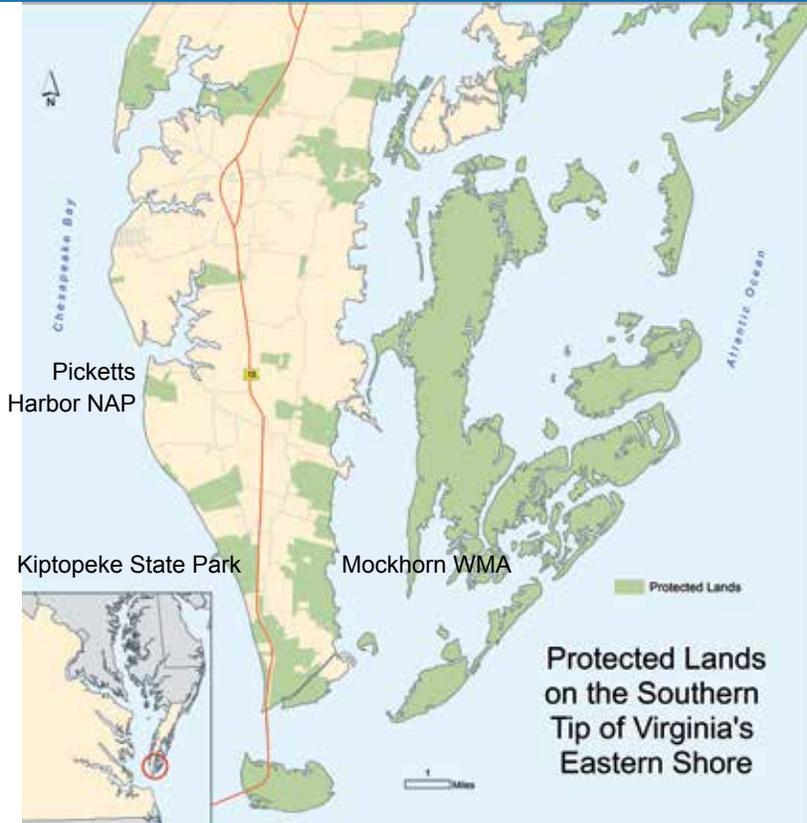
So it seemed a good time last year to pause in our efforts and look again at whether we were maximizing what the birds really need and what is being provided on those lands. What exactly do these tiny, long-distance travelers need? How much food—what kinds of berries and insects are they eating? Is there enough food? How much and what type of cover do they need to evade predators?

How Much Food Do Songbirds Need?



With a small grant from the Virginia CZM Program, Dr. Bryan Watts at the Center for Conservation Biology began to answer some of those questions. His report entitled, *Establishing Resource Delivery Objectives for Migration Habitat Management on the Lower Delmarva Peninsula* is available at www.deq.virginia.gov/Portals/0/DEQ/CoastalZoneManagement/FundsInitiativesProjects/task11-01-11.pdf.

In a nutshell, Dr. Watts concludes that, "Despite its relatively small land mass, the study area is estimated to support 4 million bird days during the migratory period. In order to break even energetically, these birds would require nearly 30 metric tons of food. Conservation lands are currently supporting less than 20% of the bird use...however, if ongoing restoration projects are brought to their conservation endpoints they would more than double this contribution."



Conserved lands (in green) provide critical stopover habitat for migratory songbirds on their long journey to Central and South America each year.

What Do They Eat and Where?

Another group of researchers has been using radar to track and attempt to predict which areas are currently being used by neotropical and temperate migratory songbirds. As a companion project, the Virginia CZM Program funded Dr. Eric Walters at Old Dominion University to quantify migratory landbird use at 12 forested sites on the lower Delmarva Peninsula. That report is available at www.deq.virginia.gov/Programs/CoastalZoneManagementFunds/Initiatives/Projects/2011Projects/2011VirginiaCZMGrantProjectTask110211.aspx.

Fruit was assessed at the 12 study sites noting abundance, ripeness and height; arthropods were counted on the ground and in bagged branch clippings brought to the lab.



Common Yellowthroat. Image by J. Koontz.



HABITAT RESTORATION

Pine Thinning at Kiptopeke

In the meantime as the research efforts continued, we funded several habitat restoration projects on conserved lands in the Southern Tip. A \$59,000 CZM grant to the Department of Conservation and Recreation (DCR) provided for work at Kiptopeke State Park which included thinning of almost 10 acres of pines and provision of seven 16 foot high portable deer stands. In some areas of the park pines had become so dense that light could not penetrate to the forest floor and fruit-bearing trees and shrubs could not grow. Thinning and careful monitoring will allow native fruit-bearing trees and shrubs to become established providing a more useful food source for neotropical songbirds. Excessive browsing of vegetation by deer is a problem in the park. Portable deer stands allow for a successful hunting season to reduce the deer population and protect fruit-bearing trees and shrubs.



(above) In the dark shadow of dense stands of pine there is no light or space for important understory habitat. Image by Virginia Witmer, Virginia CZM Program.

(left - page 22) ODU undergraduate Eric Cali on left and field technician Conor Higgins, collect arthropod samples in a bagged branch to bring back to the lab for analysis. (right) ODU undergraduate Eric Cali measures a caterpillar collected from the bagged branch. Images courtesy of Old Dominion University.



Volunteers plant the last of hundreds of trees and shrubs in the Pickett's Harbor Natural Area Preserve. Standing are (left to right): Roger Wheeler, Ron Allison, Ruth Meyers, Charlie O'Neill, Melba Whitaker, Bill Bender, Pat Morrison, Les Darling and kneeling are (left to right): Jacob Loescher, Dot Field, and Ruta Vaskys. Image courtesy of DCR.

