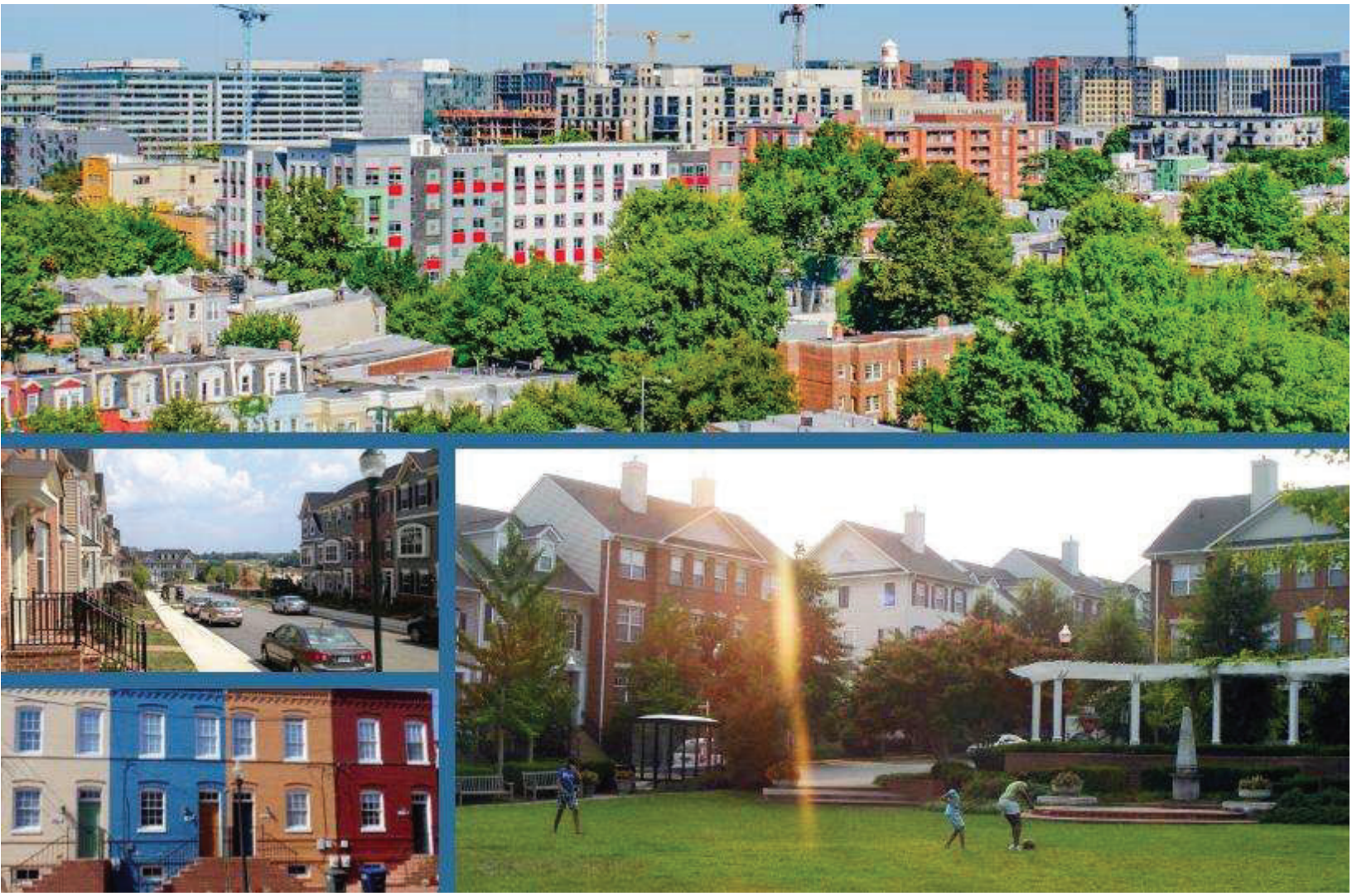
BACKGROUND MATERIALS

REGIONAL 2030 HOUSING TARGETS

THE FUTURE OF HOUSING IN GREATER WASHINGTON

A Regional Initiative to Create Housing Opportunities, Improve Transportation, and Support Economic Growth

September 2019



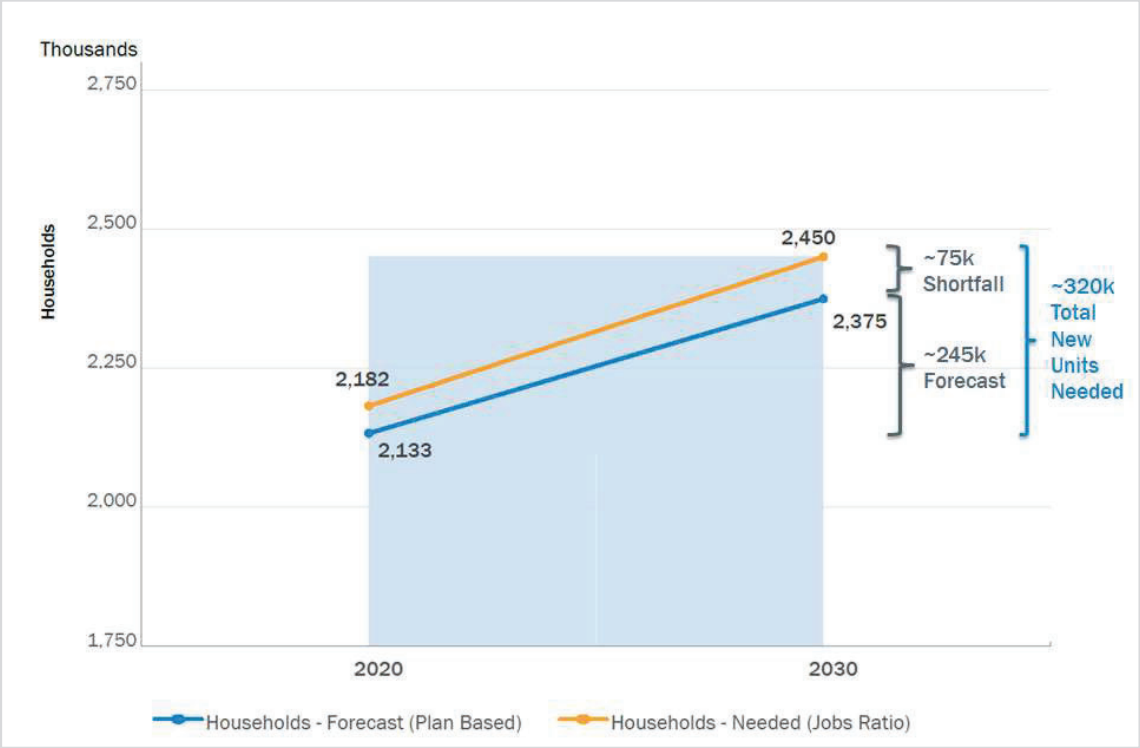
Metropolitan Washington
Council of Governments

OVERVIEW

Metropolitan Washington is a dynamic region. With vibrant, diverse communities, sought-after amenities, and burgeoning industries, it is no surprise that families and businesses want to call the area home.

But with continued growth and an increased demand to live here, the region now finds itself in a challenging situation. There is an imbalance between the number of jobs and the amount of housing available to the workforce. This gap is expected to widen without intervention; the region is forecast to add approximately 413,000 new jobs to its employment base between 2020 and 2030, but only approximately 245,000 new housing units over the same period.[1]

COG Regional Housing Need 2020-2030 (Planned vs. Needed)



Source: COG Cooperative Forecasts

Using a widely accepted metric for "balancing" the number of households and jobs, a Metropolitan Washington Council of Governments (COG) analysis showed the region needs, between 2020 and 2030, more than 75,000 additional households than what is currently anticipated (245,000 households). If the timeframe is stretched from 2020 to 2045, more than 100,000 additional households will be needed beyond the new households anticipated.

[1] COG, Cooperative Forecast, https://www.mwcog.org/community/planning-areas/cooperative-forecast/; Actual figures rounded for simplicity.

This housing shortage—or "shortfall"—has created a dynamic where, according to the National Capital Region Transportation Planning Board (TPB) at COG, more than 325,000 workers are commuting to jobs in the region each day from communities located beyond its footprint.

This situation affects the area's affordability, potentially undercuts its appeal to new companies and talent, strains the transportation system, and impacts the environment and quality of life for the region's residents. For some, this means not only long commutes to work, but also difficult choices between paying rent or affording other basic necessities such as food or medicine.

A year ago, area officials on the COG Board of Directors passed a resolution acknowledging the region's housing production challenges and directing COG staff and local government housing and planning directors on COG's Planning Directors Technical Advisory Committee and Housing Directors Advisory Committee to conduct additional research to address them.

What followed was a deep dive into determining the **Amount** of housing needed to address the shortfall and whether the region could produce it, the ideal location for new housing to optimize and balance its proximity to jobs (**Accessibility**), and the **Affordability** of new units to ensure they are priced appropriately for those who need them. This information gathering, data analysis, and consultation with officials and partners resulted in three regional housing targets for COG member governments to pursue, which were adopted by the COG Board in September 2019:

Regional Target 1:

AMOUNT
At least 320,000 housing units should be added in the region between 2020 and 2030. This is an additional 75,000 units beyond the units already forecast for this period.

Regional Target 2:

ACCESSIBILITY
At least 75% of all new housing should be in Activity Centers or near high-capacity transit.

Regional Target 3:

AFFORDABILITY
At least 75% of new housing should be affordable to low- and middle-income households.

These targets address the region's housing need from an economic competitiveness and transportation infrastructure standpoint; for example, the TPB estimates that meeting the targets could result in a nearly 20 percent reduction in traffic congestion, if coupled with continued investment in existing transportation infrastructure, supportive land-use policies, among other factors.[2] Reaching the targets would also have broad significance for the future of the region and its residents and their quality of life.

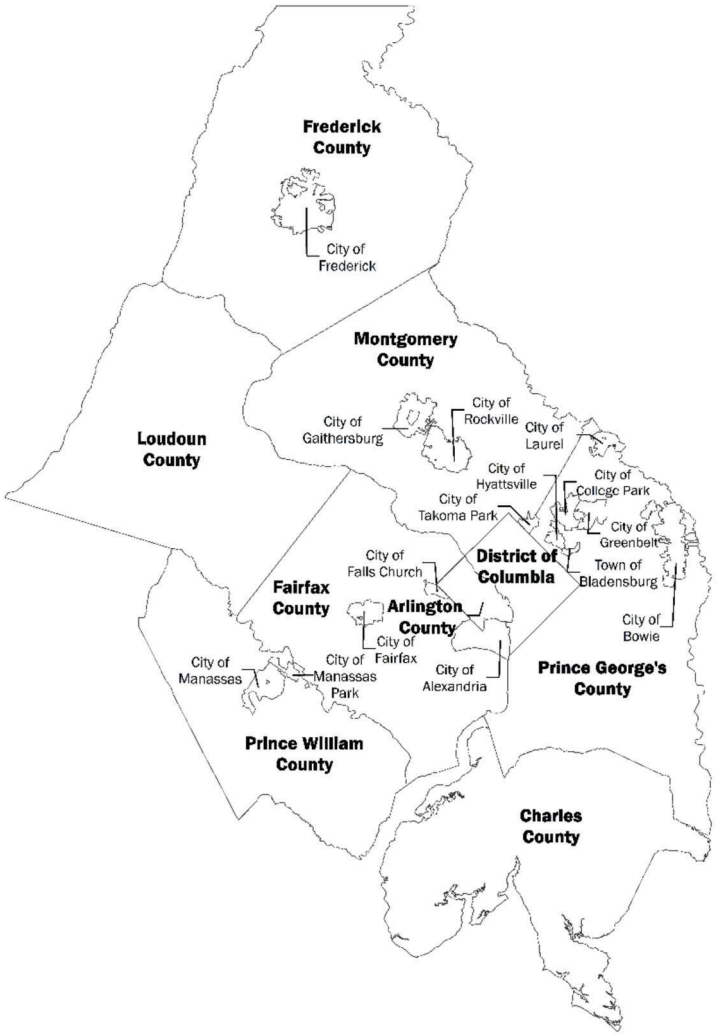
[2] TPB, Long Range Task Force Reports, https://www.mwcog.org/documents/2017/12/20/long-range-plan-task-force-reports-projects-regional-transportation-priorities-plan-scenario-planning-tpb/

Local governments are already planning and working to preserve and increase the supply and diversity of affordably-priced homes in their jurisdictions but face a variety of challenges—from community dynamics and market forces, to competing funding priorities and reduced federal resources. It will take a range of tools and innovative policies to meet these targets over the next ten years, including strategic partnerships with the business, non-profit, and philanthropic sectors. No one sector alone can solve the region's housing challenges.

The region has a record of success when it comes to addressing big challenges together, whether securing dedicated funding for Metro, achieving impressive air quality progress over the last 40 years, or executing planning visions like Activity Centers, a visionary goal in 1998 but a reality today.[3, 4, 5]

There is a renewed energy locally, regionally, at the state level, and from a variety of sectors, to take action to address the country's and the region's housing challenges. COG and its members have already taken a critical first step in metropolitan Washington by putting a fine point on the regional need and developing a set of targets for local governments and partners. Together, and through a variety of methods and partnerships, it will be possible to ramp up housing production, and create it in ways that ensure inclusive communities, so that the benefits of economic growth in this dynamic region are shared by all.

COG Member Governments



[3] COG, Restoring Metro, https://www.mwcog.org/restoringmetro/

[4] COG, Air Quality, https://www.mwcog.org/environment/planning-areas/air-quality/

[5] COG, Activity Centers, https://www.mwcog.org/community/planning-areas/land-use-and-activity-centers/activity-centers/

TOPICS: IMPROVE ECONOMIC ADVANCEMENT | STRENGTHEN STATE GOVERNMENT

PROJECTS: HOUSING POLICY

5 Policies to Help Curb Housing Costs Immediately

These tools are effective ways to increase housing supply and homeownership opportunities

Authors: Alex Horowitz and Tara Roche

Article | May 14, 2025 | 4 min

THE PEW CHARITABLE TRUSTS

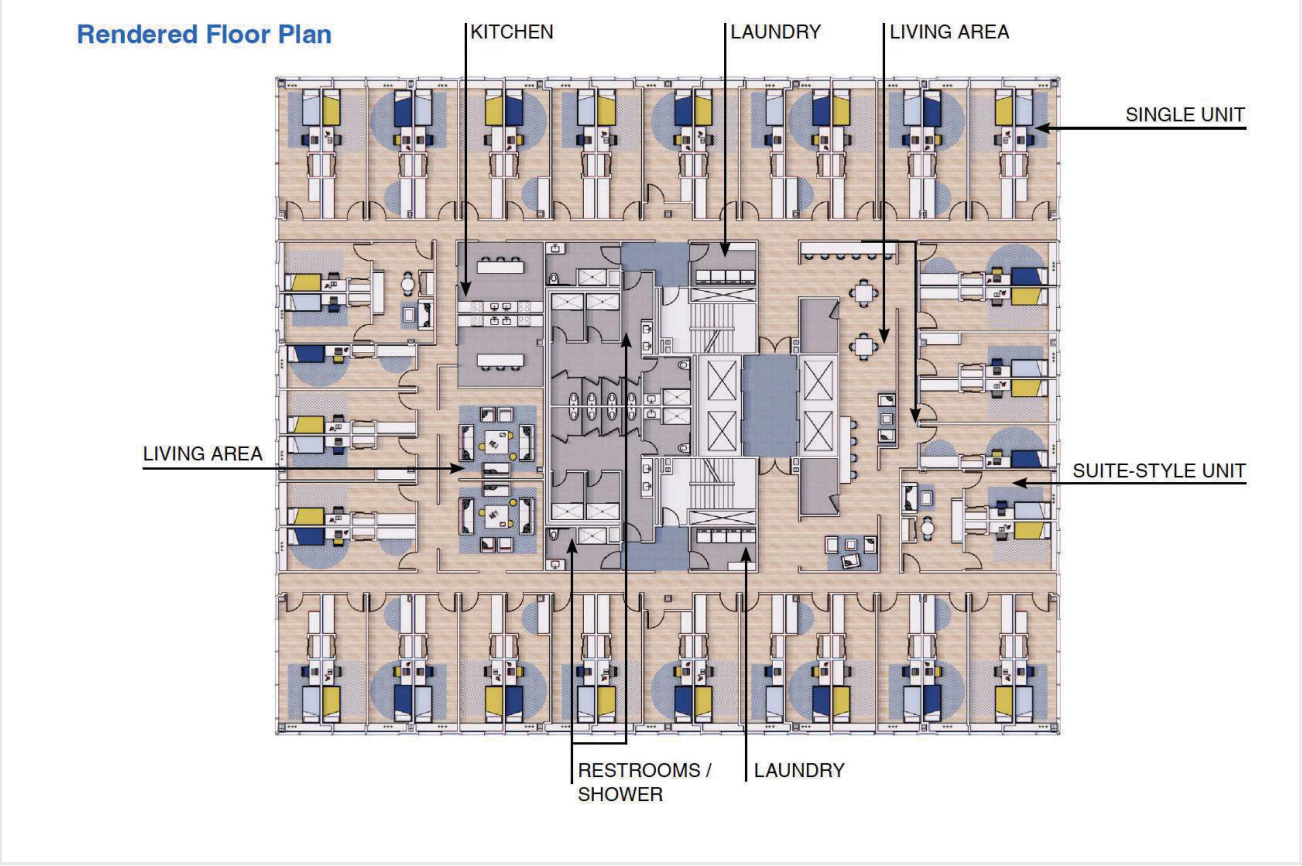
An estimated nationwide shortage of 4 to 7 million homes has pushed rents to all-time highs, with a record share of Americans spending more than 30% of their income on rent. Meanwhile, the median home price has reached $420,000, leaving millions of families unable to afford a home, forcing them to continue renting and miss out on the benefits of homeownership.

