HEALTHY CHESAPEAKE BAY, RIVERS, & CREEKS

The 2025 deadline of the multi-state cleanup plan for the states draining to Chesapeake Bay will occur during the term of Virginia's 74th Governor. To significantly reduce the amount of pollution delivered to our nation's largest estuary, each contributing state's Watershed Implementation Plan (WIP) is designed to accomplish its own set of pollutant reduction goals identified through the Chesapeake Bay Total Maximum Daily Load (TMDL). Virginia has invested tremendous resources toward meeting its goals. However, in order to continue this progress, we must ensure strong and sustained funding for key local and statewide initiatives.

Lower Appomattox River
Image credit: Kenneth Newman

EXECUTIVE SUMMARIES AND CONTACT INFORMATION

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TACKLING POLLUTED STORMWATER RUNOFF & RESTORING LOCAL WATER QUALITY

Stormwater runoff from urban and suburban areas is the fastest growing source of pollution to our water and the main reason many of our urban streams are impaired. This growth is largely caused by the expansion of our built environment and the impervious surfaces — parking lots, roofs, and roads — that carry more polluted runoff to our waterways. With more intense rainfall events on the horizon as a result of climate change, untreated stormwater may exacerbate dangerous and costly flooding. Virginia's plan to clean up the Chesapeake Bay calls for strong investments in better stormwater control to protect clean water and frontline communities.

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WORKING WITH FARMERS TO PROTECT OUR RIVERS & STREAMS

Agriculture is Virginia's largest industry by many metrics. It also represents the largest source of nutrient and sediment pollution reaching Virginia's local streams, rivers, and the Chesapeake Bay. Fortunately, addressing these pollution loads offers an opportunity to improve the Commonwealth's natural resources while also enhancing the positive economic impact of agriculture. The Virginia Agricultural Cost Share Program (VACS) funds the implementation of a wide suite of agricultural practices that reduce pollution while enhancing farm productivity. Despite Virginia's recent increases in this program, demand far exceeds available funding.

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UPGRADING WASTEWATER TREATMENT IN VIRGINIA

Enhanced efforts are needed to upgrade Virginia's wastewater facilities and to address the public health risk of combined sewer overflows from aging wastewater infrastructure. Upgrades to wastewater facilities are a proven strategy for benefiting water quality and reducing large quantities of pollution. Virginia's wastewater agencies have played a major role in reducing nutrient pollution to date, but they have been asked to accelerate this important work in the Phase III Watershed Implementation Plan (Phase III WIP) and through recent legislation requiring upgrades to wastewater treatment and to remaining combined sewer overflow (CSO) systems. Virginia needs to support these programs to continue protecting water quality and public health.

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REDUCING SINGLE-USE PLASTICS, LITTER, & MARINE DEBRIS IN VIRGINIA

Building on the growing concern and increased willingness to take action to decrease the amount of plastic waste in Virginia's environment, now is the time to craft policies and laws that will keep man-made waste out of Virginia's streams, rivers, and coastal waters. We can do this by eliminating the most harmful types of mismanaged waste, incentivizing sustainable disposal of what we do use, and prioritizing funding to shift to sustainable and reusable products.

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The James River
Image credit: Jessica Sims

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Stormwater runoff from urban and suburban areas is the fastest growing source of pollution to our water and the main reason many of our urban streams are impaired. This growth is largely caused by the expansion of our built environment and the impervious surfaces — parking lots, roofs, and roads — that carry more polluted runoff to our waterways. With more intense rainfall events on the horizon as a result of climate change, untreated stormwater may exacerbate dangerous and costly flooding. Virginia's plan to clean up the Chesapeake Bay calls for strong investments in better stormwater control to protect clean water and frontline communities.

CHALLENGE

Virginians rely on local waterways for clean drinking water, vibrant communities, and strong economies. In fact, three-out-of-four Virginians depend upon healthy headwater streams for their drinking water.[1] Our Commonwealth is the largest seafood producer on the East Coast, with 50 commercially harvested species.[2] Our outdoor recreation industry is booming, providing 197,000 direct jobs and $1.2 billion in tax revenue.[3]

> **75% of Virginians depend upon local, healthy headwater streams for their drinking water.**

Despite our reliance on healthy waterways, polluted runoff — the muddy stew of stormwater, dirt, bacteria, toxins, and plastic waste that runs off streets, parking lots, and other hard surfaces — continues to threaten our local creeks, streams, and rivers. It remains the fastest growing source of pollution to the Chesapeake Bay,[4] undermining Virginia's goal to restore local streams and the Bay by 2025.