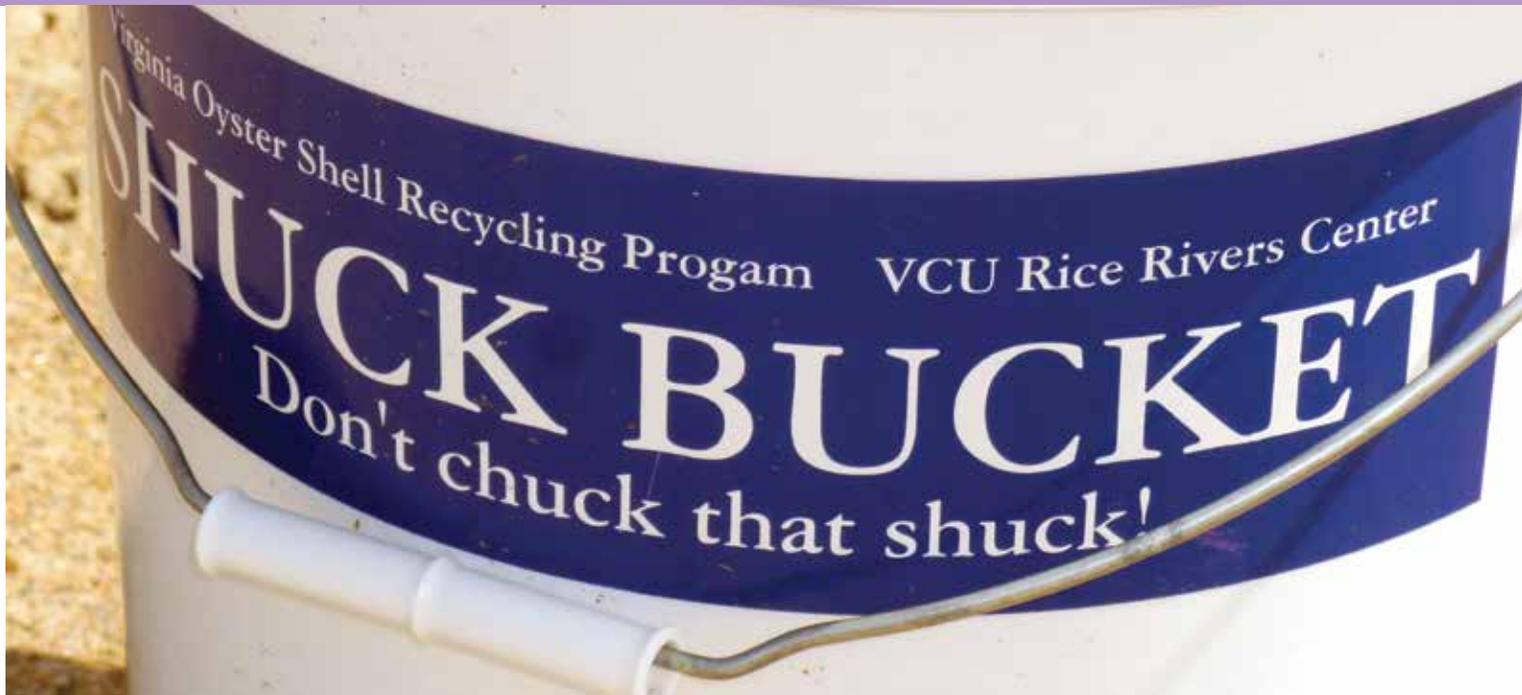
Shrub and Tree Planting at Pickett's Harbor

At Pickett's Harbor Natural Area Preserve a \$45,000 CZM grant to the DCR provided for the planting of 2,170 wax myrtle shrubs and 360, 7-10' tall oak saplings in a 62-acre agricultural field purchased as an addition to the Preserve. DCR staff recruited volunteers who provided 442 hours of labor to plant these native trees and shrubs. As DCR's Dot Field describes, "Wax myrtles grow quickly and are evergreen, providing instant islands of year-round cover for birds....rapidly providing berries within a short time. Wax myrtle also fixes nitrogen, increasing its survivability in the altered soil of agricultural fields. Oak saplings provide an additional layer of instant cover providing bird perches promoting dispersal of favored seeds (e.g. black cherry, blackgum, sassafras, muscadine grape) through the birds' droppings."

Habitat Enhancement at Mockhorn

At Mockhorn Wildlife Management Area a \$64,500 CZM grant to the Department of Game and Inland Fisheries provided for pine thinning and planting of native grasses, forbs, flowers, shrubs and trees; removal of invasive plants (such as Japanese honeysuckle), and demolition of an obsolete cement block structure and asphalt parking lot. 🐾

OYSTER SHELLS



Richmonders Recycling Oyster Shells

By Todd Janeski, VCU Center for Environmental Studies

The shells from the oysters you enjoy at Richmond restaurants may be headed back to the water to help rebuild oyster sanctuary reefs. Richmond now has a successful Virginia Oyster Shell Recycling Program to collect empty oyster shells from area restaurants. The shells will be returned to Chesapeake Bay to help restore oyster sanctuary sites. In May, 2013, Virginia Commonwealth University's (VCU) Rice Center partnered with the Virginia Green Travel Program, Chesapeake Bay Foundation, City of Richmond, Tidewater Fiber Corporation, Virginia Master Naturalist Program, Virginia CZM Program, Rappahannock River Oyster Company and four Richmond based restaurants (Rappahannock Restaurant, Lemaire at the Jefferson Hotel, Acacia Mid-Town, and Pearl Raw Bar) to pilot the collection of oyster shells that were being sent to the landfill. The pilot tested the feasibility of a coordinated collection and recycling effort and confirmed that collection in the Richmond region can be accomplished as it has been in other areas.

