WIP 3 Narrative Overview
Phase III Watershed Implementation Plan
Middle Peninsula Planning District Commission

Beyond the Watershed

Rural Coastal Virginia's Solutions for Transforming Clean Water Into Jobs

To best understand how the Middle Peninsula in rural coastal Virginia got to the place it is today – where the land is pure, the water is clean, yet jobs remain scarce – you have to understand where it started, and its journey.

In rural coastal Virginia, water drives life. It's woven into the very fabric of its identity. It's apparent in all areas of its culture, from its food to its recreation, to its workforce, academic institutions and even roads.

And it's not something many want to change. It's a source of pride.

Read through any comprehensive plan of nearly any locality in this rural coastal Virginia region and you'll note within the opening lines that chief among the priorities for the future is to maintain the rural, water-loving character of its people and land.

In many ways, it's because it's all rural coastal Virginian's have ever known.

This nation itself was discovered by water – even childhood songs celebrate Christopher Columbus sailing the ocean blue to arrive here.

As settlers built new homes and erected new towns, it was the Chesapeake Bay's rivers and creeks, and old growth forests, that breathed life into this developing nation with waterways acting as key Main Streets and commerce corridors. For generations, it was easier to get from the Middle Peninsula to Baltimore by water and steamboat than it was to get to Richmond, far closer as the crow flies. In fact, it was lumber from the Middle Peninsula that was shipped by steamboat to Washington D.C. to help rebuild the White House in 1818 after its burning.

Fast forward to today and while that same water remains some of the cleanest and most pure on the East Coast, the very water that once breathed so much life into the region is the root of the very challenges for which the region strives to find solutions.

The Challenges

Years of regulations to help protect the Chesapeake Bay waters have stymied rural coastal Virginia localities' ability to cultivate job growth. As a result, communities are relying on nearby urban areas – with far greater impact to the pollution of the Chesapeake Bay – to thrive.

While the state and Chesapeake Bay watershed region continue to do a great job protecting the blue-green infrastructure of the region, the strict environmental regulatory framework has forced rural coastal Virginia regions to grow into large pure-land, clean-water areas that are more reminiscent of a state park than a community because those very regulations hand cuff any type of active development, with the exception of residential.

To be clear, the Middle Peninsula can be characterized as a pure-land, clean-water area based on current Virginia law.

In the 2018 Virginia General Assembly session, elected officials recognized that rural coastal Virginia has so much blue-green infrastructure that they need a different regulatory framework. In an unprecedented move, the Middle Peninsula was, as a result, granted special storm water law (House Bill 1307).

Even so, there are still more than two dozen (exactly 25) focused environmental regulatory programs that overlap, creating unfair economic parity with the rest of the Commonwealth.

There is no doubt that when you look at each regulation individually, each is really important. But when you stack them all up on top of each other it becomes a framework that restricts communities from doing much to grow, even strategically.

As a result, 74 percent of the residents on the Middle Peninsula commute out of the region to work in nearby urban markets, taking tax dollars with them and forcing the small, rural communities to struggle year to year. That's more than 34,000 workers to be exact. Of those who do stay in the region to work, their average wage is far below the state, with workers on the Middle Peninsula averaging $17.05 per hour, or just more than $35,000 per year, as compared with statewide averages of $26.85 per hour or more than $55,000 per year, according to the Virginia Employment Commission's Quarterly Census of Employment and Wages for the second quarter of 2018.

While this data is updated every quarter, the Middle Peninsula finds itself in a race to the bottom regularly for hourly wages with Southwest Virginia regions, who get significant attention and economic support from state and federal resources as a result of losing a great deal of jobs with the downturn of the coal and tobacco industries. In the same time period, the Middle Peninsula hourly wages, as compared to Southwest Virginia, are currently only 50 cents per hour different, or about $4 per day.

The Middle Peninsula is, for all practical and statistical purposes, economically distressed, yet not recognized as such.

In previous quarters, the Middle Peninsula has been far below other distressed regions, coming in as low as $14.18 per hour, and even dead last in hourly wages paid.

The lack of tax dollars in rural communities, pulled into urban areas as a result of the out-commuter rate noted above, then touches all areas – schools, jobs, housing, etc.

In most cases, those commuters cross over bridges and waterways to get to work, literally driving over the **water** and past the **trees** which are the most important assets rural coastal Virginia has to grow and support the state in its objectives to improve business, increase jobs and still remain the clean water capital of the East Coast.