However, there are proven policy solutions that can help make a difference. By adopting targeted, evidence-based policies, states and municipalities have many options to increase the supply of both rental housing and homes for sale. These policies can open new homeownership opportunities and reduce financial risks for homebuyers. Here are five policy solutions that can make a difference right now.

1. Microapartments Can Make Office-to-Residential Conversions Feasible

American downtowns are facing a record 20% office vacancy rate, with more than 1 billion square feet of empty office space. Although office-to-residential conversions are generally expensive, The Pew Charitable Trusts and architectural design firm Gensler have proposed a new, more economically viable approach for such conversions that can increase the housing stock while also revitalizing downtowns by converting empty office buildings into dorm-style microunits.

Pew and Gensler studied converting empty office buildings in a range of cities including Denver, Seattle, Minneapolis, Los Angeles, Houston, Chicago, and Washington, D.C. Although costs varied, the study found that in each city, converting vacant offices into small apartments would cost less than building new ones, stretch scarce subsidy dollars, and make rents more affordable for those earning less than half the area's median income.



The co-living designs reduce construction costs by 25% to 35% per square foot compared with traditional office-to-apartment conversions, largely by concentrating plumbing and kitchen facilities in central, shared spaces on each floor. Total development costs for each unit are one-quarter to one-half of those for conventional apartments. The size and number of microunits and efficient layouts allow lower rents—affordable for people earning 30% to 50% of an area's median income. These rents are roughly half those of typical apartments in the studied cities.

By lowering the cost of new housing and repurposing existing infrastructure, local governments could produce significantly more units with the same level of public funding. In Denver, for example, a $300,000 subsidy is required to build a studio apartment affordable for someone earning 35% of the area's median income—but the same subsidy amount can produce about 13 converted microunits. In Seattle and Minneapolis, the required subsidy for one studio apartment could pay for about four converted microunits.

2. Accessory Dwelling Units Can Immediately Add Affordable Options

Accessory dwelling units (ADUs), also known as tiny homes and in-law suites, are becoming a go-to method to quickly add viable and affordable housing stock. ADUs, which property owners can add in their backyard, garage, or basement and rent out, tend to have lower rents than either apartments or houses and are often affordable for lower-income residents. They also can generate income for owners or provide spaces where family members can care for elderly relatives or others.

ADUs have been legal for many years in cities ranging from Gainesville, Florida, to Anchorage, Alaska. Fourteen states, including Arizona, California, Massachusetts, Montana, and Utah, have passed laws to ensure that property owners can build ADUs. Cities including Denver; Richmond, Virginia; Phoenix; Spokane, Washington; and Salt Lake City have taken similar steps.

And ADUs are widely popular among the public. In Pew's nationally representative survey on housing issues, 72% of respondents favored allowing ADUs on single-family lots in cities and towns in their state.

3. Single-Stair Buildings Can Boost Supply of Lower-Cost Homes

Construction of an apartment or condominium building with a single staircase is 6% to 13% less costly than similar-size dual-stairway buildings. These four-to-six-story buildings with up to four units per floor can fit on smaller infill lots that might otherwise go unused and can fit more easily in established neighborhoods near work, commerce, transit, and recreation. Smaller buildings consistently offer lower rents than single-family homes or high-rise buildings.

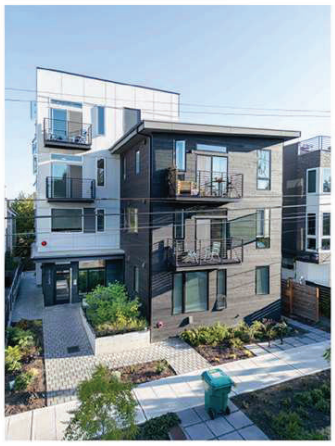
Figure 1

Single-Stair Buildings Can Fit Into Narrow Lots

Examples of 4-to-6-story single-stair buildings on infill lots in Seattle

101 John St.

20 street-facing, market-rate apartments atop ground-floor retail, built in 2016 on a 4,600-square-foot lot.



ALNA Ballard

1123 NW 57th St., 21 market-rate apartments, built in 2021 on a 5,000-square-foot lot.

Franklin Station

2303 Franklin Ave. E, 22 market-rate apartments, built in 2018 on a 4,800-square-foot lot.

Source: SAR+ Architects

Most importantly, single-stair buildings are just as safe as large buildings with two or more stairs. A first-of-its-kind review of thousands of buildings in New York and Seattle conducted by Pew and the Center for Building in North America found no increased fire risk in single-stair apartment buildings compared with those with multiple stairs. Modern single-stair buildings include safety features such as sprinklers, fireproof stairs, self-closing doors, and smoke ventilation, and the smaller footprint provides quicker access to exits.

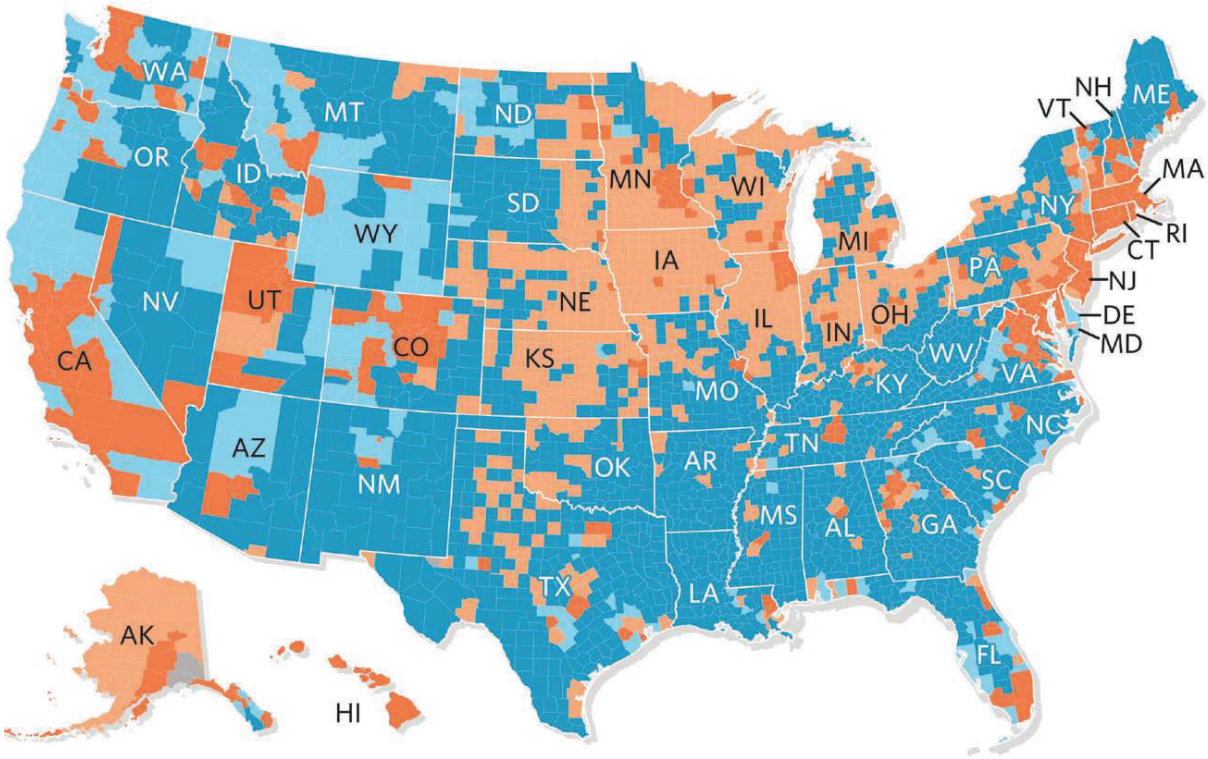
4. Modern Manufactured Housing Can Benefit Millions of U.S. Homebuyers

Manufactured housing has the potential to address two major challenges in the U.S. market: limited supply and affordability. Eighteen million Americans currently live in manufactured homes, which can cost two-thirds less than other single-family homes. Yet many jurisdictions are missing out on prime opportunities to expand high-quality, lower-cost housing because state manufactured housing titling laws make it difficult for homebuyers to access financing. Zoning barriers also block these homes from installation in many areas where single-family homes that are built on-site are allowed.

Figure 2

Many Areas of the Country Could Benefit From Greater Use of Manufactured Homes

Map shows counties by share of manufactured housing and home prices



County manufactured housing share and home price category

- Low manufactured housing share, high home prices
- Low manufactured housing share, low home prices
- Higher manufactured housing share, high home prices
- Higher manufactured housing share, low home prices
- Data not available

Source: Chris Herbert et al., "A Review of Barriers to Greater Use of Manufactured Housing for Entry-Level Homeownership," Joint Center for Housing Studies of Harvard University, 2024, https://www.jchs.harvard.edu/sites/default/files/research/files/harvard_jchs_barriers_manufactured_housing_2024.pdf

Traditionally constructed homes are automatically titled as real estate. But nearly every state automatically titles most manufactured homes as personal property—similar to the way cars are titled—regardless of the quality of the home or whether the homeowner also owns the land. This means would-be buyers of manufactured homes can't get a traditional mortgage, leading many to seek riskier financing.

States could modernize laws that now limit access to traditional mortgages for not only new homebuyers, but also those who bought a manufactured home using other financing that comes with higher costs and fewer protections than mortgages.

Updates to local zoning that permit placement of manufactured homes just like any other single-family house would allow more lower-cost homes to quickly fill vacant lots, replace dilapidated housing, serve as ADUs, or create new subdivisions. Maryland, Maine, New Hampshire, and Rhode Island enacted legislation in 2024 to allow the use of manufactured homes in all single-family neighborhoods.

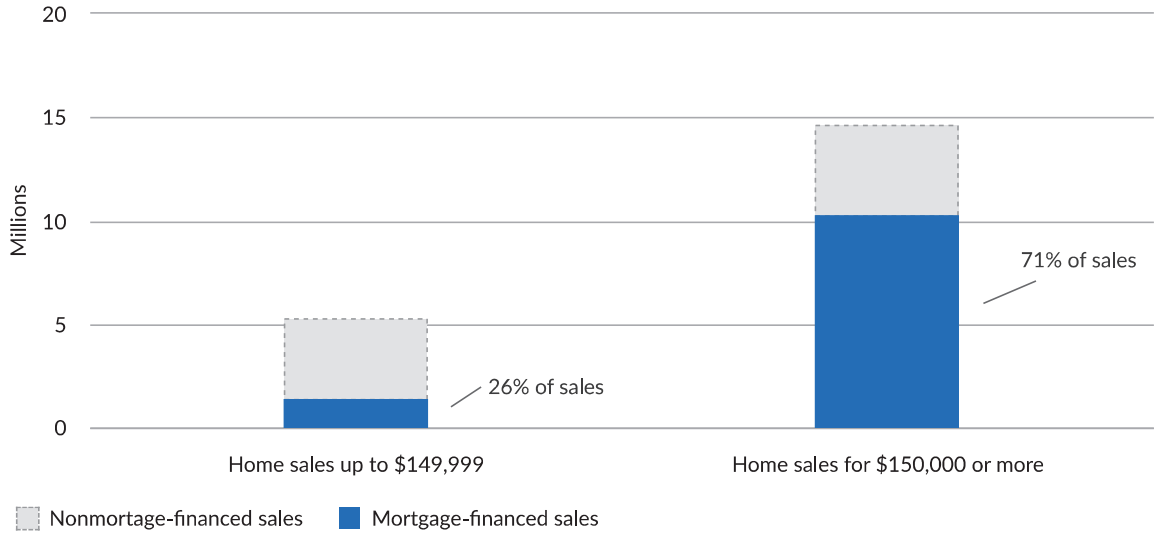
5. Financing a Low-Cost Home Should Be Easier

Millions of homes are sold each year for less than $150,000, yet a Pew analysis found that only 26% are financed using a mortgage, compared with 71% of higher-cost homes. Difficulty accessing small mortgages leads many families to forgo purchasing a home or to pursue alternative financing, such as lease-purchase agreements and land contracts, that leaves them vulnerable to financial losses. These arrangements lack many of the consumer protections afforded by mortgages, including inspection and appraisal contingencies that ensure that the homes meet minimum habitability standards and the ability to build equity and protection against quick evictions. Mortgages, unlike alternative financing, also include a clear process for transferring the property's title from seller to buyer, guaranteeing that borrowers can demonstrate ownership.

Figure 3

Less Than a Third of Low-Cost Home Purchases Involve a Mortgage

Percentages of mortgage-financed sales by home value, 2018-21



Sources: Federal Financial Institutions Examination Council, "Home Mortgage Disclosure Act" (2018-21), https://ffiec.cfpb.gov/data-browser/; Zillow Group Inc., "Zillow's Transaction and Assessment Database" (2018-21), https://www.zillow.com/research/ztrax/

There is momentum to change the patchwork of state and federal laws that govern land contracts, and some states, such as Kansas and Minnesota, have passed legislation to strengthen protections for homebuyers using these arrangements. More states can follow these examples to strengthen families' pursuit of homeownership.

Alex Horowitz and Tara Roche are project directors with The Pew Charitable Trusts' housing policy initiative.

ARTICLE

Ten Actions Cities Can Take to Improve Housing Affordability

August 10, 2022

Housing unaffordability, rooted in an acute shortage of homes both for rent and sale, is a severe problem across the nation, affecting red states and blue states, small cities and major metropolitan areas alike. Fortunately, city governments have a great deal of influence over housing costs, with many policy levers at their disposal to increase the supply of homes and improve housing affordability. Below are ten steps local leaders can take to help constituents who are contending with high housing costs.

1. Legalize more apartment units

Many American cities make it illegal to build anything other than a single-family, detached home on over 75% of land zoned for residential use, severely restricting efforts to increase the supply of affordable housing. Often, higher-income neighborhoods are disproportionately zoned for single-family homes, preventing low- and middle-income families from living in communities with more economic opportunities. While rolling back single-family zoning is one of the highest profile policies proposed to enhance affordability, early evidence from Minneapolis, which eliminated single-family zoning, indicates that such measures alone are not sufficient. Cities can also address other potentially restrictive policies, including minimum lot size requirements, density limits, and prohibitions against mixed-use developments (apartments in commercial zones) to more quickly build affordable housing at scale.

2. Legalize accessory dwelling units

Accessory dwelling units (ADUs) are independent residences located on the same lot as a single-family house, often in basements or above garages. ADUs are typically affordable units that diversify a city's housing stock and make more efficient use of already-existing homes. ADUs can be a win-win for tenants and property owners, providing affordable rental units as well as benefits to homeowners—including generating income from an existing asset and adding flexibility in family living arrangements. Cities such as Seattle, WA, Princeton, N.J., and Washington, D.C., have already relaxed zoning ordinances to allow for more ADUs. Los Angeles recently announced a city-wide ADU plan as a tool to combat its affordable housing crisis.