Since this successful pilot, more restaurants, businesses and organizations have become involved in this effort. To date they include: Dutch & Co., Heritage, Lady N'awlins, The Magpie, Saison, The Boathouse at Rocketts Landing, The Boathouse at Sunday Park, The Hard Shell Downtown, The Pig & Pearl, Water Coastal Kitchen, Starbucks River Road II, Yellow Umbrella,

Whole Foods, The Nature Conservancy, The Virginia Seafood Council and Virginia Sea Grant. Some Richmond businesses are participating by providing shell, receiving shell from private individuals to recycle or recycling their own shell as part of the Program: Yellow Umbrella Provisions (receiving site), Little House Green Grocery (receiving site), Ruby Salts Oyster Co. (receives shell at the Farmers Market at St. Stephens once a month), Andersons Neck Oyster Co., Chapel Creek Oyster Co. and Rappahannock Oyster Co. The collected shells are going to the Chesapeake Bay Foundation (CBF) Oyster Restoration Center where they are age cleaned, seeded with oyster spat, and returned to oyster sanctuaries to supplement natural recruitment.

Walter Bundy, Executive Chef at Lemaire, is enthusiastic: *"It has been great working with VCU and all of their volunteers. It is very exciting to be part of this pilot program to help restore our oyster reefs. Here at Lemaire, we pride ourselves on the use of local products and what better product than the Virginia oyster! We want to do everything possible to help save the Bay and anything we can do to help with the restoration of Virginia's oyster population is a no-brainer. Janeski and his crew make it so simple. We just save our shucked shells and pass them off weekly. I just hope that we can show others how easy this program is so we can help it grow."*

OYSTER SHELLS



This program uses volunteer labor from the Virginia Master Naturalists and Chesapeake Bay Program Volunteers as Chesapeake Stewards (VoiCes). As of Summer 2014, we have amassed over 300 hours of volunteer time and collected more than 15 tons of oyster shell from participating restaurants, the 17th St. Farmers Market Shockoe on the Half-shell Oysterfest, St. Thomas Episcopal Oystoberfest, and the Richmond Folk Festival. And this past spring, Whole Foods Short Pump hosted the Program as a fundraiser helping generate both attention and support.

(photos top left to right) Walter Bundy, Executive Chef at Lemaire restaurant, prepares a delicious plate of Virginia oysters, the shells of which will later be recycled. A volunteer empties his "Shuck Bucket" of oyster shells into the central oyster shell collection bin. A view of the collection bin full of oyster shells ready to be transported to sanctuary reefs. (above) Volunteers representing many partners in the new Richmond Oyster Shell Recycling Program. Images top left/center courtesy of the Richmond Oyster Shell Recycling Program. Images top right/center by Virginia Witmer, Virginia CZM Program.

On June 26, the Richmond CBS affiliate, WTVR, did a segment on "Powering Virginia" about the VA Oyster Shell Recycling Program highlighting the partnerships that make the program a success. CBS 6's Jessica Noll interviewed Todd Janeski, the program's founder, Jackie Shannon, CBF Oyster Restoration Program Manager, and Laura McKay, Virginia CZM Program Manager. This segment can be viewed at www.wtvr.com/poweringvirginia.

So the next time you visit one of these Richmond restaurants, stores or festivals, give them a hand for helping us restore Virginia's oysters! 🐚

Todd Janeski, VCU Shell Recycling Program Leader (center) with Jackie Shannon and Tommy Leggett of the Chesapeake Bay Foundation Oyster Restoration Center during a transfer of oyster shells last spring. Image by Virginia Witmer/Virginia CZM Program.



SEASIDE GRASSES

Splendiferous Success

By Laura McKay and Nick Meade, Virginia CZM Program

The shallow waters and barrier islands of the Atlantic Coast or “Seaside” of Virginia’s Eastern Shore form a rich and dynamic ecosystem protecting the mainland from storms and erosion and providing a bounty of natural resources and wild beauty. But the area suffered heavy economic and ecological losses in the 1930s. Homes and hunt clubs on the barrier islands as well as sea grasses (aka “eelgrass” or “SAV”—submerged aquatic vegetation) which grow rooted to the seafloor, and bay scallops that lived in the grasses, were wiped out by hurricanes and an eelgrass disease.

A Major CZM Investment

Restoring the health of the Seaside has been one of the Virginia CZM Program’s largest financial investments (\$4.69 M) and longest running efforts (1999 to present). Additional funding has come from the Saltwater Recreational Fishing Fund and other sources. Since 1999 we’ve worked with the Virginia Institute of Marine Science (VIMS), the Virginia Marine Resources Commission (MRC), The Nature Conservancy (TNC) and many others to bring back eelgrass, bay scallops, oysters and shore birds.

Efforts were most intense from 2002 through 2008 when we spent about \$500,000 per year on the “Seaside Heritage Program” which also included work on ecotourism, shellfish aquaculture and invasive reed removal. Lately we’ve been investing about \$160,000 per year in just eelgrass and bay scallop restoration. The success has been phenomenal.