Water as the Solution

Virginia has a legal responsibility to assist in the Chesapeake Bay clean up as a signatory on the Chesapeake Bay Agreement.

Within the Commonwealth, regulated communities – mainly the most urban and developed areas – have responsibilities to meet certain water quality standards. Unregulated communities – like those in rural coastal Virginia and on the Middle Peninsula – don't have the same responsibility because they aren't adding the same level of pollutants to the water. But because the rural coastal Virginia regions rely on the water to thrive, it is in their best interest to work across community lines to help. Undoubtedly there is an important responsibility for all Virginians to keep the waters clean and to support the residents of the region who rely on it to live.

As a result, the Middle Peninsula Planning District Commission (MPPDC), as part of its response to the Phase III Watershed Implementation Plan (WIP) and to the Virginia Department of Environmental Quality (DEQ), has developed a series of blue-green programmatic solutions that help with the "final mile" of cleaning the Chesapeake Bay waters, while also bringing co-benefits of job creation to the region.

Why job creation?

Simply put, residents need the water to live, while the water needs the residents to care for it.

Why "final mile?"

Because in many ways that's what it is.

Phase I WIPs, developed in 2010, had states describe the actions they would take to reduce the pollutants added to the Chesapeake Bay by 2017 and 2025. They needed to stop the bleeding.

The Phase II WIPs, developed by the states in 2012, built on the initial Phase I WIPs by identifying specific activities that need to be taken at the federal, state and local levels.

In Virginia, following a significant local outreach effort, local governments submitted roughly 500 pollutant reduction strategies for inclusion in the Phase II WIP, reflecting a strong commitment on the part of local officials to reduce pollutants within their jurisdictions.

In that second phase, the focus was largely on agricultural operations.

As with the two previous WIPs, the Phase III WIPs were assigned to local leaders to update their state and federal strategies and identify new pollutant reduction strategies.

It also tasked regions with taking a more focused and sustained local engagement effort and really push for local strategies that would not only benefit Chesapeake Bay waters, but the residents and businesses who need it to thrive.

That's the final mile. The new ideas. The waterfront. The shorelines. The water itself.

We stopped the pollutants from entering the waters. Now we have to clean those waters.

Who better to do that than the rural coastal regions who interact with it each day, and who already have some of the cleanest waters – made clean by abundant woodlands and featuring some areas as pure as when Captain John Smith himself walked the region such as the Dragon Run, recognized by the Smithsonian as one of the nation's cleanest waterways?

The MPPDC, with support from its consultant, the Berkley Group, approached the Phase III WIP with three important goals: create jobs, clean water and protect property.

MPPDC followed the Project Methodologies provided by Virginia DEQ and facilitated four meetings with localities and other stakeholders, revised the Best Management Practices (BMPs) input deck, and identified programmatic actions to support BMP implementation.

Throughout all three project activities, MPPDC investigated, collected, and analyzed data relevant to the existing and planned BMPs, programs, partners, and co-benefits. The MPPDC contacted the localities, state agencies, and local non-governmental partners to request data on local conditions and knowledge.

MPPDC worked with the local and regional representatives to identify gaps in capacity and funding, local strategies or actions, local co-benefits, revisions to state code, regulation or guidance, and policy or programmatic recommendations for meeting local area planning goals.

In looking at the full scope and ecosystem of the region, the MPPDC uncovered great opportunity.

An Ecosystem of Opportunity

The MPPDC is proposing a comprehensive water quality, coastal restoration, economic blue-green package that would positively impact rural coastal Virginia and benefit its urban neighbors with greater responsibility for the Chesapeake Bay clean up needs.

It is, after all, the water and its connection to the shore, fields and forest lands that truly sets the region apart.

Make no mistake, the Middle Peninsula is a region that can grow economically and maintain its rural coastal charm while, also protecting its natural resources – such as its productive farmland (agriculture) and timberland (silviculture, because healthy watersheds include healthy forestry and vice versa), and tremendous access to the bountiful waters of the Chesapeake Bay.

Much like in order to understand the current status and challenges faced by rural coastal Virginia, you have to understand its culture and history. And to best understand the solutions offered, you have to think big and see the ecosystem connections. By definition, in nature ecosystems work together as a biological community of interacting organisms and their physical environment. In life, and in this WIP, the ecosystem solution is a complex network, an interconnected system.