Cities often require new buildings in a designated zone to have a certain number of designated parking spaces based on projected occupancy. Research has made clear that parking is very frequently oversupplied, with one study of six New England municipal centers, for example, finding the mandated amount of parking was, on average, two-and-a-half times more than demand at peak times. Parking minimums are also costly; building a single parking space adds an average of $50,000 in costs per housing unit in some metropolitan areas—and much more in others—with underground parking being particularly expensive. Dozens of cities have reduced or eliminated parking minimums with positive results. For example, one study found that eliminating parking minimums in Los Angeles led developers to build more homes and convert old buildings into housing, helping to stimulate neighborhood revitalization.

4. More quickly and predictably approve developments that meet zoning laws

Even when zoning allows for more affordable apartments, getting new projects approved is often slow, costly, and unpredictable. Many projects require discretionary approvals, meaning local planning commissions and boards can reject proposed projects even if they meet zoning requirements. While community input is essential, the loudest voices are often existing homeowners in the area opposed to new development and are wealthier than the beneficiaries of new housing. When commissions do approve projects, regulatory delays and uncertainty can still increase the costs of developing new housing—costs that are passed on to residents and discourage development. Establishing by-right development processes and more predictable permitting processes can increase the supply of affordable housing by ensuring buildings that meet zoning laws are approved and drive down housing costs associated with delays.

5. Build more affordable housing near transit

Low-income families in cities disproportionately rely on public transit to access jobs and other travel needs. Yet housing near transit tends to be more expensive, forcing low-income families to either pay high rents or live far from accessible transit, potentially spending

transportation costs—often the second-largest annual expense for families after housing—and better connect families to jobs and economic opportunities. Cities should use every tool in their toolbox to spur affordable housing in transit-rich-neighborhoods, including upzoning, better harmonizing housing and transit planning, and prioritizing housing construction subsidies for developments with transit access. Transit agencies can also utilize the real estate they own in innovative ways to build well-placed housing. For example, the Washington Metropolitan Area Transit Authority recently partnered with Amazon to develop 1,000 affordable units at Metro stations.

6. Establish and expand affordable housing trust funds

Cities do not need to rely solely on federal and state financing to overcome the expensive upfront costs of development; they can establish their own affordable housing trust funds, like those that exist in Los Angeles, Seattle, Philadelphia, and Washington, D.C.—as well as many counties and states. A housing production trust fund is a source of funds designated to finance production and preservation of affordable housing, providing additional gap financing in addition to other sources like the Low-Income Housing Tax Credit and private subsidies. Some cities, such as Albuquerque, have capitalized their housing trust funds through voter bond measures. While their exact structures and processes vary, the results are promising and worthy of consideration. In Washington, D.C., the Housing Production Trust Fund has produced over 6,000 affordable units since 2015.

7. Improve housing voucher programs

Thousands of public housing authorities (PHAs) across the country administer Housing Choice Vouchers, which help low-income renters afford housing payments. Housing vouchers effectively reduce housing instability and allow low-income households to afford units in higher-opportunity neighborhoods. However, the program's success is restrained by landlords unwilling to accept vouchers as payment, with acceptance rates of vouchers declining—and reaching especially low levels in low-poverty areas. Evidence suggests that high denial rates are due to a combination of landlord discrimination against voucher

Voucher program by having dedicated landlord liaisons, customer service hotlines, and workshops for participating landlords. Marin County, CA started offering security deposits, damage protection, and vacancy loss coverage, which increased leases for voucher holders. Similarly, the PHA in Cambridge, MA offers damage and vacancy payments for landlords who lease to voucher holders and conducts landlord surveys to improve landlord service satisfaction.

8. Maintain and establish emergency rental assistance programs

During the COVID-19 crisis, Congress provided $46 billion for emergency rental and utility assistance programs to prevent evictions and help low-income renters sustain financial shocks caused by the pandemic. The program—along with other emergency measures—helped prevent 1.36 million eviction filings, by one estimate. While most of this funding has been distributed, local governments can build on this success and maintain local emergency rental assistance programs, leveraging institutional capacity developed during the pandemic. For example, San Antonio, TX assisted more than 56,000 households with federal emergency assistance funds during the pandemic and will fund a new emergency rental assistance program at a smaller scale without federal funds, helping low-income households weather temporary hardships unrelated to COVID-19 and ensuring families stay stably housed until they regain their financial security. Even as the economy recovers from the pandemic, many low-income Americans will continue to be vulnerable to financial shocks as the high cost of rent outpaces wage growth.

9. Inventory and allocate public land for affordable housing

As a first step toward maximizing the use of public land and resources, a 2016 BPC report recommended that local governments develop a complete list of all assets owned, including vacant land and underutilized real estate. For example, a 2016 audit in New York City found more than 1,000 vacant lots owned by the city, many of which had been sitting idle for decades. Atlanta's Public Land Advisory Council oversaw an asset mapping effort in

the high cost of land and build more affordable housing. Montgomery County, MD, King County, WA, and Washington, D.C., have all instituted policies encouraging low-income housing development on public land.

10. Support community land trusts

Community land trusts (CLTs) are nonprofit organizations governed by boards of residents and public representatives that act as stewards of land for affordable housing. Land is bought and maintained by the nonprofit organization, which sells homes that sit on the land to occupants—splitting the ownership of the land value and the home value so that occupants pay less for homeownership. Nonprofit stewards hold land in a trust in perpetuity in order to preserve affordability even when market rates rise sharply, permanently preventing developers from purchasing land for expensive units. Cities can support CLTs by providing financing, property tax exemptions, and technical assistance. There are hundreds of CLTs across the country, which have a record of empowering households—especially low-income families of color—to build wealth.

Conclusion

Tackling the affordable housing crisis will require an all-hands-on-deck approach at the federal, state, and local levels. Some of the actions highlighted in this blog can be carried out at the state level, a more efficient process than instituting reforms city by city. Nevertheless, cities should not hesitate to do everything in their power to address the urgent need for more affordable housing—as soon as possible. No single policy can serve as a silver bullet to sufficiently improve affordability, and cities will need a comprehensive approach including a slate of policy solutions to have a meaningful impact.

Related Policy Areas

MD AND VA GENERAL ASSEMBLY MEMBERS

Metropolitan Washington Council of Governments

Capital Caucus
General Assembly Members Representing the COG Footprint

MARYLAND GENERAL ASSEMBLY

First Name	Last name	Title	District
Malcolm	Augustine	Senator	47
Joanne	Benson	Senator	24
Nick	Charles	Senator	25
Arthur	Ellis	Senator	28
Brian	Feldman	Senator	15
William	Folden	Senator	4
Kevin	Harris	Senator	27
Cheryl	Kagan	Senator	17
Nancy	King	Senator	39
Benjamin	Kramer	Senator	19
Sara	Love	Senator	16
Anthony	Muse	Senator	26
Jim	Rosapepe	Senator	21
Will	Smith	Senator	20
Jeff	Waldstreicher	Senator	18
Alonzo	Washington	Senator	22
Ron	Watson	Senator	23
Karen	Young	Senator	3
Craig	Zucker	Senator	14
Gabriel	Acevero	Delegate	39
Tiffany	Alston	Delegate	24
Benjamin	Barnes	Delegate	21
Adrian	Boafo	Delegate	23
Lorig	Charkoudian	Delegate	20
Barrie	Ciliberti	Delegate	4
Derrick	Coley	Delegate	24
Charlotte	Crutchfield	Delegate	19
Bonnie	Cullison	Delegate	19
Debra	Davis	Delegate	28
Kris	Fair	Delegate	3
Diana	Fennell	Delegate	47A
Linda	Foley	Delegate	15
David	Fraser-Hidalgo	Delegate	15
Andrea	Harrison	Delegate	24
Anne	Healey	Delegate	22
Marvin	Holmes	Delegate	23

Julian	Ivey	Delegate	47A
Anne	Kaiser	Delegate	14
Aaron	Kaufman	Delegate	18
Ken	Kerr	Delegate	3
Marc	Korman	Delegate	16
Mary	Lehman	Delegate	21
Jazz	Lewis	Delegate	24
Jeffrie	Long, Jr.	Delegate	27B
Lesley	Lopez	Delegate	39
Ashanti	Martinez	Delegate	22
April	Miller	Delegate	4
Bernice	Mireku-North	Delegate	14
David	Moon	Delegate	20
Darrell	Odom	Delegate	27A
Julie	Palakovich Carr	Delegate	17
Edith	Patterson	Delegate	28
Joseline	Pena-Melnyk	Delegate	21
Jesse	Pippy	Delegate	4
Lily	Qi	Delegate	15
Pamela	Queen	Delegate	14
Kent	Roberson	Delegate	25
Denise	Roberts	Delegate	25
Emily	Shetty	Delegate	18
Karen	Simpson	Delegate	3
Jared	Solomon	Delegate	18
Ryan	Spiegel	Delegate	17
Vaughn	Stewart	Delegate	19
Deni	Taveras	Delegate	47B
Kym	Taylor	Delegate	23
Karen	Toles	Delegate	25
Veronica	Turner	Delegate	26
Kriselda	Valderrama	Delegate	26
Joe	Vogel	Delegate	17
Jheanelle	Wilkins	Delegate	20
Nicole	Williams	Delegate	22
CT	Wilson	Delegate	28
Greg	Wims	Delegate	39
Sarah	Wolek	Delegate	16
Jamila	Woods	Delegate	26
Teresa	Woorman	Delegate	16

VIRGINIA GENERAL ASSEMBLY

First Name	Last Name	Title	District
Elizabeth	Bennett-Parker	Senator	39
Jennifer	Boysko	Senator	38
Jennifer	Carroll Foy	Senator	33
Barbara	Favola	Senator	40
David	Marsden	Senator	35
Jeremy	McPike	Senator	29
Stella G.	Pekarsky	Senator	36
Russet W.	Perry	Senator	31
Danica A.	Roem	Senator	30
Saddam	Salim	Senator	37
Kannan	Srinivasan	Senator	32
Scott	Surovell	Senator	34
Gretchen	Bulova	Delegate	11
Laura Jane	Cohen	Delegate	15
Karrie	Delaney	Delegate	9
Margaret Angela	Franklin	Delegate	23
Elizabeth	Guzman	Delegate	22
Daniel	Helmer	Delegate	10
Rozia	Henson	Delegate	19
Charniele	Herring	Delegate	4
Patrick	Hope	Delegate	1
Karen	Keys-Gamarra	Delegate	7
Paul	Krizek	Delegate	16
Alfonso	Lopez	Delegate	3
Fernando J.	Martinez	Delegate	29
John	McAuliff	Delegate	30
Adele	McClure	Delegate	2
Kirk	McPike	Delegate	5
Garrett	McQuire	Delegate	17
Delores	Oates	Delegate	31
Atoosa	Reaser	Delegate	27
David A.	Reid	Delegate	28
Briana	Sewell	Delegate	25
Irene	Shin	Delegate	8
Marcus	Simon	Delegate	13
JJ	Singh	Delegate	26
Richard	Sullivan	Delegate	6
Josh	Thomas	Delegate	21

Luke	Torian	Delegate	24
Kathy	Tran	Delegate	18
Vivian E.	Watts	Delegate	14
Holly	Seibold	Delegate	12

COMPREHENSIVE ECONOMIC DEVELOPMENT STRATEGY

BROOKINGS

RESEARCH

Early warning signs for the DC region's economy amid federal downsizing

Insights from Brookings' new DMV Monitor

Amy Liu, Tracy Hadden Loh, and Glencora Haskins

September 24, 2025

Downloads

⭳ Methodological appendix

Key takeaways:

- Since January 2025, the DMV region has shed federal jobs at a faster rate than the nation, while private sector job growth has plateaued.
- The DMV region's unemployment rate has increased at a significantly higher pace than the nation's, with the share of unemployed suburban workers growing the most.
- After a strong year of venture capital activity, venture capital flows into the DMV region have slowed dramatically since January 2025, while continuing to grow nationally.
- The number of homes for sale in the DMV region is up by 64% since last June, far surpassing the rate of change nationally and in other major metro areas.

- Data on the DMV region's popularity with business and leisure visitors show mixed signs of resilience and potential softness.
- Both violent and property crime incidence are down year-over-year in the DMV region.
- More households in the DMV region are showing signs of financial distress.

The Trump administration is dramatically—and effectively—remaking the size, scope, and reach of the federal government. To maximize "government efficiency," ↗ it has eliminated federal jobs, cut spending, and hollowed out agencies. Congress and the Supreme Court have upheld many of these executive actions, paving the way for more downsizing initiatives to come.

While these cuts will be felt across the country, the efforts to remake "federal Washington" are poised to fundamentally remake "metro area Washington." That's because this region, home to 6.4 million residents, provides a critical economic function for the U.S. and the world: hosting America's national government. This includes the related public, private, and nonprofit activities that help the government carry out its mission on behalf of America's interests at home and abroad. The federal presence also spawns adjacent industries and startups, fueling the growth of local private sector jobs. The result is a region that is a leading economic engine for the U.S. as well as the states of Maryland and Virginia. That's why locals refer to the area as "the DMV"—to reflect the intertwined destinies of the District of Columbia and its two neighboring states.

The nature and magnitude of federal downsizing's impact on the DMV economy are so far unclear. Do these changes represent a minor setback or an economic crisis with lasting, structural effects? Will certain populations, commercial corridors, and counties bear the brunt of federal retrenchment? And are there also opportunities that can arise from the federal transformation?

To shed light on these questions, Brookings, with the Metropolitan Washington Council of Governments ↗ (MWCOG), is launching the DMV Monitor. The DMV Monitor will track real-time changes in the regional economy since January 2025 to capture the effects of federal restructuring and other national policy shifts. The goal is to provide

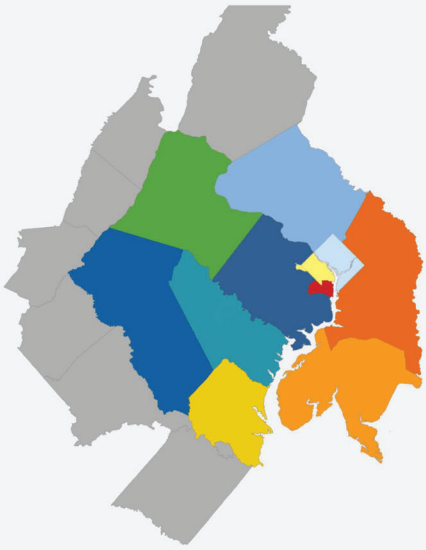
decisionmakers and the public with a data-driven picture of the economic, social, and fiscal health of the region, with an emphasis on understanding what has changed recently, grounded in the context of how these changes compare with national trends and how they are unfolding in each jurisdiction within the region. Brookings and MWCOG will update the DMV Monitor and its findings regularly, spotlighting key trends and focus areas.

About the DMV Monitor

The DMV Monitor is a data interactive and set of analyses that track the economic and social trends in the Greater Washington, D.C., Maryland, and Virginia metropolitan area to help leaders and the public understand the effects of federal restructuring and other policies on the region and its households.

To provide as holistic an assessment as possible, the DMV Monitor covers seven aspects of the region's economy, summarized below. These indicators draw from both public and private data sources to examine effects across the 23-county metro area. To ensure timeliness, the DMV Monitor tracks data that can be updated on a monthly and quarterly basis. To provide proper context, the DMV Monitor compares the region's trends with those of the nation and other major metropolitan areas (those with populations of 1 million-plus people). The DMV Monitor includes county-level trends to illuminate how impacts vary across the region.

Given the focus on timeliness and geographic detail, the DMV Monitor is not encyclopedic. That said, new data elements may be added over time. Finally, DMV Monitor analyses will summarize trends in ways that will reveal both challenges and emerging opportunities in the region. For more information, see the methodological appendix.



The DMV Monitor benchmarks the region's performance across the following indicators:

Overall economy	Labor market and workforce	Innovation	Real estate	Destination and travel	Municipal services	Household well-being
Total jobs	Unemployment	Research grants	Office and retail vacancy	Hotel revenue	Transit ridership	Personal bankruptcy
Commercial bankruptcy	Job postings	Patent filings	Active homes for sale	Air travel	Medicaid enrollment	Credit-constrained population
Federal funding	WARN notices	Venture capital	Median home listing prices		SNAP participation	Cost of living
					Crime	

What follows is a summary of the current federal policy landscape, the DMV region's unique position in this moment, and the initial findings of the DMV Monitor. More detailed trends can be found in the data interactive. We hope the DMV Monitor offers ongoing insights that the region's leaders can use to adapt and work together in shaping the future of the Greater Washington economy.