Eelgrass Flourishing, Scallops on the Rise

The 380 acres of eelgrass planted with 51 million seeds over the past 11 years has now spread to over 4,700 acres in 4 adjoining bays, making this the largest and most successful eelgrass restoration project on the planet. As Dr. Robert Orth of VIMS told a group of legislators and staffers at a Congressional briefing in DC last March, “*The project merits an Academy Award – just like the film “Splendor in the Grass,” with Best Producer going to NOAA and Best Director to Virginia CZM.*” (And we’d like to add Best Leading Man, Dr. Orth!)

Along with the eelgrass success, Dr. Mark Luckenbach of VIMS is using CZM and other funds to reintroduce the bay scallop into the eelgrass beds. Between 2013 and 2014 the number of adult scallops found in one 1,275 acre grass bed where the



scallop restoration efforts are ongoing jumped from 29,000 to 113,000; this represents a dramatic increase in the number of scallops. Bay scallops can be ephemeral. They live for only about 2 years and their populations can fluctuate dramatically depending on growth conditions. But success

to date is encouraging and the dream is to once again have a sustainable bay scallop population.

This year, a new partner, the United States Army Corps of Engineers has joined the team. They will be providing about \$646,000 to VIMS over the next 6 years which will be matched with CZM dollars and MRC’s Saltwater Recreational Fishing Funds.

SEASIDE GRASSES



(bottom left corner) Dr. Robert Orth speaking at a Congressional briefing. (center) Bay scallops depend on dense and expansive eelgrass beds for their survival. (top right) VIMS boat specially rigged to harvest reproductive shoots of eelgrass so seed can be collected. (bottom right corner) Aerial view of an Eastern Shore clam farm. All images courtesy of VIMS.



dynamic system and protect public resources. For example, within the current boundaries for public oyster grounds (established in the 1890s), only 56% of the underwater habitat is now suitable for oysters and only 43% of natural oyster reefs are still within the public grounds.

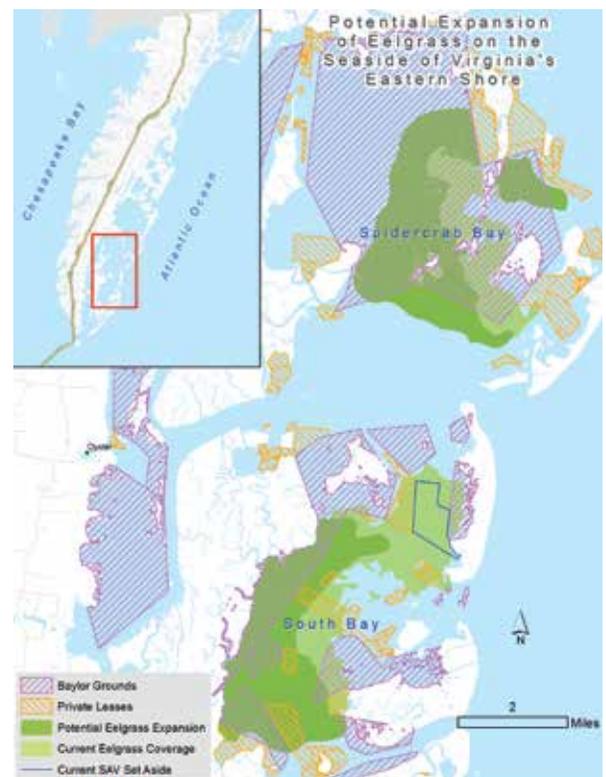
Also private shellfish growers expressed concern that eelgrass restoration and proliferation could continue to the point of precluding other uses. So Virginia CZM staff led a mapping exercise in which VIMS scientists and MRC staff collaboratively mapped all the potential eelgrass expansion areas on the Seaside. Currently SAV covers about 4.7% of underwater land on the Seaside. According to VIMS, it only has the potential to spread naturally to another 5% and only in a few, specific areas (see map below). This analysis was presented to the MRC Commissioners at the January 2014 monthly meeting resulting in the Commissioner requesting recommendations for new SAV set aside areas on the Seaside. Work will continue in collaboration with VIMS scientists, MRC and A-NPDC staff, watermen and shellfish growers to identify the best areas for the Commission's consideration. 🐟

Is There Room for More Growth?

By 2008, it became clear that we needed some spatial planning to ensure that restoration efforts can expand along with human uses, such as clam farming, while also taking into account the constantly shifting sands of the barrier island system. So we began the Seaside Special Area Management Plan (SAMP) which is now nearing completion.

The Virginia CZM Program funded VIMS, TNC, the Accomack-Northampton Planning District Commission (A-NPDC) and Accomack County to analyze habitat and human uses and ultimately develop new policies for better management of the Seaside. Through this effort Accomack County adopted the Chesapeake Bay Preservation Act provisions on the Seaside.