Much of our urban and suburban infrastructure was built before we fully understood how stormwater degrades local streams. Now, many larger localities are required to reduce the nutrients and sediment that they contribute to Virginia's waterways. Implementing programs to achieve these reductions — like projects to retrofit older infrastructure — can be expensive. But for years, low income communities have been among the least likely to receive state funding to support this work. Cities and towns, churches and schools, homeowners and developers — everyone has a role to play in keeping nutrient and sediment pollution out of our stormwater. The state can and should encourage pollution reduction practices by providing strong, equitable funding support and protecting our existing stormwater management regulations.

SOLUTION

STORMWATER LOCAL ASSISTANCE FUND (SLAF)

To help with expensive stormwater projects, the Virginia General Assembly created the Stormwater Local Assistance Fund (SLAF), a state and local matching grant program to protect and improve the health of our waterways. This fund has recently been improved to provide additional attention to fiscally stressed communities and improving resilience to climate change. Over its lifespan, SLAF has authorized $95 million in grants for 216 projects across Virginia, and demand for this program continues to grow.[5] In 2019, localities submitted proposals for nearly twice the amount of funding available. Virginia's initial needs assessment for SLAF estimates that the state needs to invest approximately $80 million annually. The General Assembly provided $75 million in the most recent two-year budget and substantially bolstered the states ability to address these issues. Still, sustained funding is critical to ensure progress can be sustained.

VIRGINIA CONSERVATION ASSISTANCE PROGRAM

The Virginia Conservation Assistance Program (VCAP) provides cost-share assistance for smaller-scale residential and commercial projects to improve drainage and reduce erosion such as rain gardens, conservation landscaping, and permeable driveways. Since the program began in 2012, Virginia's Soil and Water Conservation Districts and their partners have installed over 720 projects. However, there are 35 project applications — worth $173,020 — in a backlog awaiting funding. Last year, the General Assembly included $1,000,000 to support VCAP projects across the state, but only allotted $500,000 the year before. Consistent, stable funding is an important part of encouraging property owners to participate.

POLICY RECOMMENDATIONS

Allocate at least $80 million each year for the Stormwater Local Assistance Fund to invest in pollution reduction projects and help localities meet their local water quality needs on time.

Provide increased and consistent funding for the Virginia Conservation Assistance Program to restore the creeks and streams our children play in; create habitat for birds, bees, and other pollinators; reduce localized flooding; and protect property values.

Promote resilient communities, smarter growth, and long-lasting restoration efforts water by protecting the Virginia Storm Management Program.

Above Great Falls During Flooding
Image credit: Roy Sewall

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EXECUTIVE SUMMARY

Agriculture is Virginia's largest industry by many metrics. It also represents the largest source of nutrient and sediment pollution reaching Virginia's local streams, rivers, and the Chesapeake Bay.[1] Fortunately, addressing these pollution loads offers an opportunity to improve the Commonwealth's natural resources while also enhancing the positive economic impact of agriculture. The Virginia Agricultural Cost Share Program (VACS) funds the implementation of a wide suite of agricultural practices that reduce pollution while enhancing farm productivity. Despite Virginia's recent increases in this program, demand far exceeds available funding.

CHALLENGE

The Chesapeake Bay Watershed Implementation Plan (WIP) and the 2020 Virginia General Assembly (HB1422/SB704) set a distinct timeline for farmers to protect their streams and the Bay by installing voluntary conservation practices on their lands. To meet our Bay goals by 2025, Virginia expects 75% of the remaining nitrogen pollution reductions to come from agriculture.[2] To date, however, the number of conservation practices installed on Virginia farmland falls far short of the pace planned for and needed. Without sufficient financial and technical support from a fully-funded VACS to assist the agriculture sector in their critical role in reducing nutrient and sediment pollution to the Chesapeake Bay, the timeline will not be met.