Background and context

The Trump administration has made enormous headway in reducing the size of the federal bureaucracy, even as it has expanded federal reach in other ways. With the establishment ↗of the Department of Government Efficiency (DOGE), the White House has accomplished the following:

- **Laid off approximately 300,000 federal workers.** The White House moved swiftly to terminate jobs, prompting media organizations ↗, firms ↗, and nonprofits ↗ to track employment losses, including by agency. In total, there will be 300,000 ↗ fewer federal workers on payroll nationwide by the end of calendar year 2025, according to a Trump administration official, with most of the reductions taking place by September 30 (the date by which most deferred resignations go into effect).

- **Terminated over 13,000 federal contracts and over 15,000 federal grants.** According to a White House tracker ↗, these contract and grant cuts have yielded $59 billion and $44 billion in savings, respectively. While several investigative ↗ pieces ↗ have challenged these figures, it is nonetheless hard to ignore the impact of these cuts on public safety organizations ↗, humanitarian relief groups ↗, and health researchers ↗, to name a few.

- **Reduced office space.** To enact further savings, federal agencies have assessed potential relocations ↗ out of Washington, D.C., and shedding unneeded office space. To that end, the Department of Agriculture announced ↗ plans to move most of its headquarters staff to other cities, while Department of Housing and Urban Development is relocating ↗ to the suburbs. The administration has also ended ↗ some federal leases and posted a starting list ↗ of federal assets to sell.

The White House's drive to transform the federal government is likely to stick, and even expand over time. First, Congress has codified ↗ many of the president's executive actions through the passage of the One Big Beautiful Bill Act and the

Rescissions Act of 2025, which included $9 billion in spending cuts recommended by DOGE. Speaker Mike Johnson (R-La.) has also said that "multiple rescissions packages" ↗ may be coming. For its part, the Supreme Court issued ↗ a decision that allowed federal downsizing to continue, even as legal challenges ↗ and appeals continue. Emboldened, Trump administration officials tasked federal agencies over the summer to find further staffing cuts ↗, additional contracts ↗ to terminate, and digital services ↗ to streamline.

Beyond federal downsizing, there are other federal actions that could also exact unique consequences on the DMV region. From the National Guard deployment and immigration enforcement actions to the federal takeover of key assets such as Union Station ↗ and the Kennedy Center ↗, these actions could shape consumer spending and investment in the local economy.

The unique importance of the Greater Washington, D.C.-Maryland-Virginia area

The efforts underway to transform the federal government will have a disproportionate impact on the DMV region, which provides unique contributions to the nation.

First, the DMV region serves as the global headquarters of the U.S. government. As such, the federal government is a major employer. It clusters workers, firms, and other assets such as international embassies and global institutions, which make the region a hub for worldwide commerce and a place of stability and opportunity for families.

The federal government's success comes from attracting and cultivating talent with specialized knowledge and a passion for service—a human capital pool that is often shared across industries. As one piece of evidence, the DMV region is home to the second highest share of college graduates of any major U.S. metro area. Further, while federal workers are located all over the United States, one-fifth ↗ are concentrated in the DMV region, making it the most exposed ↗ to federal employment among major metro areas. Federal jobs in the DMV region are good-paying jobs ↗, fueling the growth of the region's middle class, especially in counties with the highest number ↗ of federal civilian workers, such as Prince George's County, Md., and Fairfax County, Va.

Through its procurement, the government catalyzes the growth of distinct suppliers in related sectors, especially in defense, IT, and professional and technical services. In fact, the share of all federal contracting in the United States is disproportionately concentrated in the DMV region, with two recent ↗ analyses ↗ showing that the federal government awarded approximately 25% of total FY 2023 national federal contracting dollars to entities located in the region.

Second, the DMV region is a major economic engine for the U.S. and the states of Maryland and Virginia. Thanks to these assets, the area is the sixth-largest economy in the U.S., and a driver of economic growth and revenue for Virginia and Maryland. In an update to Brookings analysis of metro area gross domestic product contributions to states, the DMV region is the largest economic engine in Virginia, generating 47.4% of the state's economic output. For Maryland, that share is 40.1%.

To read the full article, visit https://www.brookings.edu/articles/early-warning-signs-for-the-dc-regions-economy-amid-federal-downsizing/.

HORN POINT LABORATORY – CONSERVATION & RESTORATION OF THE CHESAPEAKE BAY

Horn Point Speaker Bios

David Bulova,
Virginia Secretary of Natural and Historic Resources

David Bulova has over three decades of professional experience in environmental planning. He currently serves as a project manager for WSP USA, an international engineering and environmental consulting firm. Bulova specializes in water resources policy, Chesapeake Bay restoration, program development, municipal and industrial stormwater permit compliance, strategic planning, stakeholder group facilitation, and stormwater finance. Prior to WSP, Bulova served as Director of Environmental Services for the Northern Virginia Regional Commission.

In 2005, Bulova was elected to represent the 11th District in the Virginia House of Delegates. The 11th District includes the City of Fairfax and parts of Fairfax County. In the House, he serves in key leadership roles, including chair of the General Laws Committee, chair of the Commerce, Agriculture, and Natural Resources subcommittee of the Appropriations Committee, and chair of the Chesapeake subcommittee of the Agriculture, Chesapeake, and Natural Resources Committee. He also serves on the Chesapeake Bay Commission, which he has chaired twice, and the State Water Commission. In addition, Bulova served as an elected member of the Northern Virginia Soil and Water Conservation District from 2004-2006.

In the General Assembly, Bulova has worked with stakeholders to advance legislation and funding aimed at conserving and restoring Virginia's natural resources. Key initiatives have included funding for the agricultural BMP cost-share program, upgrades to wastewater treatment facilities, management of invasive species, and a pay-for-outcomes pilot project to reduce pollution in the Chesapeake Bay. During the 2025 session, he partnered with environmental organizations, manufacturers, and water utilities to secure passage of bipartisan legislation designed to reduce PFAS contamination in one of Virginia's major drinking water sources. In 2019, VIRGINIAforever recognized Bulova with the Bridge Builder award for his contributions to natural resources stewardship.

Bulova and his wife Gretchen both grew up in Fairfax County and have three children. He received a BA in Government from the College of William and Mary and a Master of Public Administration from Virginia Tech. He is a 1997 graduate of the Sorensen Institute for Political Leadership. In their spare time, Bulova, Gretchen, and their youngest son, Grayson, enjoy hiking in Virginia's beautiful parks.

Josh Kurtz, Maryland Secretary of Natural Resources

Josh Kurtz is a lifelong outdoor enthusiast and conservationist, passionate about the beauty of the state of Maryland and all of the natural resources it offers. Under the Moore/Miller administration, Secretary Kurtz leads teams across the state, working to improve water quality and bay resilience, restore and conserve forested land, expand access to our state parks, monitor and slow the spread of invasive species, and ensure the state maintains sustainable fisheries. Kurtz previously served in leadership roles at the Chesapeake Bay Foundation and The Nature Conservancy in Maryland. By working closely with partners and other leaders, Kurtz has created and led advocacy campaigns to promote conservation and environmental responsibility in both the Maryland General Assembly and the Washington, D.C. City Council. Kurtz lives in Crownsville, Maryland, with his wife, Samantha, and their son. He holds a master's degree in public policy from George Mason University and a bachelor's degree in wildlife conservation from the University of Delaware.

Serena McIlwain, Maryland Secretary of the Environment

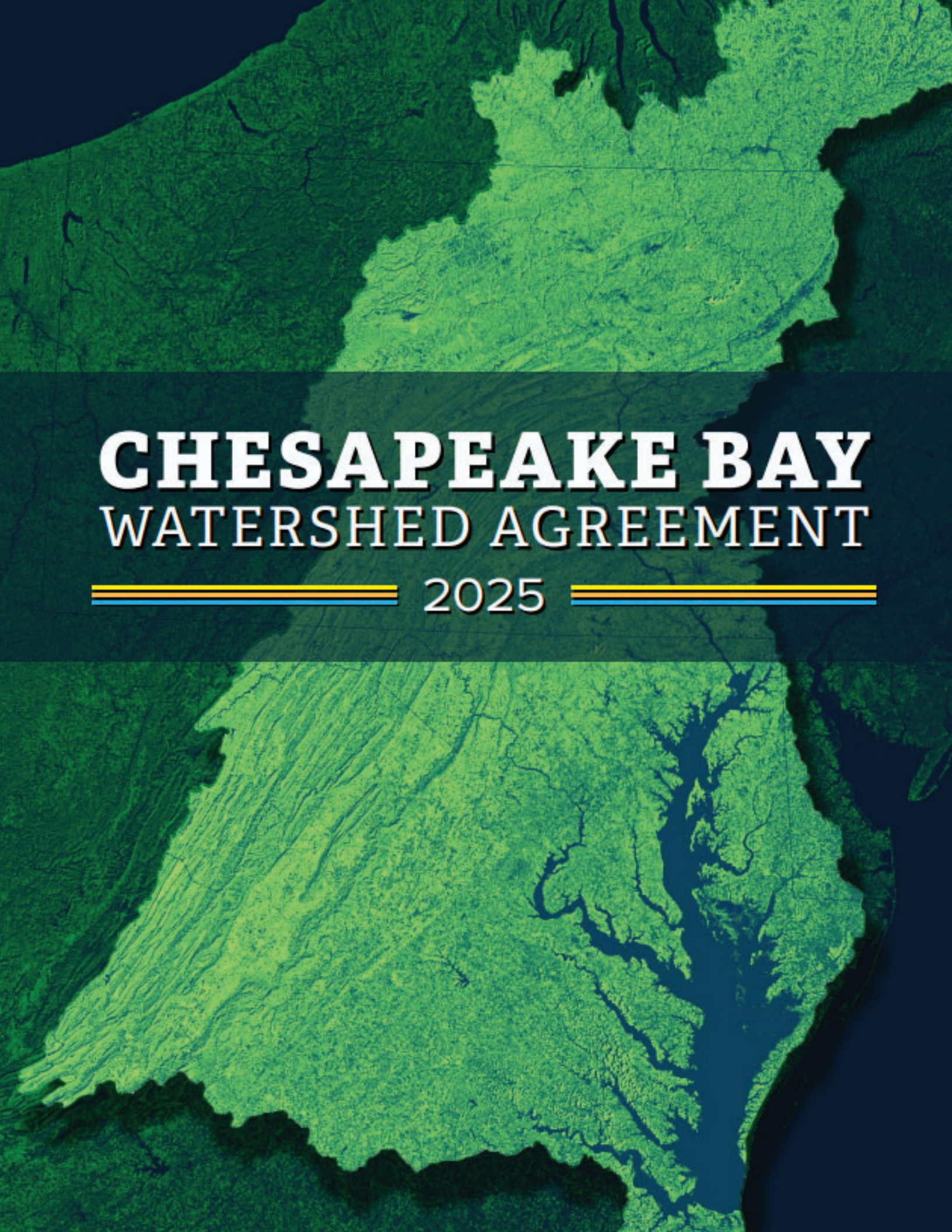
Serena McIlwain was confirmed as the Maryland Department of the Environment’s 11th Secretary on March 2, 2023. Prior to that, Secretary McIlwain was the Undersecretary and Chief Operations Officer at the California Environmental Protection Agency. A native of the Washington Metro area, Sec. McIlwain also worked for the federal government as a Senior Executive for numerous Executive Branch agencies, including the U.S. Environmental Protection Agency as Assistant Regional Administrator for Region 9 in San Francisco, California, Performance Improvement Officer and Director of Continuous Improvement at U.S. EPA Headquarters, and Chief Operating Officer and Deputy Assistant Secretary at the U.S. Department of Energy. Sec. McIlwain holds two Master’s degrees. She received a Master of Public Administration from George Mason University and a Master’s degree in Administration & International Studies from Central Michigan University.

David Nemazie, University of Maryland Center for Environmental Science Vice President for Government Relations and Chief Operating Officer

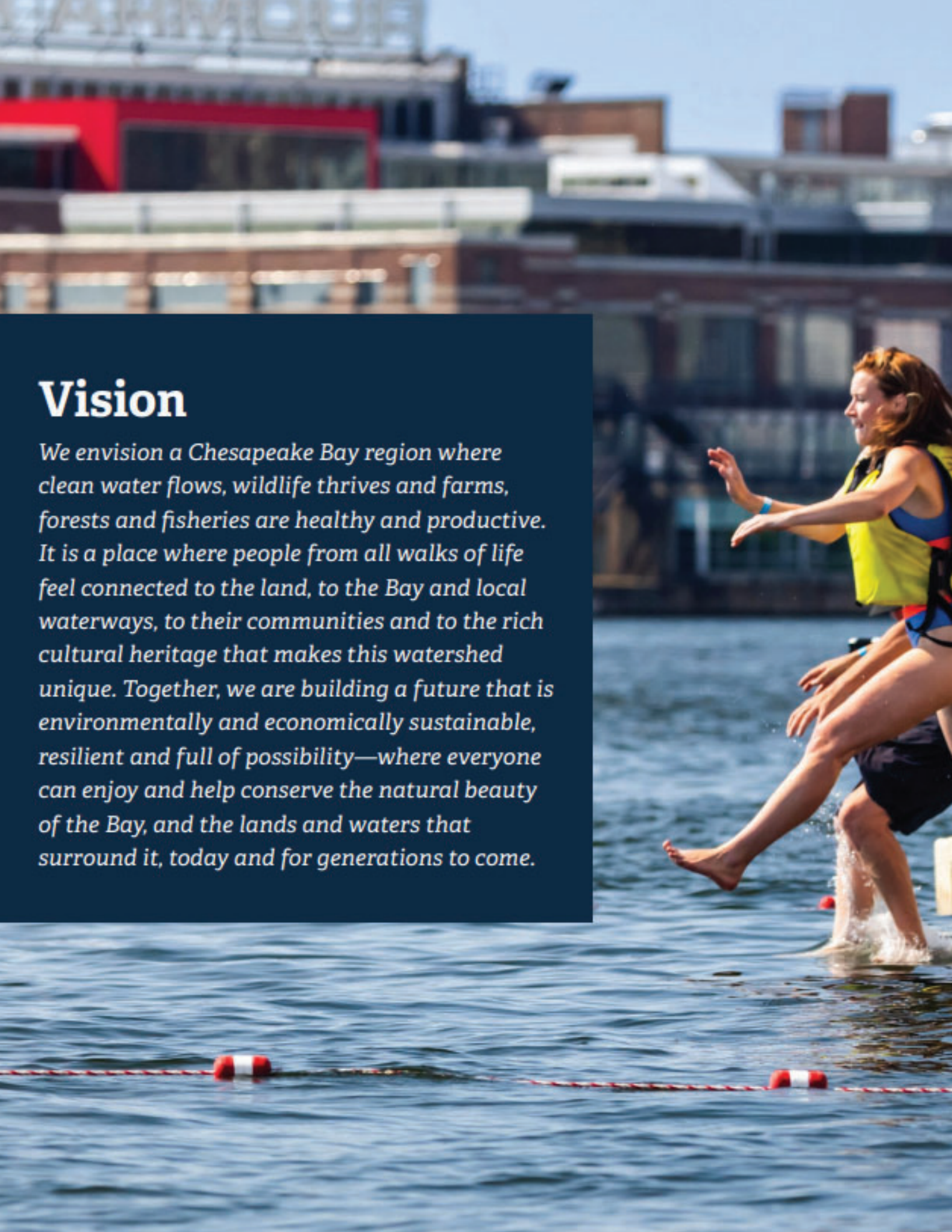
Dave Nemazie has extensive experience in aquatic research, science and policy interface, university administration, partnership development, and public relations. He has developed new partnerships with the public, private, and non-profit sectors, locally as well as internationally. He is passionate about environmental science: both communicating its relevance to the public and its impact on the decision-making process. He received a MS in marine sciences while studying the ecology of zooplankton in Chesapeake Bay through the University of Maryland College Park.

Charles Rice, Charles County Planning Director

Charles Rice began his professional career as a Natural Resources Biologist with the Maryland Department of Natural Resources from 1994 to 1998, focusing on shellfish monitoring and environmental assessment. In 1998, Rice joined Charles County Government as Program Manager for Environmental Programs, a role he has held continuously for nearly 28 years. His responsibilities have included overseeing environmental programs, land use planning, and growth management initiatives. Rice leads the county's planning and zoning processes, ensuring sustainable growth, resource protection, and compliance with state and local regulations. Rice earned a Bachelor of Arts in Biology/Biological Sciences from St. Mary's College of Maryland.