Spatial analysis of public oyster grounds (Baylor Grounds), shellfish private leases, and eelgrass restoration areas illustrated the need for more flexible policies to manage this diverse and



OCEAN PLANNING

Regional Planning Underway

By Laura McKay, Virginia CZM Program

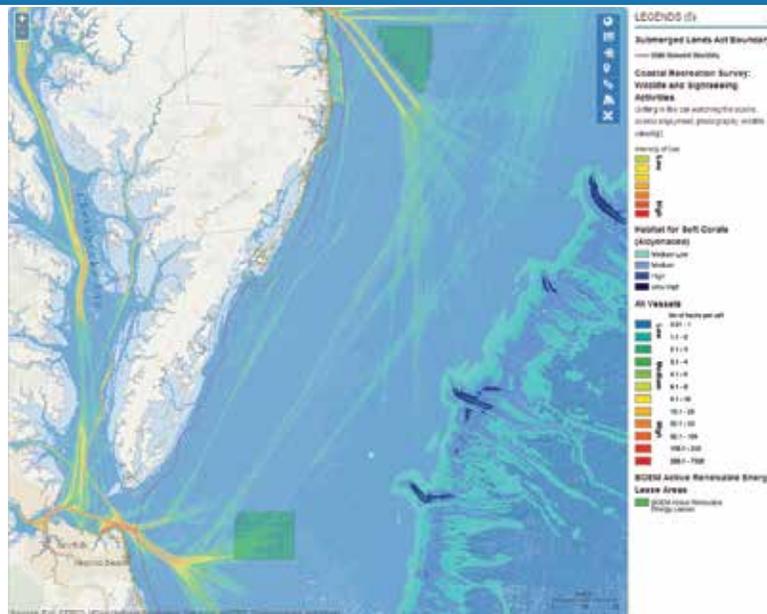
In April of 2013, 4 years after the Mid-Atlantic Regional Council on the Ocean (MARCO) was formed by the five governors of Virginia, Maryland, Delaware, New Jersey and New York, the Mid-Atlantic Regional Planning Body (RPB) was established under the auspices of the nation's first-ever National Ocean Policy. The policy requires federal agencies to work in a more coordinated, goal-oriented framework with states, tribes, and stakeholders through RPBs to conduct a regional ocean assessment and develop a regional ocean plan.

Since April 2013, the Mid-Atlantic RPB has developed a charter and framework (see www.boem.gov/Environmental-Stewardship) based on public listening sessions held in each state and set up 6 groups to work on: 1) a regional ocean assessment to characterize current human uses and ocean resources; 2) ideas for updates for the MARCO OceanDataPortal; 3) ways to maximize stakeholder engagement; 4) issues that cut across the bay/estuary/ocean boundaries; 5) issues that cut across agency boundaries; and 6) some type of ocean action plan.

The 21 member Mid-Atlantic RPB has 7 federal agency representatives; 12 state representatives (2 from each of 6 states, including Pennsylvania; one representative of tribal nations; and one of the Mid-Atlantic Fishery Management Council. John Bull, Marine Resources Commissioner and Laura McKay, Virginia CZM Program Manager, serve as Virginia's two representatives. The next round of listening sessions to seek public input on outlines for the ocean assessment and options for which type of plan the region prefers, will be held on November 6, 2014 (see box on box on page 29). Details will be posted on the Virginia CZM Program website.



May 2014 meeting of the Mid-Atlantic Regional Planning Body in Baltimore, Maryland. Image courtesy of MARCO.



The Mid-Atlantic Ocean Data Portal contains regional scale data layers and planning tools. Map from MARCO Ocean Data Portal.

Mapping Makes It Easier

MARCO's Ocean Data Portal (<http://midatlanticocean.org/data-portal/>) is a key tool for the RPB. Many new features and data layers have been added that will help us better understand where ocean resources and human uses are occurring and where we want them to occur (or not) in the future. Sign up for *How Tuesdays* webinars or take a video tour of the portal.

Some of the new data layers recently added are coral habitats (based on a predictive model), and non-consumptive recreational use (based on an online survey by Surfrider Foundation), and coming soon will be essential fish habitat maps, more recreational use (based on a boater survey and participatory mapping workshops), navy operational areas, 2012 shipping traffic density, marine wildlife models and Communities at Sea fishing maps.

"Communities at Sea" Fishing Maps

Using data from NOAA, Kevin St. Martin of Rutgers University is creating maps that show where the majority of fishing days are spent in the Mid-Atlantic based on gear type and home port. The maps reveal, for instance, how the Hampton dredge

Trawlers, based in Hampton, fish the Mid-Atlantic for flounder, squid, Monkfish and other valuable species. Image by Kim Huskey, Virginia Seafood Council.



fleet travels as far north as Cape Cod for their catch. These maps are still in the draft stage but Virginia CZM Program staff and contractors are “walking the docks” showing the maps to our Virginia fishermen to ensure they look right before they are posted on the MARCO Ocean Data Portal.

Fishing Around Wind Turbines

As Virginia gets ready for offshore wind, it's critical that we engage stakeholders to ensure current ocean resources and uses are sustained.



Six Megawatt “Twisted Jacket Foundation” wind turbines could be the type used 23 miles offshore of Virginia Beach. Illustration courtesy of Keystone Engineering.

Given the Virginia CZM Program’s role in ocean planning, Virginia’s Department of Mines, Minerals and Energy asked us to prepare a grant application to them and the federal Bureau of Ocean Energy Management to undertake “Collaborative Fisheries Planning around Virginia’s Wind Energy Area (WEA). This 18 month project will work with fishermen to develop fine-scale maps of important commercial and recreational fishing areas in and around Virginia’s WEA which lies about 23 miles off the coast of Virginia Beach.

The maps will inform creation of recommendations for the design of the wind farm and best management practices around it to optimize both wind energy production and fishing. The project will also produce recommendations for a plan to maximize communication between the wind energy developers and all fishers. The Virginia CZM Program will rely on meetings and workshops with fishers who use the WEA as well as staff from Virginia’s Marine Resources Commission, the Mid-Atlantic Fishery Management Council, and coastal planners working in Hampton Roads and on the Eastern Shore to accomplish the project’s goals.