This is not a list of programmatic solutions to pick and choose a favorite. They all work together.

And they all require action.

Active innovative thought. Active investment in emerging technology. And an active attempt to understand and appreciate the resources and assets available to the region.

The Solutions Working Together

Here's how the solutions work together and where to start with active, innovative thinking, followed by detail on the complete list of programmatic solutions offered.

Ten billion.

The MPPDC proposes to grow 10 billion oysters in the Chesapeake Bay over the coming years, and create upwards of 18,000 jobs.

How? Why?

Oysters in the Chesapeake Bay remove nitrogen, phosphorus and sediment. Thanks to the In-Situ Nitrogen Remediation Program (ISNRP) now available and approved, oysters can be used as an approved in-situ BMP and provide nutrient removal financial credits. Of note, the Middle Peninsula is already home to the only in-situ federal and state issued permit under the name of the Oyster Company of Virginia.

This goal is to farm 10 billion clean water oysters in the Chesapeake Bay, ultimately creating the need for 18,750 new "farmers" to handle the more than six million cages needed to grow them (based on three workers per highly regulated and controlled cage). This effort will also create thousands of new, indirect jobs for the cage building, packaging, sales and marketing needed for support.

That is a real and viable programmatic solution, perfectly blending the mission for clean water with an integrated workforce program.

But the 10 billion oysters goal for the Bay can also be supported by empowering waterfront homeowners to grow their own by incentivizing homeowners to install 3D printed materials engineered to help grow oysters and installed on their bulkheads. This effort commoditizes existing research from a Virginia university and improves the resiliency of shorelines, while also helping create living shorelines and growing a new commercial enterprise, which creates jobs.

Some environmentalists might ask about the submerged aquatic vegetation (SAV) needed to improve the health of the Chesapeake Bay, expressing concern that expanding oyster grounds reduces the available area for SAV to grow.

Enter SAV Banks, which the MPPDC proposes as business initiatives whose viability has been proven by experienced marine research. A SAV Bank essentially enables oyster farmers to buy credits to farm in exchange for SAV to be planted elsewhere. Virginia researchers have perfected the growing of SAV, making the seaside of the Eastern Shore the world's largest SAV restoration project.

Embedded throughout the programmatic solutions presented are incentives to support business growth and investment in the region in ways that preserve the blue-green infrastructure. For example, for businesses and organizations presenting applications to the state's GO Virginia program for grant funding, it would eliminate the match required for any business proposing clean water, job-creating solutions. This is among the most critical of the solutions proposed as it would open doors for more rural business enterprises to maximize their ability to expand their commercial work, creating jobs and cleaning water.

It's important to note these business growth incentives, as they are a critical component for showcasing that these programmatic solutions aim to lift up every single resident of the Middle Peninsula. More investment in the region through these innovative solutions brings more jobs, growth and the economic ripple effect that benefits people who choose to live and work here.

Finally, on top of it all, the MPPDC proposes a series of ways to open the doors legally for more urban, developed areas to purchase nutrient (phosphorous and sediment) credits from these rural coastal Virginia regions. This enables all communities in the watershed – urban and rural – to better coexist.

All recommendations for the WIP were made in the following categories (in-water BMPs, living shorelines, septic and agriculture) and include actions for the General Assembly to provide authority on.

Details on each element of the ecosystem of solutions follow:

Grow 10 Billion Oysters, Create 18,000 Jobs

Oysters in the Chesapeake Bay can remove nitrogen, phosphorus and sediment. Thanks to the In-Situ Nitrogen Remediation Program (ISNRP), oysters can be used as an approved in-situ BMP and provide nutrient removal financial credits. The goal is to farm 10 billion clean water oysters in the Chesapeake Bay, ultimately creating the need for 18,750 new farmers to handle the more than six million cages needed to grow them (based on three workers needed per highly regulated and controlled cages). This effort will also create thousands of new, indirect jobs for the cage building, packaging, sales and marketing needed to support. Rural coastal Virginia oysters can drive water quality improvements by removing nitrogen, phosphorous and sediment through traditional water-based employment.

Living Shorelines

Living shorelines act as a buffer/filtering device in the Chesapeake Bay, absorbing nutrients and keeping sediment in place. With the right financial aid, homeowners could be incentivized to install more living shorelines. When homeowners begin installing more living shorelines, this expands the marine contracting workforce.