> **To meet our Bay goals by 2025, Virginia expects 75% of the remaining nitrogen pollution reductions to come from agriculture.**

The Virginia Department of Conservation and Recreation administers VACS through the Soil and Water Conservation Board and Virginia's 47 Soil and Water Conservation Districts. The Districts' experienced staff assists farmers and landowners to identify opportunities to improve local water quality and prevent pollution from reaching Virginia's waterways, provides technical assistance in implementing best management practices (BMPs), and helps to offset the cost of installing the practices.[3] These BMPs include stream fencing and alternative water sources to keep livestock out of streams; nutrient management plans that help farmers decide when and how to apply fertilizers; riparian grass and forested buffers to filter nutrient and sediment from runoff; conservation tillage and cover crops to keep soils on farms; and, many other practices essential to protecting Virginia's streams, lakes, rivers, and bays. Historically, Virginia's funding for VACS and associated technical assistance has fluctuated significantly from year to year but has always fallen far below the state's documented need.

SOLUTION

Every other year, the Virginia Department of Conservation and Recreation—working with farmers, the Soil and Water Conservation Districts, and other stakeholders—compiles an Agricultural Needs Assessment detailing how much investment is needed for agricultural BMPs. The most recent assessment shows that, in order to maximize benefits to local and downstream waterways and Virginia communities, VACS should be funded at no less than $100 million per year.[4] Strong, sustained funding at the level identified in the Agricultural Needs Assessment will facilitate a faster pace of progress, improve water quality, and invest in agricultural economies both in and beyond the Chesapeake Bay Watershed.

Investments in agricultural BMPs improve water quality, create local jobs, and deliver economic benefits for rural communities.

Livestock exclusion from streams prevents calf losses and improves herd health.[5] Increased efficiency of nutrient application reduces fertilizer loss while improving crop yield. Conservation tillage, cover crops, rotational grazing, and other practices further improve soil health and productivity.[6] Reducing agricultural runoff will also improve the well-being of local communities that benefit from cleaner, healthier streams and waterways through safe drinking water, outdoor recreation, and enhanced tourism opportunities.

It is important that these investments in agricultural BMPs are equitably reaching historically underserved communities like farmers of color. As recently noted by the Virginia Soil and Water Conservation Board, the allocation of funding for the VACS program should address Diversity, Equity, Inclusion and Justice concerns, and the state should follow through with this directive.[7]

POLICY RECOMMENDATIONS

Fund the Virginia Agricultural Cost-Share Program at the documented need of at least $100 million per year according to the Agricultural Needs Assessment.

Provide sufficient and stable funding for technical assistance by Soil and Water Conservation Districts to ensure adequate staff capacity and training.

Maintain, enforce, and, where possible, improve our agricultural water quality and conservation initiatives.

Farmer Jim Walker, standing inside his forested buffer alongside his happy, fenced cows
Image credit: Anne Marie Roberts

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CHALLENGE

In the last decade and a half, many of Virginia's wastewater treatment plants have adopted upgraded nutrient removal technology to significantly reduce the pollution discharged to local rivers and the Bay. Additionally, a bill passed in 2017 required the City of Alexandria to remediate its CSO system by 2025, and the General Assembly has appropriated $50 million to meet this deadline.

We are now seeing the beginnings of a remarkable, though still fragile, recovery of our local streams, rivers, and Chesapeake Bay — increased water clarity and quality, and thousands of acres of thriving aquatic grasses. These signs of success are attributable to the hard work of the wastewater agencies and the localities they serve, but also thanks to the Commonwealth's long-term financial commitment to the program, reflected in sustained funding for matching grants to upgrade nutrient pollution reduction capabilities.

The work is not complete, however. Our watersheds have more people, fewer forests, and are facing climate change. As a result, Virginia and regional partners will have to enhance efforts to meet the goal of a restored Bay. Virginia's plan to do so is set out in the Blueprint for clean water, which addresses the work needed by all sectors. Further, Virginia must rise to the challenge of addressing its largest CSO system located in the City of Richmond, where 24.5% of residents are below the poverty line[1] and already pay some of the highest wastewater rates in Virginia.