According to NOAA, only about 400 endangered North Atlantic Right Whales are left on earth. They grow to about 50 feet long and live for about 50 years. Image courtesy of NOAA.

Where Are the Whales?

Understanding how whales use our area is also critically important to successful ocean planning and the long-term health of our Mid-Atlantic Ocean. Current CZM grants to the Virginia Aquarium are helping through aerial surveys to spot whales, but it’s difficult, dangerous, time consuming and expensive to get a plane offshore to survey. You need great weather and great luck to see any whales. But another technique also being used is underwater “bioacoustic monitors” that record whale calls. Cornell University, with funding from the Bureau of Ocean and Energy Management, is working with the Aquarium to “overlay” both types of surveys. Remarkably, the scientists are finding that the highly endangered right whale is spending more time off Virginia’s coast than ever before suspected.

There’s still so much more to discover about our ocean but we’ve come a long way in a few short years. Don’t miss being part of it - keep an eye on our website’s ocean pages for public meetings and other opportunities to let us know how you want our Mid-Atlantic ocean to be used and conserved. 🐋

Tell us what you think about ocean planning!

Mid-Atlantic Regional Planning Body’s Public Listening Session

November 6, 4:00 - 7:00 pm, at the Virginia Aquarium in Virginia Beach

For more details visit:

www.deq.virginia.gov/Programs/CoastalZoneManagement/CZMIssuesInitiatives/OceanPlanning.aspx

MARINE DEBRIS

A Rising Tide of Trash

By Laura McKay, Virginia CZM Program

I used to live in comfortable ignorance thinking that “marine debris” was mainly an aesthetic problem – not on par with such pressing issues as, say, wetlands loss or fishery declines. Then I watched a video about albatrosses actually feeding bits of plastic to their chicks. Nearby was a nest with the skeleton of a chick, plastic filling the cavity where its stomach had been. The camera pulled out to an island almost completely covered in bits of colorful plastic. The enormity of what we’ve done to the ocean and its wildlife hit hard and hurt.

In February of 2013, the Virginia CZM Program pulled together many partners, Clean Virginia Waterways (CVW), the Virginia Aquarium, the Virginia Institute of Marine Science (VIMS) and others, to hold a Marine Debris Summit. A 26 page summary is available on our website (www.deq.virginia.gov/Portals/0/DEQ/CoastalZoneManagement/Virginia_Marine_Debris_Summit_Summary_February_2013.pdf). It was a pivotal event that became the catalyst for several new Virginia CZM Program efforts.

Building the First East Coast State Reduction Plan

One of the first outcomes of the Summit was an agreement that a Virginia plan for marine debris reduction was sorely needed. There have been lots of beach clean-ups over the years, but no coordinated plan to prevent the steady flow of trash from ending up in the ocean. Given her many years of experience in conducting coastal clean-ups in Virginia, we contracted with Katie Register at Longwood University’s Clean Virginia Waterways program to work on the plan. Other states such as California and Hawaii have created plans (which have given us some good ideas), but apparently Virginia is the first state on the East Coast to develop a reduction plan.

She and our team members used the results of the summit as a starting point, conducted additional surveys and interviews on the sources and impacts of marine debris in Virginia and built on ideas from the summit to identify and develop the most politically and economically feasible strategies to reduce some of the highest priority sources of marine debris that are causing the worst impacts. Some ideas that rose to the top were: continuing the coordination effort so that groups working on marine debris have a forum through which to pool resources and strengthen capacity; pull together localities interested in gaining authority from the General Assembly to



enact ordinances to control marine debris to make a stronger joint request; and develop a social marketing campaign to stop balloon releases. You can read more at www.deq.virginia.gov/Programs/CoastalZoneManagement/CZMissuesInitiatives/VirginiaMarineDebris.aspx.

Getting a Jump on Plan Implementation

As Virginia CZM Program was just getting started on developing the marine debris reduction plan, NOAA posted a request for applications for marine debris reduction implementation projects. We jumped the gun a bit. Given our recent success and experience with social marketing (see page 18) and because we thought that as a behavior we want to change, releasing balloons might be more do-able than strongly entrenched behaviors such as throwing cigarette butts on the ground (one of the most abundant items found during beach clean-ups), and because balloons are so deadly to marine life (sea turtles ingest them mistaking them for prey and seabirds become entangled in their ribbons), we submitted an application for a social marketing campaign to stop balloon releases.

MARINE DEBRIS



Released balloons drift out over the ocean and eventually fall to the water. The color quickly wears off and the balloons resemble jelly fish—a favorite food of sea turtles (see balloon and ribbon in turtle stomach in image at bottom left). Birds like the gannet at left and osprey below also are easily entangled in the balloons and their ribbons. Inset images courtesy of Virginia Aquarium Stranding Program. Image by Virginia Witmer, Virginia CZM Program.



that will be successful. Releases of 50 or more balloons are illegal in Virginia but the law is often ignored and balloons are piling up on our beaches and drifting in the ocean.

How Will We Know If We're Making a Difference?