Submerged Aquatic Vegetation Banks

As the Chesapeake Bay water quality improves, it also increases the acreage of in-water submerged aquatic vegetation (SAV). SAV beds absorb nutrient pollution and trap sediment. However, when SAV increases, the ground where oysters can be grown is reduced. The goal of this effort is to create a wetland SAV mitigation bank. Leveraging Virginia Institute of Marine Science (VIMS) research, a business operation could be established to build a SAV mitigation bank allowing watermen to transfer certain areas of SAV, or purchase mitigation credits, in replacement of areas needed to grow oysters with limited SAV present and/or the harvest of SAV for nitrogen and phosphorous financial credits. This effort is needed in support of the related goal to grow 10 billion oysters, and it creates a new industry cluster while commercializing academic research.

Living Sea Walls

Sea walls are currently considered gray infrastructure, or non-productive man-made items in the marine environment. The goal of this effort is to expand the use of more environmentally-friendly living sea walls by homeowners. This effort supports the commercialization of academic research to install 3D printed oyster panels on sea walls. With this initiative,

homeowners are further enabled to participate in the cleaning of the Chesapeake Bay, high-tech jobs will be created, and low-impact marine construction expands.

Biogenic Reefs

Biogenic reefs located off shorelines are significant gray infrastructure that foster oyster growth while also acting as storm suppression devices. Because of Virginia's struggle with sea level rise and concurrent flooding, and the ever-increasing pressure on the National Flood Insurance Program, this effort calls for installing more biogenic reefs to protect upland residential investments and grow more oysters, thus fostering nutrient removal. Monetary benefits include reduced flood claims into the insurance system, as well as job creation for marine contractors to build and install these reefs.

Using Next-Generation Dredging Equipment from Regional Providers

To help reduce Total Suspended Sediment in the Chesapeake Bay, alternatives and enhancements to mechanical dredging should be considered, such as using small and compact mobile hydraulic suction dredge technology (already available from Keep It Simple Technology and possibly others), a sub-sea silt fence or modifying the cutter head. This effort would expand the use of a company already located within the region and help create new jobs.

Strategic Use of Dredged Material

Congress no longer funds a shallow-water dredging program. The Commonwealth of Virginia has created a dredging fund to help localities dredge their creeks to help keep them open for commercial and recreational boating. The goal of this effort is to strategically align/leverage the use of the Virginia Waterway Management Fund, which requires the planning and placement of appropriate dredged material (sand) to address flooding issues through living shoreline type approaches. Living shorelines benefit the Chesapeake Bay by absorbing nutrients and keeping sediment in place. This effort would expand the marine contracting industry while also creating a niche industry centered on unique water quality projects on the waterfront.

Harvesting Seaweed

The harvest of seaweed and algae cleaned from aquaculture cages and other equipment or structures helps take nitrogen and phosphorous rich materials (detritus) out of the Chesapeake Bay. Currently, seaweed and algae removed during a cleaning process is typically blown back into the water. This effort will collect that material – removing nitrogen from the Chesapeake Bay in the process – and ship it out of the watershed to be used as an additive to a soil supplement. This effort increases jobs by building up a new industry and benefits the Chesapeake Bay water quality.

Riparian Land Tax Incentive Program

A riparian land tax incentive program (income or real-estate) to help combat repetitive flooding would help waterfront property owners create, raise and expand the riparian buffer vertically and/or horizontally. In Virginia, this would be a tax incentive for enhancing the RPA with appropriate plants, soils, etc. for water quality, ecosystem services, flood control and sea level rise. Co-benefits would include enhancements to marine construction, landscape design and nursery industries, as well as the reduction of harmful nitrogen, phosphorous and suspended sediment.

Department of Corrections Living Shoreline Native Plant Nursery

With all the work being done to create more living shorelines, more plants will be needed. A Department of Corrections (DOC) living shoreline native plant nursery/workforce retraining program for local and regional DOCs could be the solution. This effort would utilize publicly owned waterfront land to establish a DOC native plant nursery to support the growing need for living shoreline plants used in water quality improvement efforts. This effort would teach inmates how to become shoreline landscape installers and nursery growers, among other skills, which will complement efforts to reduce the recidivism rate.

Phragmites Harvest

Phragmites is an invasive plant species in the Chesapeake Bay watershed that consumes nitrogen quickly – acting as a natural BMP of sorts. Harvesting this renewable "clean water" crop for the production of soil supplement additives would remove nutrients from the waters and increase jobs by building up a new industry. A local company with international ties has already expressed interest in exploring the harvest of phragmites.