> **Virginia's largest Combined Sewer Overflow system is located in the City of Richmond, where 24.5% of residents are below the poverty line and already pay some of the highest wastewater rates in Virginia.**

SOLUTION

The General Assembly placed Richmond on a timeline to remediate its CSO system by 2035 through legislation (SB1064) passed in 2020. In 2021, the Enhanced Nutrient Removal Certainty Program (HB 2129/SB1354) was established, which will ensure Virginia achieves the wastewater treatment technology upgrades necessary to meet the Blueprint goals. Still, the funding to implement these projects is critical to accomplishing these goals.

Not only will more complete wastewater treatment revitalize the Bay and its tributaries, but it will ensure that communities across the Commonwealth will more equitably receive the benefits of clean water in their own communities. Rural communities, especially rural communities of color, "have long faced challenges with toxic water due to insufficient water infrastructure," while low income ratepayers in urban areas struggle to afford wastewater and drinking water improvements.[2] State investment will help these communities maintain and improve aging infrastructure, prevent local water quality problems like toxic algae, and create jobs for skilled workers.[3]

Based on Virginia's latest needs assessment for the wastewater sector, Virginia will require an additional $150 million at least to meet our goals under the Chesapeake Bay Blueprint. Implementing Richmond's interim plan to remediate its CSO system will also require significant state investment to supplement local ratepayer-generated fees.

CONCLUSION

Virginia legislators have enacted a suite of programs along with consistent funding through the Water Quality Improvement Fund to help the wastewater sector cost-effectively reduce pollution to Virginia's waterways. The General Assembly has also assisted localities with remediating aging CSO systems, once again making local rivers swimmable and fishable. Virginia must remain committed to this work by ensuring robust and sustained funding for continued modernization of the Commonwealth's wastewater infrastructure.

POLICY RECOMMENDATIONS

Provide at least $150 million per the Wastewater Needs Assessment for upgrading the nutrient pollution reduction capabilities of significant wastewater facilities discharging to the Chesapeake Bay and tributaries.

Defend against any legislation that would prevent the Department of Environmental Quality from implementing wastewater treatment plant upgrades as called for in Virginia's Chesapeake Bay Blueprint

Provide state resources to help Richmond fully address its CSO system, an estimated cost of $883 million, as required by SB1064 (2020).

Domestic & Wildlife on the River - Accomack, Va
Image credit: Charlie Vaughan

REDUCING SINGLE-USE PLASTICS, LITTER, & MARINE DEBRIS IN VIRGINIA

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EXECUTIVE SUMMARY

Building on the growing concern and increased willingness to take action to decrease the amount of plastic waste in Virginia's environment, now is the time to craft policies and laws that will keep man-made waste out of Virginia's streams, rivers, and coastal waters. We can do this by eliminating the most harmful types of mismanaged waste, incentivizing sustainable disposal of what we do use, and prioritizing funding to shift to sustainable and reusable products.

CHALLENGE

Our society produces plastic packaging, beverage containers, and food-wrappers designed to be used once and then "thrown away". Most discarded materials are then landfilled or incinerated, creating pollution and requiring producers to extract more natural resources to make new materials.[1] When mismanaged, trash ends up in the environment.

Virginia's natural landscapes and waterways are paying the price. Wildlife – including turtles, birds, fish, mammals, and important water-filtering bivalves like oysters and mussels – often mistake plastic items for food, can be entangled in debris, or displaced from their habitat.[2]

Eighty percent of debris in the oceans comes from land: mis-managed waste, litter, illegal dumping, and uncovered trucks.[3] Most of the litter in Virginia comes from single-use food- and beverage-related items followed closely by cigarette butts and plastic grocery bags (see "*Top Ten Items*").[4]

> **Eighty percent of debris in the oceans come from land: mis-managed waste, litter, illegal dumping, and uncovered trucks.**

Rank	Item	Percent
1	Cigarette Butts	15%
2	Beverage Bottles (Plastic)	11%
3	Grocery Bags (Plastic)	10%
4	Food Wrappers (Candy, Chips, etc.)	10%
5	Beverage Cans	7%
6	Other Plastic Bags	5%
7	Bottle Caps (Plastic)	5%
8	Cups & Plates (Plastic and Foam)	4%
9	Beverage Bottles (Glass)	4%
10	Straws, Stirrers	3%

Top Ten Items, 2019 Statewide Cleanups in Virginia
Image credit: Clean Virginia Waterways of Longwood University

Single-use plastic production, consumption, and disposal, in particular, disproportionately affects communities of color, low-income communities, and Indigenous communities[5] by polluting the air, water, and soil. Exposure to plastic additives and related toxins can have negative biological effects on humans and wildlife.[6]

We have long relied on a broken recycling system and local stewards to keep Virginia's land and waters litter free. This approach has proven to be insufficient in action, funding, and impact as it does little to reduce single-use products or to hold producers responsible.