CHESAPEAKE BAY
WATERSHED AGREEMENT
2025



Vision

We envision a Chesapeake Bay region where clean water flows, wildlife thrives and farms, forests and fisheries are healthy and productive. It is a place where people from all walks of life feel connected to the land, to the Bay and local waterways, to their communities and to the rich cultural heritage that makes this watershed unique. Together, we are building a future that is environmentally and economically sustainable, resilient and full of possibility—where everyone can enjoy and help conserve the natural beauty of the Bay, and the lands and waters that surround it, today and for generations to come.

Table of Contents

Preamble

The Chesapeake Bay watershed is one of the most extraordinary places in the United States of America, spanning six states and the District of Columbia. As the nation's largest and one of the most productive estuaries in the world, the Chesapeake Bay and its vast network of more than 200,000 miles of streams, creeks and rivers hold tremendous ecological, cultural, economic, historic and recreational value for the more than 18 million people who live, work, learn and play in the region.

To restore, conserve and protect this national treasure, the Chesapeake Bay Program partnership was formed in 1983 when the governors of Maryland, Virginia and Pennsylvania, the mayor of the District of Columbia, the chair of the Chesapeake Bay Commission and the administrator of the Environmental Protection Agency signed the first *Chesapeake Bay Agreement*. That initial *Chesapeake Bay Agreement* recognized the "historical decline of living resources" in the Chesapeake Bay and committed to a cooperative approach to "fully address the extent, complexity and sources of pollutants entering the Bay." For more than 40 years, this regional partnership has been recognized as one of the nation's premier estuarine restoration, conservation and protection efforts, implementing policies, engaging in scientific investigation and coordinating actions among the states, the District of Columbia and the federal government.

Elected officials from Virginia, Maryland and Pennsylvania sign the first Chesapeake Bay Agreement in 1983. This pledge launched our cooperative effort to restore the Bay.

Chesapeake Bay Program partners have made much progress in that time, and there is still more to do—especially in the face of continued challenges such as changes in population, loss of farm and forest lands, declining fish and wildlife resources, threats to biodiversity, emerging contaminants and changing environmental conditions. Through the *Chesapeake Bay Watershed Agreement*, the partnership remains committed to restoring, protecting and conserving the Bay and its watershed through efforts based in and guided by science, and responsive to the lessons learned from our past and shared experiences.

One of the most important lessons the partners have learned from the past four decades is that although watershed-wide partnerships can help to coordinate and catalyze progress, implementation is locally inspired and driven. Local governments, tribes, communities, farmers, businesses, watershed groups and other nongovernmental organizations are key partners in our work. Working together to engage, empower and facilitate these partner networks will leverage resources and ensure better outcomes for all watershed communities.

One of the most important lessons the partners have learned from the past four decades is that although watershed-wide partnerships can help to coordinate and catalyze progress, implementation is locally inspired and driven.

The partnership's experience with watershed restoration, conservation and protection efforts has shown that measurable progress, coupled with clear accountability, yield the most effective results. The partnership continues to embrace new ideas, technologies and policies that will help meet our goals. We are committed to improving accountability, transparency and outreach to strengthen and increase public confidence in our work.

The 1983 *Chesapeake Bay Agreement* laid the foundation for a cooperative program that included four jurisdictions along with the Chesapeake Bay Commission and the federal government. This initial one-page document was followed by two more comprehensive voluntary agreements in 1987 and 2000. In 2010, at the request of the Bay jurisdictions, the Environmental Protection Agency established the Chesapeake Bay Total Maximum Daily Load (Bay TMDL), which calculated the nitrogen, phosphorus and sediment reductions needed at that time to restore water quality in the Bay. This fulfilled consent decree commitments in Virginia and the District of Columbia from the late 1990s and was a keystone commitment of a federal strategy to meet Executive Order 13508 to restore and protect the Bay. Chesapeake Bay Program partners have been working towards meeting the Bay TMDL for the past 15 years and will continue to do so. Since 2014, the *Chesapeake Bay Watershed Agreement* has included all seven jurisdictions in the watershed, with New York, West Virginia and Delaware joining the original signatories as full partners in the Chesapeake Bay Program and the Chesapeake Executive Council. Numerous federal agencies also continue their long-standing commitment to restoring, conserving and protecting the Chesapeake Bay.

Volunteers plant trees at Delaware's Blackbird State Forest. Engaging local and state partners in efforts to restore tree cover drives progress toward thriving habitats and clean water.

This *Chesapeake Bay Watershed Agreement* acknowledges that the partnership cannot address every issue at once and that progress must be made in a strategic manner, focusing on efforts that will achieve the most meaningful and cost-effective results. Watershed restoration, conservation and protection are integral drivers of the region's economy, health and culture. To that end, the partnership is committed to achieving success while maximizing the community and economic benefits across the watershed. The signatories to this voluntary agreement commit to achieving the restoration, conservation and protection of the Chesapeake Bay watershed, its water, habitats, fisheries and wildlife for the benefit of all people living in and visiting this nationally treasured watershed.

In 2040, the partnership will come together to formally assess our progress and amend this agreement to ensure work reflects our shared Vision.

Principles

The Chesapeake Bay Program commits to operate under the following principles, which reflect the partners' collective, core values. The principles guide the work of the partnership in our governance and as we develop policy and take action to achieve the Chesapeake Bay Watershed Agreement's *Goals and Outcomes. The partnership will:*

Science

- Use place-based approaches, where appropriate, to target specific geographic areas and produce recognizable benefits to local communities while contributing to larger ecosystem goals.
- Maintain and enhance a coordinated watershed-wide monitoring, modeling and research program to support decision-making, track progress and assess the effectiveness of management actions.
- Integrate social science holistically throughout the partnership to support adaptive management, more effectively engage with communities and incentivize individual and collective behaviors that support partnership goals.
- Adaptively manage at all levels of the partnership to foster continuous improvement informed by the best available science and strong working relationships.
- Use science-based decision-making, consider Indigenous and local knowledge, and seek out innovative technologies and approaches to support sound management decisions in a changing system.

Restoration & Conservation

- Achieve Goals and Outcomes in a measurable and timely way and at the least possible cost to the public.
- Conserve working lands and support economically viable forests and farms to best position landowners to help protect the Chesapeake Bay.
- Acknowledge, support and engage local governments and other local entities in watershed restoration, conservation and protection activities.
- Anticipate and respond to changes in the landscape and environmental conditions, including long-term trends in sea level, temperature, precipitation, land use and other variables.

Partnership

- Represent the interests of all communities throughout the watershed fairly and effectively.
- Meaningfully engage the public to foster collaboration and grow the partnership to support and carry out the restoration, conservation and protection activities necessary to achieve the Goals and Outcomes of this *Chesapeake Bay Watershed Agreement*.
- Facilitate outreach to and welcome participation by all communities regarding the partnership's activities, decisions and implementation.
- Collaborate to achieve the Goals and Outcomes of this *Chesapeake Bay Watershed Agreement*.
- Operate with transparency and accountability in program decisions, policies, actions and reporting on progress to strengthen public trust and confidence in our efforts.
- Strive for consensus across the partnership when making decisions.
- Include tribal nations in the partnership in a manner that appropriately considers their unique status as independent sovereign nations and as original stewards of the land.

Goals & Outcomes

The Goals and Outcomes contained in this section are collective commitments made by the signatories to advance the restoration, conservation and protection of the Chesapeake Bay ecosystem and its watershed. The Goals articulate the desired high-level aspects of the partners' Vision. The Outcomes lay out benefits and results that directly contribute to the achievement of each Goal. Targets contribute to achieving the Outcomes and are as specific, measurable and time bound as possible. Targets are reflected as a bulleted list under each Outcome.

Details that articulate the actions necessary to achieve the Goals, Outcomes and Targets are laid out in Management Strategies, further described in the last section of this *Watershed Agreement*. This work will require efforts from many people, including all levels of government, academic institutions, nongovernmental organizations, watershed groups, farmers, foresters, businesses and individuals. Local governments will continue to play a unique and critical role in helping the partnership realize this shared Vision for the Chesapeake Bay.

> *The signatories recognize that all aspects of the ecosystem are connected and that these Goals and Outcomes support the health and protection of the entire Bay watershed.*

While the Goals and Outcomes are described by separate topic areas, the signatories recognize that all aspects of the ecosystem are connected and that these Goals and Outcomes support the health and protection of the entire Bay watershed. Improvements in habitat and water quality lead to healthier wildlife and fisheries. Environmentally—including agriculturally—literate people are more engaged stewards of the Chesapeake Bay's healthy watersheds. Better water quality means swimmable, fishable waters for watershed residents and visitors. Conserved lands preserve the region's cultural heritage, agricultural viability, military readiness and nature-based capacity for pollution prevention and reduction. Increased public access to the Bay and its tributaries inspires people to care for critical landscapes and honor the region's heritage and culture. Healthy fish and shellfish populations support a vibrant economy for a spectrum of related industries.

As the signatories identify new opportunities and concerns, Goals, Outcomes or Targets may be adopted or modified. Any changes or additions to Goals will be approved by the Chesapeake Executive Council. The Principals' Staff Committee will approve changes or additions to Outcomes and Targets. Proposed changes to Goals, Outcomes and Targets, or the addition of new ones, will be open for public input before being finalized. Final changes or additions, and progress toward meeting Outcomes and their Targets, will be made publicly available.

The Four Interconnected Goals of Watershed Restoration

Mummichogs thrive in Maryland's Severn River Sanctuary. Underwater grasses are the foundation of the Chesapeake Bay food web, supporting a range of forage species and predators.

Thriving Habitat, Fisheries & Wildlife

The fisheries and wildlife of the Chesapeake Bay watershed are the backbone of the region's ecology, economy and heritage. However, impaired water quality, invasive species and habitat loss place pressure on fish and wildlife populations across the region. Our increasing use of natural resources can fragment and degrade the habitats on which they depend. Maintaining sustainable fisheries and restoring habitat for native and migratory species, while adapting to the challenges of changing environmental conditions, will support a strong economy, recreation and a resilient ecosystem.

Goal

Protect, restore and sustain fisheries and wildlife, as well as the network of land and water habitats they depend on, to promote a balanced and resilient ecosystem and support local economies and recreational opportunities.

Outcomes

Blue Crabs

Achieve a sustainable Bay-wide blue crab fishery through cross-jurisdictional coordination that supports healthy blue crab populations and thriving fish communities.

- Maintain blue crab abundance and harvest rate targets as determined by the most recent benchmark status assessment.
- Achieve cross-jurisdictional coordination by annually evaluating and communicating blue crab population status to resource managers and the public through the Blue Crab Advisory Report.

Brook Trout

Protect and enhance brook trout within the Chesapeake Bay watershed by increasing occupancy, abundance and resilience to changing environmental conditions.

- By 2040, increase brook trout occupancy by 1.5% (233 miles) in watersheds supporting healthy populations while achieving no net loss in other watersheds.
- By 2040, increase abundance at 10 long-term monitoring sites.
- By 2040, reduce identified threats by 15% to increase brook trout resilience in watersheds supporting healthy populations.

Restoring headwater streams in places like Pendleton County, West Virginia, expands cold-water habitat for brook trout.

Fish Habitat

Achieve and maintain suitable shallow water fish habitat in tidal and nontidal areas for key species through focused water quality conservation and restoration improvements informed by assessments of habitat and fisheries information.

- Improve the quantity and quality of tidal shallow water fish habitat above baseline conditions as determined by a Bay-wide assessment of fish habitat conditions completed in 2026.
- Increase the consideration of forage species in fishery management decision-making for key predators by developing annual reports of prey status as good, uncertain or poor.
- Improve the quality of nontidal fish habitat by continuing to assess the overall condition and suitability in the watershed to support healthy communities and inform effective restoration, conservation and management actions.
- By 2040, improve 270 stream miles of waters impaired by acid mine drainage to continually increase available habitat supporting fish populations.
- Develop comprehensive freshwater mussel conservation plans for 10 tributaries and implement key recommendations from at least five of these plans by 2040.

Blue crabs support commercial and recreational fisheries and are managed across state lines.

The oyster aquaculture industry supports local economies and contributes to clean water.

Fish Passage

Improve habitat and water quality while creating more resilient and sustainable populations of fish and other aquatic organisms by removing barriers throughout the Chesapeake Bay watershed's coastal and freshwater rivers and streams.

- Restore passage and connectivity to at least 150 miles of aquatic habitat every two years.

Oysters

Increase ecosystem benefits from oysters through reef habitat restoration, sustainable harvest and aquaculture.

- By 2040, restore or conserve at least 2,000 additional acres of oyster reef habitat concentrated primarily in restoration focus areas to provide ecosystem service benefits.
- Maintain sustainable oyster abundance through oyster fisheries and aquaculture practices.
- Maintain reefs established under the 2014 *Chesapeake Bay Watershed Agreement* to achieve restoration success metrics.

Stream Health

Improve and protect local stream health and function, including their living resources and ecosystem services throughout the watershed, using the best available science to inform land management, planning and conservation.

- Improve the health and the ecological integrity of at least an additional 4,340 (approximately 3%) nontidal stream miles every six years.

Submerged Aquatic Vegetation (SAV)

Sustain and increase the habitat and ecosystem benefits of SAV in the Chesapeake Bay. Achieve and sustain the outcome of 196,600 acres of SAV Bay-wide necessary for a restored Bay.

- Measure progress against the following targets for each salinity zone:
  - Tidal Fresh: 21,700 acres.
  - Low Salinity: 13,100 acres.
  - Medium Salinity: 126,000 acres.
  - High Salinity: 35,800 acres.
- Measure progress toward this Outcome against interim targets of 90,000 acres by 2030, 95,000 acres by 2035 and 100,000 acres by 2040.

A wetland preserve in upstate New York connects visitors with wildlife and native plants.

Climbers Run flows through Pennsylvania to join the Susquehanna River.

Wetlands

Restore, create, enhance and protect wetlands to support people and living resources, including waterbirds and fish, and provide water quality, flood and erosion protection, recreation and other valuable benefits to people.

- Restore or create at least 3,000 acres and enhance 15,000 acres of tidal wetlands by 2040, focusing on habitats that support populations of waterbirds and represent healthy wetlands across the watershed.
- Restore or create at least 3,000 acres and enhance 15,000 acres of nontidal wetlands by 2040, focusing on habitats that support populations of waterbirds and represent healthy wetlands across the watershed.

The Susquehanna River flows through New York and Pennsylvania to deliver half of the Chesapeake Bay's fresh water near Havre de Grace, Maryland.

Clean Water

Clean water is the foundation of healthy fisheries, habitats, farmlands and communities across the watershed. However, excess nitrogen, phosphorus, sediment and toxic contaminants can degrade our waterways, harm wildlife and pose risks to human health. Changes in the landscape and environmental conditions may exacerbate these impacts. Chesapeake Bay Program partners use a variety of tools to reduce excess nitrogen, phosphorus and sediment, address toxic contaminants and monitor progress toward achieving water quality standards. These actions support sustainable economies that depend on a healthy Bay and watershed.

Goal

Reduce pollutants entering the Bay and its rivers to achieve the water quality necessary to support aquatic life and wildlife, and support human health.

Outcomes

Reducing Excess Nitrogen, Phosphorous & Sediment

Implement and maintain practices and controls to reduce nitrogen, phosphorus and sediment. These reductions are necessary to achieve the applicable water quality standards, as described in the Bay TMDL. Those water quality standards support living resources and protect human health, as required by the Clean Water Act.

- Through 2030, signatories will continue to accelerate completion of all interim water quality planning targets through implementation of Chesapeake Bay Watershed Implementation Plans, two-year milestone commitments and other innovative strategies to achieve and maintain reduced levels of nitrogen, phosphorus and sediment.
- By December 31, 2030, revise the planning targets approved by the Principals' Staff Committee for nitrogen, phosphorus and sediment, incorporating the latest watershed modeling, monitoring data and research findings, and develop new or amended Watershed Implementation Plans to meet the updated targets by 2040.
- Demonstrate net reductions in nitrogen, phosphorus and sediment through multiple lines of evidence, including modeling and monitoring data.

Toxic & Emerging Contaminants

Reduce the amount and effect of toxic contaminants, such as PCBs, plastics, mercury and PFAS, on the waters, lands, fisheries, wildlife and communities of the Chesapeake Bay watershed through an increased understanding of their impacts and mitigation options.