Mushrooms and Soy Beans

A local company currently features a product that attaches microscopic mushrooms (mycorrhizal fungi) to individual soy bean seeds. When farmers plant the soy bean seed, the symbiotic mushrooms grow around the seed – enhancing soy bean plant growth and absorbing nitrogen along the way. The soy bean, when harvested, then removes the nitrogen from the watershed. This technology is currently being utilized in Europe. An effort to promote the use of mycorrhizal fungi in Chesapeake Bay watershed area farming would benefit the region with a technology transfer and supports existing jobs in the agricultural community.

Biochar

When chickens are raised in the Chesapeake Bay watershed and sold to a meat processor, often the manure is then also sold to crop growers to use as fertilizer. But that material, while organic, returns nutrient pollutants to the watershed. That is, unless it's "cooked" at temperatures reaching as high as 1,300 degrees, creating what's known as a carbon-rich biochar, which resembles smashed charcoal. That biochar can serve many purposes, from improving soil health to sponging up nutrients from storm water runoff. The result is a

reduction of nutrient pollution in the Chesapeake Bay, and when layered into the region as a new business, the creation of new jobs.

Use of Polymers in Septic Drain Fields

The Virginia General Assembly has effectively proven that biosolids (organic matter recycled from sewage for the express use in agriculture) are safe. In those applications, a polymer binding agent has been developed to help prevent fertilizers from washing away from the field and bringing the nitrogen and phosphorous of the biosolids into the watershed. In theory, if this same polymer was used in septic drain fields, it could further prevent those same harmful materials from leeching into the watershed. This effort would require additional study, but if effective, would be a strong example of technology transfer. Benefits could include connecting industry experts with academia and the commercialization of the technology transfer for the purpose of Chesapeake Bay water quality improvements.

Use of Sawdust as a Permeable Reactive Barrier

As the septic repair capital of the East Coast, the Middle Peninsula is home to soils that are not ideal for many septic systems. Where the water table is high, septic systems and Mother Nature cannot do an effective job of removing nitrogen and phosphorous before they enter the watershed. In this effort, the installation of Permeable Reactive Barriers (PRB) using sawdust as the media would be installed around gravity-fed, onsite drain fields, allowing property owners to build inexpensive in-ground nutrient barriers. This concept has been approved as a federally recognized BMP, but it is not currently recognized in Virginia, despite proven to be nearly 100 percent effective at removing nitrogen. This low-cost solution would prevent further nutrients from entering the watershed while also providing an opportunity for businesses to grow to meet the demand of this installation effort, including an expansion of business services for septic companies. It can also create another market for mills to sell their sawdust, or create a new industry for tree farming. When harvesting trees, the limbs could be used for this sawdust.

Use of Sawdust as an Inexpensive In-Ground Nutrient Barrier

Building off of the Permeable Reactive Barriers (PRB) used for septic systems, this effort would encourage waterfront property owners, as well as the agricultural community, to use sawdust as the media for an inexpensive in-ground nutrient barrier – also known as a sub-surface BMP.

Rural Coastal Engineered Septic System Maintenance Program

Across the Middle Peninsula, there is a lack of consistent maintenance among property owners with respect to alternative septic systems. The lifecycle of these engineered septic systems can be limited, with some models needing to be replaced at least every two decades. By developing a Hampton Roads Sanitation District (HRSD) Rural Coastal Engineered Septic System Maintenance Program, we could guarantee that every property's system is maintained at a

minimum level. This effort reduces negative water quality impacts while also creating new jobs related to system maintainance and service.

Self-Contained Septic Systems

Next to purchasing the home itself, an engineered septic system is often the second most expensive item for a homeowner. Unfortunately, septic systems are not insured. During hurricane season, or any extreme weather that causes flooding in the Chesapeake Bay rural coastal Virginia region, these systems can be damaged, causing additional release of nitrogen or phosphorous into the watershed, and resulting in an expensive fix. This effort incentivizes property owners to install engineered septic systems that can be installed above flood hazard areas, or easily removed from the area in the event of extreme weather. Specifically, an incentive program will be created to install FUJI Clean, Self Contained OSDS systems, or similar technology. This effort promotes new coastal resiliency technology that allows people to remain in their homes longer along the waterfront. This solution re-imagines how nitrogen and phosphorous are managed in coastal settings by designing infrastructure.