Another result of the Summit was that NOAA offered the Virginia CZM Program a 1½ year, \$45,000 Marine Debris Program grant to set up a Shoreline Survey protocol and collect data on quantities and types of

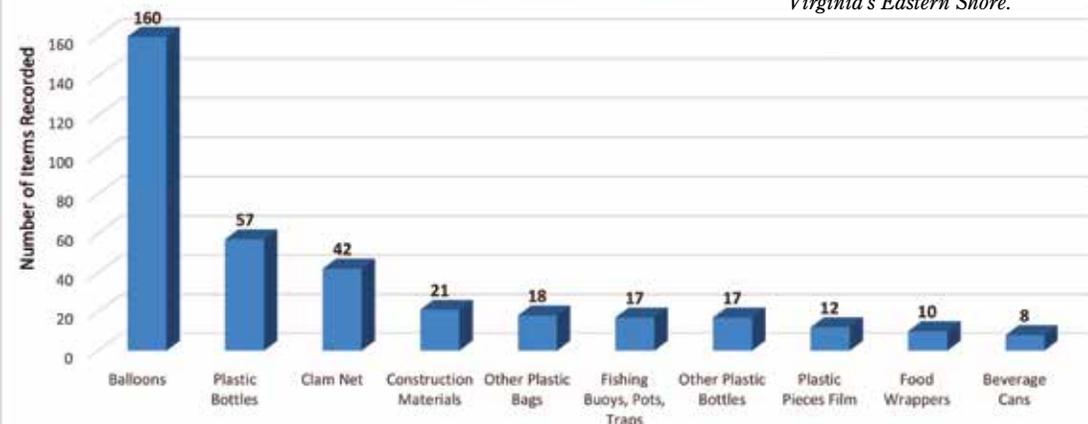
The project, matched with CZM funds, begins this fall. Focus groups will be used to ask people who organize balloon release events what drives their behavior, what they derive from releasing balloons and other questions aimed at truly understanding what motivates them. Until we understand that, we can't design a marketing campaign or offer alternative behaviors

marine debris found on Virginia's shores. The Program contracted with the Virginia Aquarium and CVW to do the work. They in turn have recruited volunteers to document the debris. The data collected monthly from 2 stations at each of 4 sites (Chincoteague NWR, Fisherman Island NWR, Back Bay NWR and Grandview Nature Preserve in Hampton) will feed into NOAA's national database. Work began in

January 2014 and is scheduled to end in March 2015 (but we may be asking for an extension to stretch out the monitoring so we get in two storm seasons!). One of the most challenging deliverables will be creating realistic recommendations for long-term support for this monitoring. Without long-term monitoring, we won't really know if our reduction efforts are paying off. 🐾

South Hog Island, July 17, 2014
Items Recorded in 2.5 Miles

Balloons were the most common type of debris found on South Hog Island, a remote coastal barrier island on Virginia's Eastern Shore.



OUR PAST, OUR FUTURE

Looking Back...How've We Been Doing?

By Laura McKay, Virginia CZM Program

With federal funds in high demand and short supply, it's critical that we periodically evaluate how effective we have been. Section 312 of the federal Coastal Zone Management Act actually requires it, but in-person evaluations can be quite expensive, so the NOAA Office of Ocean and Coastal Resource Management (ORCM) developed a new evaluation process that replaces evaluation team visits with written and phone surveys but still includes one public meeting. Virginia's evaluation begins in fall 2014 and will be completed by September, 2015.

The first step in the process is for Virginia CZM Program staff to answer 36 questions, in 2 to 5 pages or less for each question. The questions focus on: administration of the program; protection of coastal habitat; coastal hazards and sea level rise; coastal water quality, coastal-dependent uses; public access; governmental coordination; and descriptions of major achievements and challenges.

That document is due to NOAA on November 1, 2014. Then in February and March of 2015 NOAA/OCRM will conduct an online survey of Virginia CZM Program stakeholders and partners. In June, 2015, based on the document submitted by Virginia CZM Program staff and the results of the online survey, NOAA/OCRM will chose certain "target areas" upon which to interview key partners and stakeholders. Also some time in June, a public meeting will be held at which the public can voice its opinion on the effectiveness of the Virginia CZM Program. Watch our website for notice of the public meeting date and location.

NOAA/OCRM will incorporate all of the collected information into its draft findings which will be shared with the state in July. Final findings will be published in September, 2015. 🐾

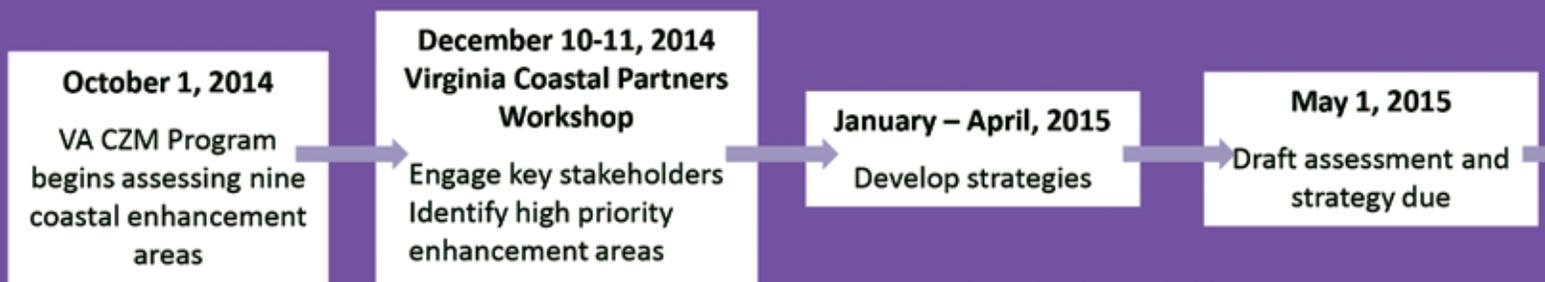
Approximate Dates for Virginia CZM Program Evaluation

- Nov 2014** – Virginia CZM Program staff completes 36 question survey
- Feb 2015** – NOAA conducts online survey of stakeholders and partners
- May 2015** – NOAA interviews key stakeholders
Public Meeting
- Aug 2015** – Draft findings released
- Oct 2015** – Final findings completed



Image of Oyster Catcher by Alex Wilke, TNC. Image of Oyster Catcher egg on next page by Virginia Witmer, Virginia CZM Program.