- Promote information sharing between researchers, program managers and policymakers on the lessons learned, best practices and most up-to-date science, policy and communications around the toxic contaminants impacting the Chesapeake Bay watershed.

Students paddle on the Anacostia River, where partners are working to clean up contaminants.

Water Quality, Standards Attainment & Monitoring

Measure changing water quality conditions by maintaining monitoring networks and tracking our collective progress toward achieving clean water throughout the Chesapeake Bay and its watershed.

- Maintain full core monitoring network operations (i.e., nontidal water quality, SAV, tidal water quality, benthic and community science) annually to support analysis and communication of water quality loads, trends and criteria attainment.
- Develop and expand partnership-approved approaches for assessing whether water quality criteria are being met for all designated uses. For dissolved oxygen criteria, establish an approved method by 2028 and apply the method for data analysis and reporting by the end of 2030.
- Maintain or exceed the rate of improvement in the water quality standards attainment indicator relative to the 1985-2022 baseline.
- Analyze and report status/loads, trends and factors affecting those trends for nontidal and tidal water quality.

Monitoring water quality in the Bay and its tributaries allows us to observe environmental changes, track the progress of our restoration efforts and improve our understanding of the natural world. Our monitoring program is a cooperative effort by federal agencies, watershed jurisdictions, academic institutions and local partners. Left, Kerry Maguire of the Maryland Department of Natural Resources prepares to drop a monitoring instrument into the Bay. Right, Dr. Les Hasbargen, a professor at SUNY Oneonta, examines invertebrates at a monitoring site on Butternut Creek in Otsego County, New York.

Conserved lands like Pennsylvania's Pinchot State Forest protect waterways while providing recreational opportunities like hunting and fishing.

Healthy Landscapes

The well-being of the Chesapeake Bay depends on the health of the lands that make up its watershed. As communities within the region continue to grow, the demand for land and resources can put our waters and habitats at risk. Encouraging sound land use management and conservation of areas with ecological, historic and cultural value can reduce or prevent pollution, maintain healthy ecosystems and ensure the health of forests, farms and open spaces, all while supporting growing economies and sustainable food production. These cost-effective strategies will help communities adapt to changing environmental conditions and ensure clean water for future generations.

Goal

Conserve, protect, restore and enhance landscapes of ecological, economic, recreational and cultural value to improve water quality, provide habitat for wildlife and increase resilience.

Outcomes

Adapting to Changing Environmental Conditions

Increase the capacity for pursuing solutions, including those that are nature-based, to improve planning and responses to changing conditions while balancing long-term resiliency of watershed communities, economies and ecosystems.

- By 2040, support at least seven sub-watershed areas with knowledge-sharing and technical assistance to identify adaptation options with a preference for nature-based solutions. These solutions include restoration and protection projects that will help address risks to people, infrastructure and habitats from changes in temperature, precipitation and landscapes.
- By 2040, inform and lead to an increase in the implementation of the identified adaptation options that prioritize and integrate nature-based solutions in the above sub-watershed areas.

The city of Lancaster, Pennsylvania, uses rain gardens to calm traffic and manage stormwater. Nature-based stormwater solutions can reduce pollution and make cities more sustainable.

Healthy Forests & Trees

Conserve, manage and restore forests and tree cover to maximize benefits for water quality, habitat and people throughout the watershed, with a particular focus on riparian areas and communities.

- Conserve tree canopy within communities by reducing the rate of loss of existing canopy and planting and maintaining 45,000 acres of trees by 2040 to achieve a net gain in canopy over the long-term.
- Conserve riparian forest by reducing the rate of loss of existing buffers and planting and maintaining 7,500 acres of buffers annually to achieve no less than 71.5% riparian forest cover by 2040 and 75% riparian forest cover over the long-term.
- Achieve a net gain in forests over the long-term by reducing the rate of forest conversion to other land uses by 33%, permanently protecting a total of 9 million acres of forested land, and planting, maintaining and managing 202,000 acres of new forests by 2040.

Land Use Planning & Decision Support

Develop and disseminate relevant and actionable land use information in consultation with local governments, to organizations and communities involved in local and regional land use planning. This information should include past, present and future conditions, as well as the potential environmental and socioeconomic consequences of changing conditions.

- Develop at least five use cases annually, informed by and provided at the county, watershed or municipal scale to inform land use planning and decisions and maintain the ecological integrity of watersheds supporting good stream health. Use cases can include watershed protection, aquatic connectivity, stormwater, tree canopy, agricultural preservation or redevelopment.
- Highlight at least two widely applicable land use cases annually to showcase best practices and share this information with local governments and partners through diverse communications products.

Protected Lands

Permanently protect critical landscapes within the Chesapeake Bay watershed to protect water quality, enhance biodiversity, support sustainable livelihoods, bolster local economies, honor cultural heritage and protect the mission and resilience of military installations.

- By 2040, permanently protect at least an additional 2 million acres of land above the 2025 baseline of 9.3 million acres. The 2 million acres will include specific targets for: riparian forests; wetlands (including migration corridors); natural areas supporting healthy streams; agricultural lands; tribal homelands; and urban and community greenspace.

Visitors to Maryland's Patapsco Valley State Park enjoy the swimmable waters of the Patapsco River.

Engaged Communities

The long-term success of the Chesapeake Bay restoration and conservation effort depends on individuals and communities throughout the watershed understanding their connection to the local environment and making choices that support its health in the face of changing environmental conditions. Stewardship begins with facilitating meaningful engagement, increasing access to outdoor recreation, providing learning opportunities to students, adults and job seekers, and empowering local decision-makers to support conservation actions.

Goal

Engage and grow a community of local stewards and leaders through education, recreation and professional opportunities to ensure the long-term success of restoration and conservation efforts.

Outcomes

Local Government Leadership

Increase knowledge and support the capacity of local government leaders in decision-making, such as land-use planning, to implement local actions that advance the *Chesapeake Bay Watershed Agreement*.

- Engage directly (e.g., roundtable discussions) with at least 400 local government leaders annually.
- Engage indirectly (e.g., newsletters) with at least 4,000 local government leaders annually.

Public Access

Create new and enhance existing public access sites in the Chesapeake Bay watershed through a combination of actions aimed at improving recreational opportunities and accessibility while addressing barriers to access by increasing the number, quality and geographic distribution of sites.

- By 2040, add at least 100 new sites providing access to natural lands and waters with a strong emphasis on providing opportunities for recreation where feasible.
- By 2040, improve at least 100 of the 1,451 existing public water access sites by upgrading or maintaining site grounds and structures, and expanding the range of active and passive recreation opportunities such as paddling, boating, trails, courts, piers, wildlife viewing and picnic areas.
- By 2040, improve at least 40 of the existing public water access sites by adding Americans with Disabilities Act (ADA) or Architectural Barriers Act (ABA) accessible features.
- Increase access to existing urban and community greenspaces identified in the protected lands dataset.

School District Environmental Literacy Planning

Increase the number of school districts that have policies and practices in place that support environmental education and sustainable schools.

- By 2040, reach all jurisdictional targets for the number of public school districts that are well prepared to deliver a comprehensive and system-wide approach to environmental literacy.

Stewardship

Increase the public's participation in stewardship actions that contribute positively to lands, waters, wildlife, fisheries and communities throughout the Chesapeake Bay watershed.

- Through 2040, build the capacity of leaders in the community and environmental professionals with the social science data, technical assistance and support needed to develop, improve and carry out individual- and community-level stewardship programs, including those that will help advance *Chesapeake Bay Watershed Agreement* Goals and Outcomes.

Student Environmental Literacy Experiences

Increase the number of students who participate in inquiry-based environmental literacy instruction with the aim of each student receiving at least one Meaningful Watershed Educational Experience, or MWEE, in elementary, middle and high school.

- By 2040, reach jurisdictional targets to result in at least 75% of public school students being enrolled in a school district that offers a MWEE for all students.

Children participate in an educational program in Washington, D.C. Bringing students outdoors fosters connections to the natural world and plants the seeds of environmental stewardship.

Workforce

Increase the ability of all job seekers in the watershed to understand, participate and succeed in career pathways that positively support the Chesapeake Bay watershed.

- By 2040, inform and grow implementation of strategies that help students, educators and job seekers become aware of and understand environmental careers, and the in-demand skills and pathways to access these opportunities.
- By 2040, increase the number of postsecondary institutions and training providers offering industry-recognized credentials that support *Chesapeake Bay Watershed Agreement* Goals and Outcomes.
- By 2040, engage employers to support greater hiring and retention of workers trained in fields necessary to support *Chesapeake Bay Watershed Agreement* Goals and Outcomes.

Management Strategies

Within 18 months of revising the *Chesapeake Bay Watershed Agreement*, the Chesapeake Bay Program will update or develop Management Strategies for the Outcomes and their Targets that support the Goals of this *Watershed Agreement*. These strategies shall outline the means for accomplishing each Outcome and its Targets as well as monitoring, assessing and reporting progress and coordinating actions among partners and stakeholders as necessary. Addressing and accounting for changing environmental conditions is critical to successfully managing to achieve Outcomes and shall be an explicit consideration in preparing these strategies. Management Strategies shall also describe how signatories, other state and federal agencies, local governments, Indigenous representatives, nonprofit and private partners are engaged; where actions, tools, financial support and technical assistance are needed to empower local governments and others to do their part; and what steps are necessary to facilitate greater participation in achieving the Outcome.

Participation in developing Management Strategies or in the achievement of Outcomes varies by signatory based on differing priorities across the watershed. This participation may include commitments such as sharing knowledge, data or information, educating the public, working on future legislation and developing or implementing programs or verified practices. Management Strategies, which are aimed at implementing actions to achieve Outcomes, shall identify participating signatories and other stakeholders, including local governments and nonprofit organizations, and will be implemented in six-year periods.

The signatories and other partners shall thereafter update and/or modify such commitments every six years. The Chesapeake Bay Program will report progress to the public and update work plans on a shorter-term basis for each Outcome in accordance with adaptive management. Specific Management Strategies will be updated in consultation with stakeholders, organizations and other agencies, and will include a period for public input and review prior to final adoption.

Management Strategies may address multiple Outcomes if deemed appropriate. The Chesapeake Bay Program will adopt a six-year cycle to re-evaluate and update strategies as necessary, with attention to changing environmental and economic conditions. Partners may identify policy changes to address these conditions and minimize obstacles to achieve the Outcomes.

Stakeholder input will be incorporated into the development and reevaluation of each of the strategies. The Chesapeake Bay Program will continue to make these strategies and reports on progress available to the public in a transparent manner on its websites and through publicly accessible partnership meetings.

Management Strategies will be submitted to the partnership's leadership for review. If the leadership determines that any strategy or plan developed prior to the revision of this *Watershed Agreement* meets the requirements of a Management Strategy as defined above, no new strategy needs to be developed.

Affirmation & Signatories

As Chesapeake Bay Program partners, we recognize the need to accelerate implementation of actions necessary to achieve the Goals and Outcomes outlined in this document and to realize our shared Vision of a healthy and vibrant Chesapeake Bay watershed.

As Chesapeake Bay Program partners, we acknowledge that this *Watershed Agreement* is voluntary and subject to the availability of appropriated funds. This *Watershed Agreement* is not a contract or an assistance agreement. We also understand that this *Watershed Agreement* does not preempt, supersede or override any other law or regulation applicable to each signatory.

We, the undersigned members of the Chesapeake Executive Council, reaffirm our commitment to support the Goals of this *Chesapeake Bay Watershed Agreement* and to work cooperatively in its implementation. We agree to work both independently and collaboratively toward the Goals and Outcomes of this *Watershed Agreement* and to implement specific Management Strategies to achieve them. Everyone in this great watershed is invited to join with the partnership, uniting as a region and embracing the actions that will lead to success.

On December 2, 2025, the Chesapeake Executive Council approved significant modifications to this *Watershed Agreement*. As these modifications revise the 2014 *Chesapeake Bay Watershed Agreement* rather than create a new one, the signatures from June 16, 2014, still stand as approvals for this document.

For the Chesapeake Bay Commission

For the State of Delaware

For the District of Columbia

For the State of Maryland

For the Commonwealth of Pennsylvania

For the State of New York

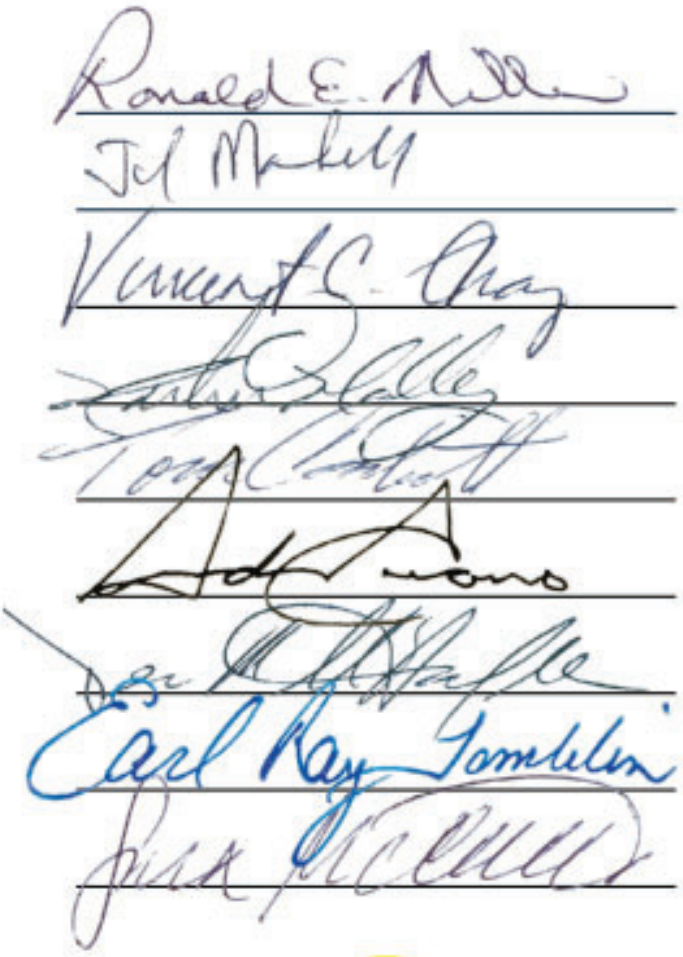
For the Commonwealth of Virginia

For the State of West Virginia

For the United States of America

On behalf of the Federal Government and the Federal Leadership Committee for the Chesapeake Bay:

- U.S. Environmental Protection Agency
- U.S. Department of Agriculture
- U.S. Department of Commerce
- U.S. Department of Defense
- U.S. Department of Homeland Security
- U.S. Department of the Interior
- U.S. Department of Transportation



Chesapeake Bay Program

Science. Restoration. Partnership.

https://www.bayjournal.com/news/fisheries/oyster-farming-co-op-earns-money-from-maryland-county-to-help-reduce-pollution/article_41d14ed4-95a9-11ed-a3b9-03633a4b985f.html

Oyster farming co-op earns money from Maryland county to help reduce pollution

Timothy B. Wheeler

Jan 23, 2023

Billy Rice tongs oysters from the Wicomico River in Charles County, MD, as Kevin Warring looks on. Rice and Warring are members of an oyster farming co-op that is earning money by providing water quality credits for the county.

Dave Harp

Sunlight glinted off the water as Billy Rice stood on the gunwale of *Miss Jill*, his 24-foot Chesapeake Classic boat. Gripping the wooden handles of his scissors-like oyster tongs, he repeatedly worked them open and shut.

From the murky depths of the Wicomico River came a scraping sound as the teeth in the metal claws of the tongs raked up shells lying on the bottom.

“Yessir! That looks pretty,” exclaimed Kevin Warring as Rice lifted the tongs out of the water and deposited a batch of muddy oysters on the boat. Nine of the bivalves clung together in a clump that Rice said watermen call a “flower.”

Those oysters represent a new wrinkle in the centuries-old business of harvesting the Chesapeake Bay’s once-bountiful shellfish. Rice and Warring are members of an unusual oyster farming cooperative in Charles County, MD. They and the other 10 co-op members are raising oysters on 28 acres of leased bottom in the Wicomico, a Potomac River tributary.

There’s nothing out of the ordinary about farming oysters that way. There are nearly 480 oyster farming leases in Maryland, and more than three-fourths of them are for raising bivalves on the bottom. Many are held by watermen looking to supplement what they can forage in the wild from public waters.