Additional Living Shoreline Grants

Currently, the funding stream for living shoreline grants provided through the Virginia Conservation Assistance Program (VCAP) can only go through soil and water conservation districts. This effort would amend the requirements to allow Planning District Commissions to apply to give grants for living shorelines as a complement to the living shoreline revolving loan program already in place. Benefits would include providing a more comprehensive financing package for waterfront property owners which would help enhance waterfront construction job opportunities. Further, the applicant would then only have to work through one governmental entity, thus removing a barrier for property owners to engage in the process.

Nutrient Credit Trading

Virginia is divided into primary Chesapeake Bay tributary basins, each with its own nitrogen and phosphorous loading allocation. When trading markets were established for nutrient credits, cross-basin trading was not permitted. This effort would propose that localities with higher requirements for removing nutrient load would be allowed to purchase BMPs (such as nitrogen credits) even outside their assigned tributary basin for the benefit of the rural coastal communities. The benefit of nutrient credit trading would be in economic development, a cross-basin expenditure for innovation that would empower the blue-green assets in rural coastal Virginia to solve problems. This effort could also create jobs in the region.

Virginia Pollutant Discharge Elimination System

Because of strict regulations in rural coastal Virginia, economic growth here is more restrictive and costly, driving marketplace participants out of the region. As a result, rural coastal Virginia entices residents, but not businesses, while still benefiting from the well-protected blue-green

infrastructure. This effort would propose that localities with higher requirements for removing nutrient load would be levied a fee on all Virginia Pollutant Discharge Elimination System permits that involve discharges and ground water. Fee proceeds would then transfer to rural coastal Virginia which would allow the regions to build BMPs, continue to protect infrastructure to keep water quality high, and offset the imbalance of regulations and economic growth opportunities.

Reduce GO Virginia Match Requirement

When looking at the traditional metrics of the Middle Peninsula in rural coastal Virginia, the region does not look economically depressed. There is, on paper, a very low unemployment rate. However, this is the result of the region having the highest out-commuter rate in the state (over 74 percent, or more than 34,000 workers). Creating business growth and higher paying jobs increases the opportunity to retain the workforce in the communities. This effort would remove the match requirement for any grant funding from GO Virginia for any group proposing a business opportunity in rural coastal Virginia that removes nitrogen and phosphorous from the watershed and creates jobs. It leverages the blue-green infrastructure to increase jobs, bolster rural coastal Virginia economies, and help clean the Chesapeake Bay.

Chesapeake Bay Natural Resource Extraction Fee

Currently, in rural coastal Virginia, businesses leverage the Chesapeake Bay's blue-green infrastructure (utilizing natural resources) for their operations and private gain. These businesses are extracting economic value from the blue-green infrastructure while providing an insignificant revenue stream to local governments. This effort proposes that the Virginia General Assembly establish a Chesapeake Bay Natural Resource Extraction Fee, similar to coal fees levied in other rural parts of Virginia, on any business operation that relies on blue-green infrastructure for water quality and habitat purposes. The fees would return to the localities of rural coastal Virginia to help support the delivery of local government provided programs and services as demanded by constituents. Potential benefits of this effort would be creating additional revenue streams that are tied to economic development, enabling localities to bolster quality-of-life systems that attract businesses who improve water quality as well as blue-green infrastructure.

Chesapeake Bay Waterfront Improvement Tax Credit Program

This effort proposes the Virginia General Assembly create a Chesapeake Bay Waterfront Improvement tax credit program allowing any homeowner who applies to the locality or state to install a voluntary buffer featuring plants that have high nitrogen uptake potential to receive a tax credit. Potential co-benefits of this incentive include marine construction workers, landscape architects, nurseries and others who support watershed buffer areas, as well as leveraging tax policy for water quality improvements at the homeowner level.

Land Preservation Tax Credit Program for Working Waterfronts

This effort proposes to create a sub-fund of the Land Preservation Tax Credit Program to focus on working waterfronts. The program is currently accessed mainly by the agricultural and the mountain regions of the state with the intent to protect the viewshed. In rural coastal Virginia, a bucolic viewshed includes working waterfronts. This sub-fund would allow businesses in the working waterfront to receive a conservation or corporate tax credit for installing living shorelines, biogenic reefs, living seawalls, etc. for water quality and habitat purposes. The benefits of this effort would include continued protection of blue-green infrastructure and further making rural coastal Virginia a good place to do business. This initiative leverages tax policy for water quality improvements at the coastal waterfront homeowner/small business owner level.