Virginia has made some progress: in 2021, Virginia banned single-use foam cups and take out containers, intentional balloon releases, and single-use products in state agencies and public colleges and universities.

SOLUTION

To protect our waterways and ocean from plastic pollution, we need to eliminate harmful single-use plastics, require producers to build and support a robust recycling system, and invest in programs to prevent and remove litter from our waterways and environment.

STATEWIDE BAG BILL

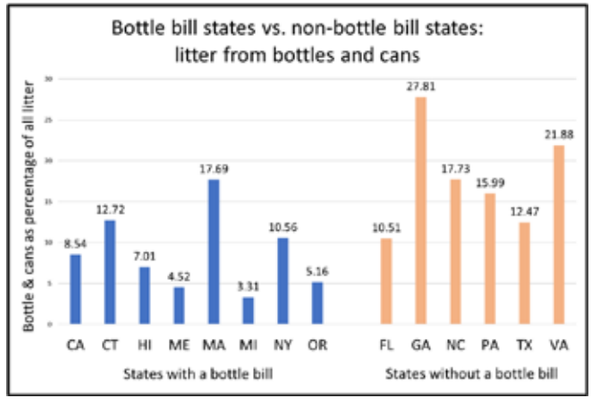
In order to effectively decrease litter, and contingent on the implementation of local enactment of fees on single-use plastic bags, consider uniform action on the state level to reduce single-use bags (as was supported by the Virginia Food Industry Association in 2020).

PRODUCER RESPONSIBILITY

Producers and fast-food restaurants that depend entirely on single-use food and beverage packaging should be responsible for the costs of litter clean ups, recycling, and waste disposal. Virginia should incentivize and encourage producers to create and use products that are truly reusable, biodegradable, and/or easier to recycle.

BOTTLE BILL

In Virginia, bottles and cans account for nearly 22% of all litter (see chart below from Clean Virginia Waterways).[7] A proven way to reduce this is to establish a beverage container deposit program ("bottle bill"). Bottle bills, which rely on deposits to incentivize consumers and retailers, not only reduce litter – they also increase recycling, reduce energy use, and curb greenhouse gas emissions.[8] In states with container deposit bills, bottles and cans account (on average) for 8.69% of the total litter – significantly less than in Virginia.[9]



RAISING THE LITTER TAX

Virginia (population 8.5 million) generated $1,864,527 from the Virginia Litter Taxes in Fiscal Year 2020. The fund included $878,294 from the Litter Tax, $769,390 from the Beer Tax, and $216,842 from the Soft Drink Tax.[10] That is low when compared to states with smaller populations. For example, Washington State (population 7.6 million) generates $11.4 million annually from its litter tax.[11] As funds from the current Virginia Litter Tax are insufficient to cover the costs associated with prevention and removal of mismanaged solid waste, it should be raised.

CONCLUSION

Proven solutions exist that could measurably reduce plastic pollution and mis-managed solid waste in Virginia's communities. Tackling plastic pollution will require new laws, support for behavior-change campaigns that encourage the reduction of single-use items, and litter removal efforts.

POLICY RECOMMENDATIONS

Establish a statewide beverage container deposit program (often referred to as a Bottle Bill).

Contingent on the implementation of local enactment of fees on single-use plastic bags, consider uniform action on the state level to reduce single-use bags.

Establish a producer stewardship program targeting single-use plastic packaging and products.

Raise the Virginia Litter Tax, and expand usage of funds to nonprofits which organize most of Virginia's litter cleanups and public outreach campaigns.

ENDNOTES

Sunrise at the Great Falls on the Potomac River |
Image credit: Robin Kent

TACKLING POLLUTED STORMWATER RUNOFF & RESTORING LOCAL WATER QUALITY

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UPGRADING WASTEWATER TREATMENT IN VIRGINIA

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REDUCING SINGLE-USE PLASTICS, LITTER, & MARINE DEBRIS IN VIRGINIA

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