But what’s sending ripples across the Bay area is that the co-op is getting paid to plant oysters. In July 2022, Charles County struck a deal with the co-op, agreeing to annually pay at least $53,000 for the next eight years to cover its costs for planting fresh batches of hatchery-spawned oysters. Aquaculture operations generally must come up with their own operating capital.

The co-op still gets to harvest and sell the oysters when they’ve grown to marketable size after two or three years. What the county expects to get out of the deal are water-quality credits that those oysters can earn from the state of Maryland for removing nutrients — nitrogen and phosphorus — from the water as they feed and grow.

It’s a novel arrangement, which advocates hope will inspire other deals in a so-far moribund market for nutrient removal credits that oyster farmers can earn.

“It seemed like not just a win-win, but a win-win-win situation,” said Mark Belton, Charles County’s administrator and a former secretary of Maryland’s Department of Natural Resources. The nutrient removal credits will help the county meet its regulatory obligations in the Bay cleanup, he said, while the county is helping to sustain a fishing industry that’s an important part of the local culture.

"Plus, it's a food security issue," Belton said, because it ensures residents still have access to fresh local seafood.

Members of the co-op, all of them watermen, say the payments reimburse them for the time they spend planting and tending their underwater crops, then doing the necessary paperwork to earn water-quality credits.

But Warring, the co-op's managing director, said that money is not really the main driver.

"Many of our members want to see a thriving oyster population and a thriving set of local watermen who can provide fresh food for residents," he said.

New way to control pollution

The Wicomico River once brimmed with oysters. In 1973, Rice recalled, when he started working on the water fulltime, there were 163 boats in the river on the opening day of oyster season. "Everyone caught their limit," he said.

Billy Rice examines oysters grown by an aquaculture co-op on the bottom of Maryland's Wicomico River. Behind him, Kevin Warring works the tongs.

Dave Harp

Oyster populations have declined precipitously since then throughout much of the Bay mainly because of pollution and diseases, but also overharvesting. While oysters have rebounded some in the last decade or so, the generally low salinity in the Wicomico hasn't been conducive to natural reproduction that might restore reefs in the river.

Rebuilding the Bay's oyster population is a priority for the Chesapeake restoration effort because of the bivalves' ecological benefits as well as their economic value. Oysters filter nutrients and some sediment from the water as they feed, and the reefs formed by their accumulated shells provide habitat and food for a variety of marine organisms and fish.

The reefs also can help reduce shoreline erosion by buffering wave action.

In 2017, looking for ways to incentivize the fight against nutrient pollution, the federal-state Chesapeake Bay Program approved oyster aquaculture as a best management practice for reducing nitrogen and phosphorus in the Bay, similar to approved land-based practices such as planting streamside forest buffers and fall cover crops.

A few years later, after working out the regulatory details, Maryland incorporated oyster aquaculture into its water-quality trading program. Under it, oyster farmers can earn nutrient reduction credits for the oysters they raise and harvest. They can then sell those credits to a business or municipal wastewater plant needing to reduce or offset its nutrient discharges.

For Maryland oyster farmers, the credits offer an opportunity to earn a little extra income in an industry that's making no one rich right now. Regulatory delays and leasing disputes have slowed the industry's growth. It took a hit in 2018 and 2019 when record rainfall turned Bay water so fresh it stunted and even killed some oysters. Then the COVID-19 pandemic shut down restaurants and oyster bars, shrinking the market.

Finding a buyer

Since 2020, about a dozen oyster farming operations have earned nutrient reduction credits for their harvests and posted them for sale on MDE's online market board. There were a couple of deals struck that first year, but none since.

Part of the reason for that may be a matter of scale. The prospective buyers on the MDE website are industries or government entities looking to buy more nutrient credits than any individual oyster farmer has to offer.

It takes at least 2,000 oysters to earn credit for removing a single pound of nitrogen from the water, and many industrial or municipal dischargers need to offset hundreds of pounds.

Geographic restrictions also may handicap oyster farmers. To ensure that trades offset pollution where it occurs, MDE specified that credits can only be sold in the watershed where the oysters are grown. Many oyster farms are in rural areas on the Eastern Shore and in Southern Maryland, where there are relatively few industries or wastewater plants.

Blue Oyster Environmental, a Cambridge-based company formed by the father-son team of Johnny and Jordan Shockley, has tried to overcome those hurdles. It brokered one of the initial oyster credit deals, and it has tried to land others by bundling credits earned by more than one aquaculture operation.

They've struck out so far, though, and think part of the problem may be that there isn't sufficient regulatory pressure on polluters to reduce their nutrient output. They said they've made sales pitches without success to several businesses and local government entities that had posted "credits wanted" notices on MDE's trading website. Those notices are still there.

"The biggest reason for lack of trades comes down to lack of enforcement," contended Jordan Shockley, Blue Oyster's CEO.

Johnny Shockley said he's excited, though, to hear about the oyster farming co-op and its deal with Charles County.

"That business model is one we've been pushing for," he said. "I totally believe that's the future of the oyster industry."

The concept isn't new to Charles County watermen. About half of them participate in an informal co-op with counterparts from Virginia to manage an oyster reef on the Potomac River.

The Wicomico River co-op took that a step further. To demonstrate their commitment, every member put up $1,000 to begin a small-scale planting of juvenile oysters before the deal with the county came through.

"What we did on our own, it showed we were willing to take the gamble and do the work," explained Warring.

County officials credit Warring with leading the effort to nail down the deal. A county native with a bachelor's degree in physics, he works at the Naval Surface Warfare Center in Indian Head. But he also crabs and helps work the family farm, and he's secretary of the Charles County watermen's association.

Closing the deal

The roots of the co-op's deal with the county go back to 2018, when local watermen appealed to the county commissioners for financial support during the record-setting rainfall that year, which affected wild as well as farmed oysters.

In response, the county agreed to provide $50,000 to plant hatchery-spawned oysters in a state-designated sanctuary. They couldn't be harvested there, but everyone hoped they'd survive and reproduce over time, helping to naturally restore oysters in neighboring areas.

Belton and other local officials joined the watermen on the water to witness that planting. On the boat, they began discussing how the county might do more to help sustain the local seafood industry.

In June, buoyed by the pending deal with the county, the co-op deposited about 1,800 bushels of oyster shells containing 14 million baby oysters, or spat, in the water on their leased bottom. The oysters had been spawned by the University of Maryland's hatchery at Horn Point, then set on shells by a private aquaculture concern in neighboring St. Mary's County.

This clump of oysters, shells attached, was brought up from Maryland's Wicomico River. Billy Rice, a member of an aquaculture co-op that grows oysters there, said local watermen call such clusters "flowers."

Dave Harp

Charles Rice, assistant county chief of planning (and Billy's cousin), said the credits to be gained from the farmed oysters will be applied to meet the county's obligation under its state-issued stormwater permit. Per MDE requirements, he said, the county must put best management practices in place over the next five years sufficient to treat runoff from about 1,000 acres of impervious surfaces, land covered by pavement or buildings.

Charles Rice said that oysters planted by the co-op in June will likely yield only enough nutrient reduction credits to count for treating about 10 acres of impervious surfaces. Assuming no calamities befall the crop, those credits could still be a bargain, considering the costs of more typical measures to treat runoff from developed lands.

Suzanne Dorsey, deputy secretary of MDE, called the Charles County deal "an investment in innovation." She said she hopes it will inspire others to follow suit.

"We're not talking about [removing] hundreds of pounds of nitrogen here," she said. "But we're talking about a new way for Charles County to ensure their waterways are continuing to be clean."

She said that oyster farmers may find more opportunities to sell their credits under tweaks in 2021 to Maryland's Clean Water Commerce Act, under which the state can spend $20 million a year on projects that reduce nutrient and sediment pollution.

The Bay Program also is eyeing the awarding of water quality credits for planting hatchery-reared oysters in sanctuaries and to an even more limited degree for putting them on harvestable reefs.

Co-op members say they will consider their enterprise a success if they see oyster abundance return to the Wicomico River. They plan to leave a portion of what they plant every year to grow and keep reproducing.

"I think it would be unrealistic to think we could see oysters in the river like I saw in my lifetime," said Billy Rice, who began crabbing at age 10 and divides his time between fishing and farming. But he does believe it's possible "that we could get them back to a point where [the population] can replenish itself and support a fishery as well as the environmental benefits."

Meanwhile, Warring, Rice and the others check on their oysters periodically to monitor their growth. Some of the small batches planted in prior years are about ready to harvest.

"We're going to take every dollar we make, divide it by 12 and share it equally," Warring said. "It's something that to me is special about what we're doing here."

(As originally posted, this story incorrectly identified the relationship between Billy and Charles Rice. Bay Journal regrets the error.)

Tim Wheeler

Charles County, Maryland
Oyster Restoration Efforts

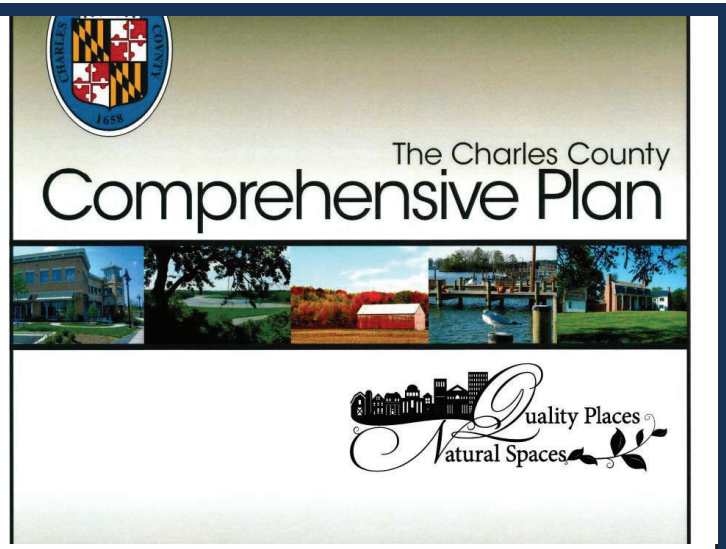
Metropolitan Washington
Council of Governments
2026 Leadership Retreat

Presenter:

Charles Rice, AICP, Planning Director
Charles County Government
200 Baltimore Street, La Plata, Maryland

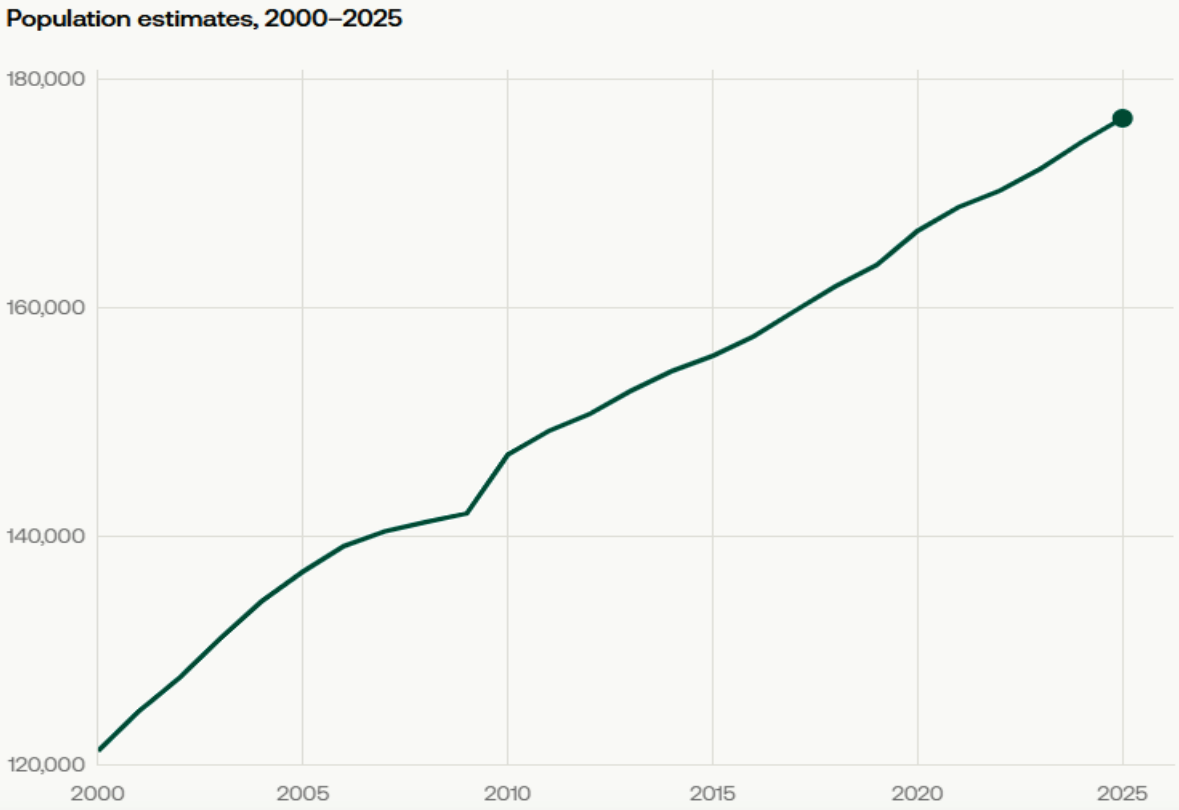
Charles County is Surrounded by Water

- Potomac, Patuxent and Wicomico Rivers
- 10 watersheds with many smaller tributaries
- Watermen harvest:
  - Blue Crabs
  - Striped Bass
  - Blue Catfish
  - Shad
  - American Eel
  - Oysters



Chapter 11: Agriculture, Forestry, And Fisheries

About 176,600 people lived in Charles County, MD in 2025.



Charles County is Growing

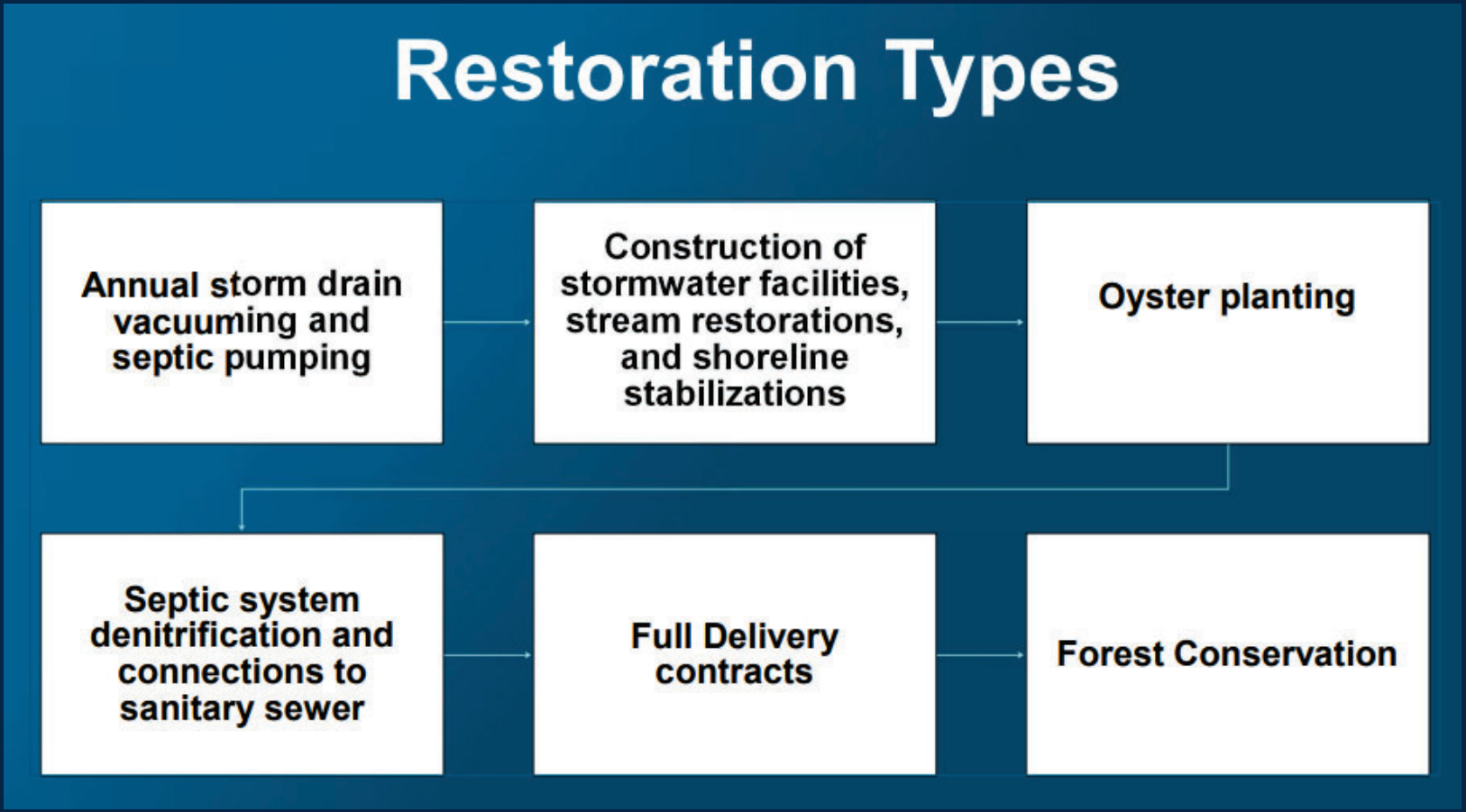
National Pollutant Discharge Elimination System (NPDES)

What is NPDES?