Income Tax Credits for Living Shorelines

This effort proposes the Virginia General Assembly approve an income tax credit to homeowners for installing living shorelines for water quality benefits. Additional benefits would include growth of the marine construction industry and incentives for property owners to invest in living shorelines. This initiative leverages tax policy for water quality improvements at the coastal waterfront homeowner level.

Tax Credits for Replacing Hard Shorelines with Living Shorelines

This effort proposes the Virginia General Assembly approve the creation or extension of tax credits (conservation, income, or personal property) for property owners who remove hardened shorelines (bulk heads or hardened seawalls) and replace with natural, living shorelines. The cost of the project could be amortized through the issuance of tax credits. Additional benefits would include growth of the marine construction industry and incentives for property owners to invest in living shorelines. Further, studies show the impact of living shorelines to frequent flooding areas can be realized. This initiative leverages tax policy for water quality improvements at the coastal waterfront homeowner/small business owner level.

Approval for Installation of Nature-Based BMPs in Riparian Area

FEMA is beginning to recognize that nature-based flood mitigation solutions are more cost-effective in addressing flooding issues. Nature-based solutions (vegetation, edging, sills, beach nourishment, oyster reefs) also impact water quality. It is the alignment of two key benefits – storm surge mitigation and water quality improvements. This effort proposes to more directly align FEMA funding ($249 million currently available to apply for nature-based solutions) with Chesapeake Bay clean-up funding. It proposes regulatory changes and MOUs between agencies that allow for the installation of nature-based BMPs within the riparian area (land or water) that protect homeowners' investment and impact water quality. This effort aligns flood mitigation and water quality improvement.

Virginia Department of Transportation and Drainage

Among Virginia's emerging top challenges is recurrent flooding and dealing with storm water and storm surges. Currently, there is no Virginia state agency tasked with managing the infrastructure necessary to successfully combat the effects of flooding. This effort proposes that the Virginia General Assembly designate the Virginia Department of Transportation (VDOT) with that responsibility – to be known as the Virginia Department of Transportation and Drainage. VDOT is the logical state agency to take on this mission as it is already tasked with designing and managing drainage infrastructure (roadways, ditches). Benefits of this effort enable the state to ensure water quality standards remain high by approaching storm water management with a system-based and holistic approach using blue-green infrastructure. This effort could net significant impact. Consider that across the 12-county region of rural coastal Virginia, assuming each locality has 200 miles of VDOT roads and the region sees 46 inches of rain a year, that's 600 million gallons of untreated/unregulated storm water. Multiplied by 12 counties, that's 7.2 billion gallons of discharge. By comparison, in two hours, Niagara Falls discharges 5 billion gallons.

Funding of Chesapeake Bay Public Access Authorities

One of the goals of protecting the Chesapeake Bay watershed is to improve public access to waterways by adding 300 public access sites by 2025. Currently, the Middle Peninsula Chesapeake Bay Public Access Authority holds more than 50 parcels of land totally and more than 730 acres in waterfront land for public usage. Despite the fact that Virginia has reported the Middle Peninsula Chesapeake Bay Public Access Authority sites in its increase of accessible land, it is currently managed as protected open space without state funding. This effort proposes the Virginia General Assembly fund the work of the Chesapeake Bay Public Access Authorities as part of its efforts to increase public accessibility of watersheds. Benefits would include the continued bolstering of the recreational and quality-of-life elements in the region. In addition, protected natural spaces ensure high functioning, water quality buffers.

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The Middle Peninsula Planning District Commission (MPPDC) consists of six counties and three towns occupying 1,387 square miles. The counties include Essex, Gloucester, King and Queen, King William, Mathews, and Middlesex, and the towns include Tappahannock, Urbanna, and West Point. With 1,055 miles of shoreline and 888,064 acres of land, the Middle Peninsula is rich in natural resources. Although one of the least densely populated areas in the state, the Middle Peninsula did see a population increase of 7.9 percent from the 2000 Census. The Middle Peninsula contains 3.2 percent of Virginia's land mass but only 1.1 percent of the state's total population. MPPDC land drains to the Rappahannock River to the north, the York River to the south, and the Chesapeake Bay to the east.