CZMA Section 309 Coastal Zone Enhancement



OUR PAST, OUR FUTURE

Looking Forward... What's Next?

By Beth Polak, Virginia CZM Program

The five-year cycle has come back around and the 2016-2020 Coastal Zone Enhancement Program process will begin again this fall. The process is mandated by Section 309 of the national Coastal Zone Management Act, and provides state coastal programs with an opportunity, and format, to evaluate the status of coastal resources and resource management efforts across nine areas. After October 1, 2014, the Virginia CZM Program will engage key stakeholders and work with NOAA/OCRM to identify high priority enhancement areas and develop strategies for new enforceable policies for Virginia's CZM Program (see *timeline below*).

States are required to evaluate these nine enhancement areas: wetlands, coastal hazards, public access, marine debris, cumulative and secondary impacts of coastal growth and development, special area management planning, ocean resources, energy and government facility siting, and aquaculture. NOAA/OCRM can choose to designate one or more enhancement areas as an "area of national importance." For this cycle, NOAA/OCRM has decided to elevate coastal hazards to national importance status. This directs the competitive funding component of the program — Projects of Special Merit (PSM) — to focus on projects that will further the approved strategies related to the coastal hazards enhancement area. This was done to align with the "resilient coastal communities" emphasis in NOAA/OCRM 2014-2019 strategic plan.

Virginia CZM's 309 process will begin with a needs assessment across all nine enhancement areas. According to NOAA/OCRM guidance, the assessment should:

- Determine the extent to which problems and opportunities for program enhancement exist within each of the nine enhancement area objectives;

2011-2016 Enhancement Strategy Funding

Strategy	Budget
Program Changes	\$ 60,000
Working Waterfronts	\$ 247,000
Shoreline Management	\$ 711,500
Land and Water Quality	\$ 631,622
Seaside SAMP	\$ 120,000
Ocean Planning & Data	\$ 559,258
Marine Debris	\$ 143,020
TOTAL	\$2,412,400

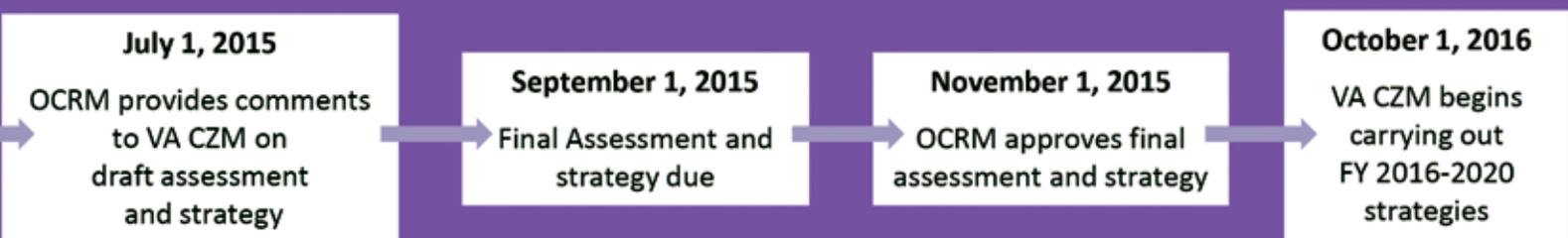
Note: In FY 2012, the Virginia CZM Program competed for and received a **\$180,544** project of special merit to document whale migration off Virginia's coast for use in marine spatial planning.

- Determine the effectiveness of existing management efforts to address identified problems; and,
- Identify high priority needs for program enhancement.

For this assessment and strategy cycle, the assessment process is being broken down into two phases — Phase I (high-level assessment of all nine areas to determine priorities) and Phase II (in-depth) assessment of high priority areas. Key stakeholder groups will be contacted by Virginia CZM Program staff to participate in both the assessment and strategy process. The Virginia Coastal Partners Workshop, scheduled December 10-11, 2014, will be devoted to ranking the enhancement areas and beginning to develop strategies for high priority areas. 



Program Timeline for 2016 - 2020



Virginia Coastal Zone Management Program
Virginia Department of Environmental Quality
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SAVE THE DATE

Virginia Coastal Partners Workshop

December 10 & 11, 2014
Virginia DEQ, Richmond



Watch our website
for registration details.

**22nd Annual Eastern Shore
Birding and Wildlife Festival**
October 10 - 12, 2014 Based in Cape Charles, VA
(Friday - Sunday) (Check-in at Firehouse at 501 Mason Avenue)



Tributed Honors by Taylor Elliott, Nantux High School, Winner - 2014 Festival Art Contest

Brian L. Sullivan
Keynote speaker, Friday, 7PM at the Palace Theatre
Brian has traveled extensively doing avian field work and photography. He was the first full-time hawk coxner at Kiptopeke State Park. Brian's lifelong passion for birds informs his current work, including the *Cossey ID Guide: Raptors* and the forthcoming Princeton *Guide to Birds of North America*. He is the project leader for *eBird* and photographic editor for *Cossey's Birds of North America Online*.

Guided tours, hikes, boat trips, exhibits, workshops, kids' and family activities and photo contest!

Presented by Eastern Shore Eventacular, Inc.
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