The NPDES permit program addresses water pollution by regulating point sources that discharge pollutants to waters of the United States.

Created in 1972 by the Clean Water Act, the NPDES permit program is authorized to state governments by EPA to perform many permitting, administrative, and enforcement aspects of the program.

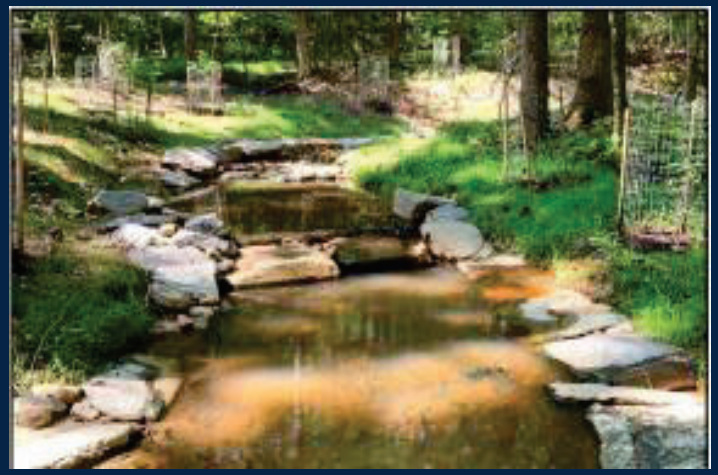
Maryland jurisdictions with Phase I municipal stormwater discharge permits (aka MS4 permits), which are jurisdictions that had a population of 100,000 or greater in 1990.



Structural Practices

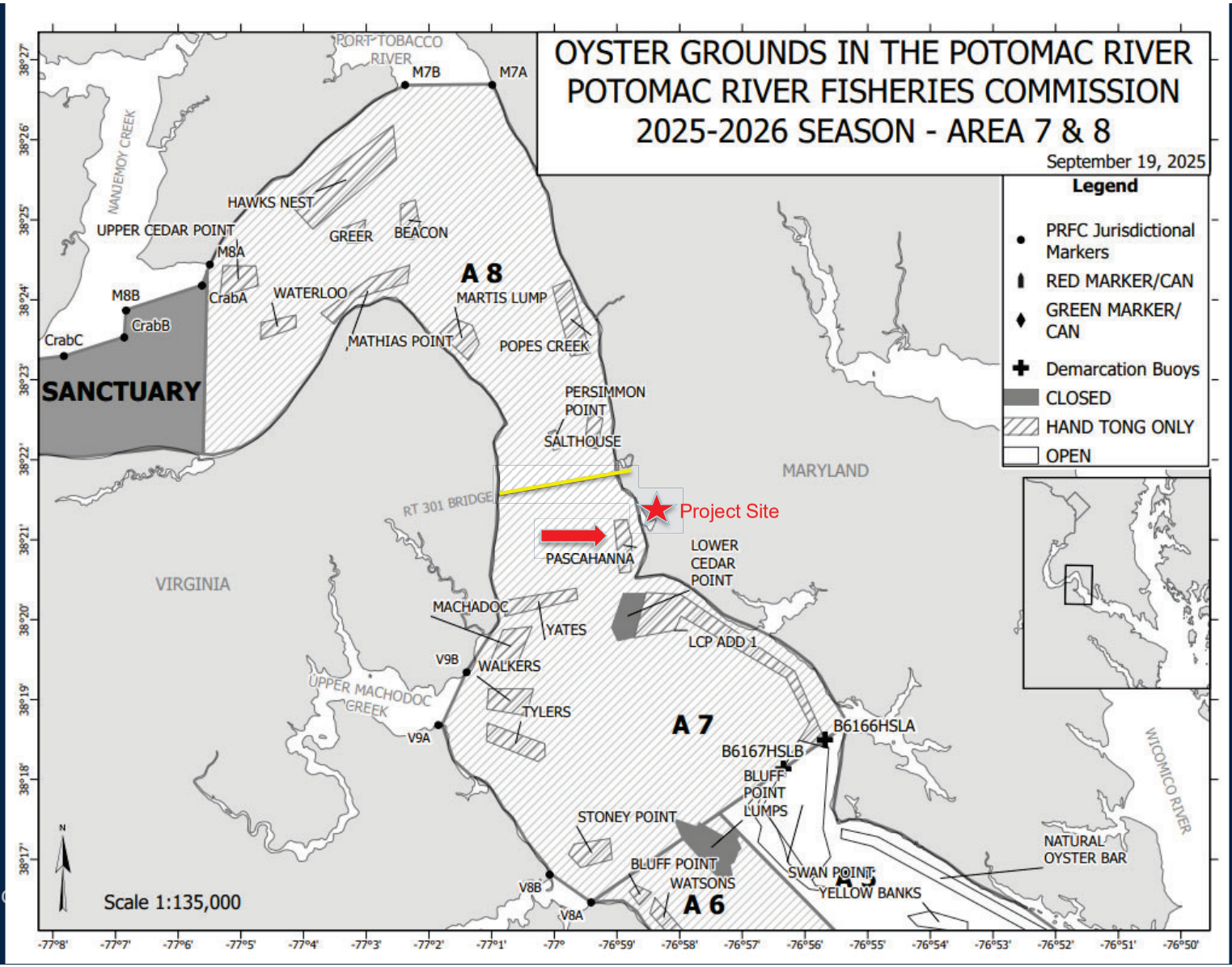
Stormwater Pond Retrofit

Stream Restoration



Shoreline Restoration


MARYLAND
POPULATED PLACES
500,000 – 999,999 Baltimore
25,000 – 99,999 Bethesda
24,999 and less Cumberland
State capital Annapolis
National capital Washington
Urban areas
TRANSPORTATION
Interstate; limited access highway
Other principal highway
Railroad
PHYSICAL FEATURES
Streams
Lakes
Highest elevation in state (feet) +3360
The lowest elevation in Maryland is sea level (Atlantic Ocean).
Backbone Mtn +3360
Deep Creek Lake
Frostburg
Cumberland
Hagerstown
Frederick
Westminster
Baltimore
Towson
Aberdeen
Columbia
Dundalk
Chestertown
Gaithersburg
Rockville
Silver Spring
Bowie
Annapolis
Bethesda
Washington DC
St Charles
Easton
Cambridge
Salisbury
Ocean City
Lexington Park
Pocomoke City
WEST VIRGINIA
VIRGINIA
NEW JERSEY
DELAWARE
Potomac River
Patuxent River
Chesapeake Bay
Delaware Bay
ATLANTIC OCEAN
0 20 40 60 80 Km
0 10 20 30 40 50 Mi


OYSTER GROUNDS IN THE POTOMAC RIVER
POTOMAC RIVER FISHERIES COMMISSION
2025-2026 SEASON - AREA 7 & 8
September 19, 2025
Legend
PRFC Jurisdictional Markers
RED MARKER/CAN
GREEN MARKER/ CAN
Demarcation Buoys
CLOSED
HAND TONG ONLY
OPEN
PORT TOBACCO RIVER
NANJEMOY CREEK
M7B
M7A
HAWKS NEST
UPPER CEDAR POINT
M8A
GREER
BEACON
A 8
M8B
CrabA
WATERLOO
MARTIS LUMP
CrabB
CrabC
MATHIAS POINT
POPES CREEK
SANCTUARY
PERSIMMON POINT
SALTHOUSE
MARYLAND
RT 301 BRIDGE
Project Site
PASCAHANNA
LOWER CEDAR POINT
VIRGINIA
MACHADOC
YATES
LCP ADD 1
V9B
WALKERS
UPPER MACHODOC CREEK
TYLERS
V9A
A 7
B6166HSLA
B6167HSLB
BLUFF POINT LUMPS
STONEY POINT
NATURAL OYSTER BAR
WICOMICO RIVER
BLUFF POINT
WATSONS
SWAN POINT
YELLOW BANKS
A 5
V8B
V8A
A 6
Scale 1:135,000
N
38°27'
38°26'
38°25'
38°24'
38°23'
38°22'
38°21'
38°20'
38°19'
38°18'
38°17'
-77°8'
-77°7'
-77°6'
-77°5'
-77°4'
-77°3'
-77°2'
-77°1'
-77°
-76°59'
-76°58'
-76°57'
-76°56'
-76°55'
-76°54'
-76°53'
-76°52'
-76°51'
-76°50'

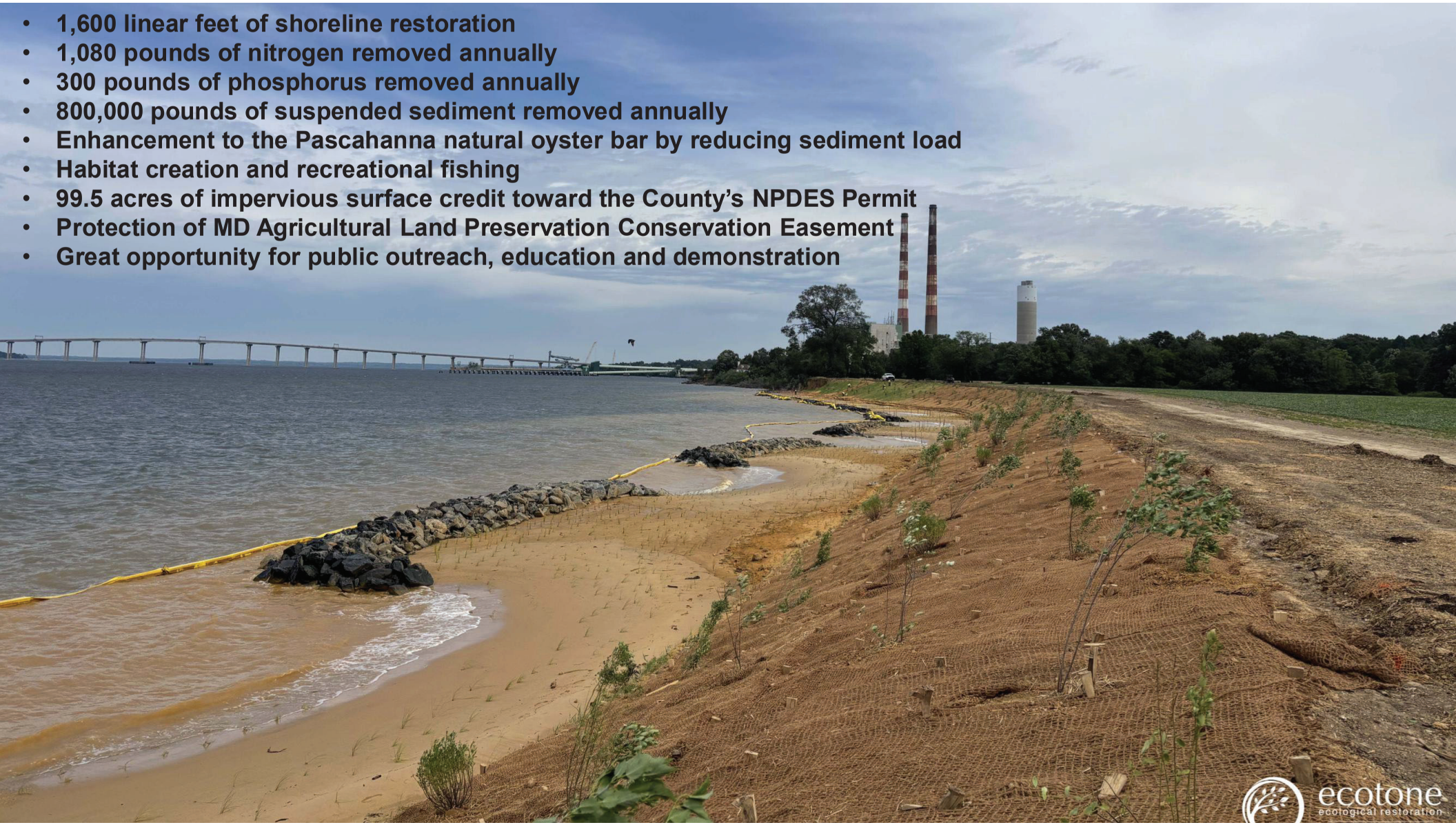

N
W
E
S
VIRGINIA
301 Nice/Middleton Bridge
301
Potomac River
Aqualand Marina
Pascahanna Oyster Bar
Project Site
Morgantown
Lower Cedar Point

Shoreline Restoration
Charles County, MD

Shoreline Restoration
Charles County, MD

Shoreline Restoration
Charles County, MD


ecotone
ecological restoration


• 1,600 linear feet of shoreline restoration
• 1,080 pounds of nitrogen removed annually
• 300 pounds of phosphorus removed annually
• 800,000 pounds of suspended sediment removed annually
• Enhancement to the Pascahanna natural oyster bar by reducing sediment load
• Habitat creation and recreational fishing
• 99.5 acres of impervious surface credit toward the County's NPDES Permit
• Protection of MD Agricultural Land Preservation Conservation Easement
• Great opportunity for public outreach, education and demonstration
ecotone
ecological restoration

Oyster Aquaculture Partnership

- Charles County watermen formed a Cooperative (Wicomico River Oyster Cooperative, LLC)
- Goal was to plant hatchery spawned oysters within the Wicomico River to help restore populations that had been devasted by excessive rainfall in 2018 -19.
- Members put up $1,000 each to begin a small-scale planting of juvenile oysters to demonstrate their commitment to the project.

Oyster Aquaculture as a Method for MS4 Stormwater Permit Credit and Nutrient Reductions for Watershed Implementation Plan (WIP)

- 2021, Cooperative approached the County requesting funding for their project ($53,000 annually for 5 years)
- 2022 Charles County entered into an Agreement with the Wicomico River Oyster Cooperative (Water Quality Treatment Credit Agreement)
- The Cooperative planted 1,800 bushels of oyster shells containing 14 million baby oysters (spat) spawned by the University of Maryland's hatchery at Horn Point and later set on shells by a private company in St. Mary's County

- Based on number of oysters harvested, the Cooperative has nutrient credits certified through Maryland's Water Quality Trading Program.
- All certified water quality credits generated from the harvest of oysters are transferred to the County for at least 8 years, starting in year three (2025).
  - In 2025, the Cooperative harvested 314 bushels
  - MDE verified 20 Nitrogen credits and 1 Phosphorus credit
  - These water quality credits can be applied towards the County's Municipal Stormwater permit restoration conditions and WIP Goals

Oyster Aquaculture for a Sustainable Fishery, Habitat Creation and Nutrient Reductions

- This concept and partnership is a win-win for everybody.
  - Oysters provide habitat for many different aquatic species
  - Filter pollutants from water
  - Contribute to the local economy
  - Provide credit to meet County obligations for nutrient reductions
  - Opportunity for Education and Outreach

Oyster Aquaculture Partnership

- Next few years will reveal how successful nutrient reduction credit generation will be.
- Great opportunity for local government to invest in its natural resource-based economy and the goals of the Comprehensive Plan to protect the environment.
- Nutrient removal credits help the County meet regulatory obligation in the Bay Clean-up while helping sustain a fishing industry that is an important part of the local culture and economy.
- Great story for education, outreach, and understanding “close to home”

Photo Credit
Dave Harp

Presented By:

Charles County Government

Department of Planning and Growth Management

Charles Rice, AICP, Planning Director
RiceC@CharlesCountyMD.gov

Some photos courtesy of the Charles County Watermen's Association.

Equal Opportunity Employer

It is the policy of Charles County to provide equal employment opportunity to all persons regardless of race, color, sex, age, national origin, religious or political affiliation or opinion, disability, marital status, sexual orientation, genetic information, gender identity or expression, or any other status protected by law.

www.CharlesCountyMD.gov