



THE GREEN AND BLUE INFRASTRUCTURE POLICY ADVISORY COMMISSION 2023 ANNUAL REPORT



JANUARY 2024

PREPARED FOR:

Wes Moore, Governor
State of Maryland

Aruna Miller, Lt. Governor
State of Maryland

Serena McIlwain, Secretary
State of Maryland

Bill Ferguson, Senate President
Maryland General Assembly

Adrienne A. Jones, House Speaker
Maryland General Assembly

EXECUTIVE SUMMARY

The Green and Blue Infrastructure Policy Advisory Commission was established under the Maryland Conservation Finance Act of 2022. The Commission met monthly throughout 2023 and developed eleven recommendations for state agency action based on conversations and engagement on five central work plan goals. These goals and recommendations include:

Goal 1: Prioritize restoration work to solve needs in communities impacted by Environmental Justice (EJ) concerns.

- *Recommendation 1:* Maryland Department of the Environment (MDE) should continue to educate and promote the EJ Screening Tool with local governments and community organizations to develop a shared prioritization for areas impacted by EJ concerns.
- *Recommendation 2:* State agencies, led by MDE, should partner with the U.S. Environmental Protection Agency (EPA), University of Maryland (UMD) Environmental Finance Center, Chesapeake Bay Trust (CBT), and other technical providers to provide technical assistance and outreach focused on state and federal funding and financing pathways for communities with EJ concerns. The target audience will be local governments and community organizations to align funding and financing with infrastructure projects and goals.

Goal 2: Identify opportunities for pay-for-success procurement with existing programs.

- *Recommendation 3:* MDE should continue to work with senior leadership at the Department of General Services (DGS) and the Board of Public Works (BPW) to mitigate or resolve procurement or contracting barriers.
- *Recommendation 4:* State agencies and local governments with experience on pay-for-success should develop targeted education and outreach with other local governments, including their finance departments, to share lessons learned and identify more opportunities for pay-for-success contracting across the state.

Goal 3: Identify barriers to implementation of restoration projects.

- *Recommendation 5:* State agencies should make permitting more efficient and transparent related to ecosystem restoration projects where possible to help implement green and blue infrastructure projects more efficiently. State and local government agencies should continue making the application process transparent to encourage timely and complete submission of required materials.
- *Recommendation 6:* State agencies should prioritize relationship building with minority owned businesses and organizations interested in environmental restoration.

Goal 4: Track and register nitrogen (N), phosphorus (P), and carbon (C) outcomes.

- *Recommendation 7:* State agencies should work with Maryland’s Congressional delegation to advocate for federal funding to modernize and expand the U.S. Army Corps of Engineers (USACE) Regulatory In-Lieu Fee & Bank Tracking System (RIBITs) to support improved project outcome tracking in the state.
- *Recommendation 8:* State agencies should continue to evaluate opportunities to improve or leverage other federal and regional outcome tracking tools in service of State pay-for-success projects.

Goal 5: Identify risks and co-benefits to facilitate funding and tracking.

- *Recommendation 9:* State agencies should continue funding updates to the Department of Natural Resources (DNR) Trust Fund Mapper and the MDE’s 5 Million Trees Initiative Tools.
- *Recommendation 10:* State agencies should further prioritize funding for ecological restoration projects with quantified co-benefits, as informed by consistent and standardized data and tools.
- *Recommendation #11 -* State agencies should work with local governments to maximize awareness and use of existing state and federal tools.

INTRODUCTION

The Green and Blue Infrastructure Policy Advisory Commission (the Commission) has prepared their annual report, in accordance with the *State Government Article, § 2–1257*, Annotated Code of Maryland, for the Governor, the Maryland Secretary of the Environment, and the Maryland General Assembly. This report reflects the Commission’s recommendations and findings on ways to facilitate and accelerate the scale and pace of implementation of green and blue infrastructure projects throughout the State.

Adoption of green and blue infrastructure in Maryland is a priority for the Moore-Miller Administration. While the law requires the Commission to meet at least three times per year, the Commission met eight times in 2023. Further information on the Commission’s meeting schedule is available from the Maryland Department of the Environment’s website.¹

As its charge, the Commission seeks to advance green and blue infrastructure projects in the State that are designed to:

- Reduce Nutrient And Sediment Loads Entering The Chesapeake Bay;
- Sequester Nutrients Already In The Chesapeake Bay;
- Improve Climate Resilience;
- Sequester Carbon;
- Protect And Restore Important Terrestrial Or Aquatic Habitats;
- Restore Streams Or Wetlands;
- Build Living Shorelines;
- Augment Or Restore Shellfish Populations; Or
- Restore Forest Or Agricultural Lands.

The Commission’s efforts build on the work of other Statewide Commissions, including the Carbon Markets and Trees Commission and Maryland Commission on Climate Change, and from current agency investments (i.e., Growing 5 Million Trees Plan, Watershed Implementation Plan, Wetlands Action Plan, and the 2031 Climate Pollution Reduction Plan) to strengthen strategies that contribute to Chesapeake Bay restoration, climate change mitigation and adaptation, and facilitate dialogue and action to further realize the benefits of blue and green infrastructure, especially in underserved and overburdened communities.²

The central goal of the Commission is to ***pursue thriving and equitable communities throughout Maryland by investing in ecological restoration that enhances overall resilience, sustainability, and socioeconomic benefits now and for generations to come.***

¹ MDE. “Green and Blue Infrastructure Policy Advisory Commission”
mde.maryland.gov/programs/air/ClimateChange/Pages/Green-and-Blue-Commission.aspx

² MDE. “MDE’s Environmental Justice Screening Tool”
mde.maryland.gov/Environmental_Justice/Pages/EJ-Screening-Tool.aspx

2023 WORK PLAN GOALS

The Commission engaged with state agencies, local governments, and a diverse range of stakeholders to review current green and blue infrastructure incentives, policies and regulatory requirements. The work plan for 2023 included **five central goals**:

- 1) Prioritize restoration work to solve needs in communities impacted by Environmental Justice (EJ) concerns;
- 2) Identify opportunities for pay-for-success procurement with existing programs;
- 3) Identify barriers to implementation of restoration projects;
- 4) Track and register nitrogen (N), phosphorus (P), and carbon (C) outcomes; and
- 5) Identify risks and co-benefits to facilitate funding and tracking.

This year, 2023, was the first full year of the Commission. Including the aforementioned goals, the Commission prioritized learning more about pay-for-success contracting, the state's current programs and approaches to green and blue infrastructure, how the state is working to implement the Conservation Finance Act (CFA), and how the Commission's work aligns with Moore-Miller Administration priorities.

GOAL 1: PRIORITIZE COMMUNITIES IMPACTED BY ENVIRONMENTAL JUSTICE CONCERNS

Communities impacted by environmental justice (EJ) concerns are considered the most vulnerable to the impacts of climate change. The Commission will review and encourage the utilization of current tools, such as the MDE EJ Screening Tool, to ensure all green and blue infrastructure opportunities are equitable and address disproportionate needs.

Commission Progress

- Reviewed and discussed resources available for communities identified as having Environmental Justice concerns, including through state financing, private financing, and federal funding programs. In addition to funding, the Commission reviewed available technical support in the form of MDE's EJ Screening Tool, used to target project activities, as well as existing financial expertise available through the University of Maryland (UMD) Environmental Finance Center.
- Reviewed and defined different strategies for advancing more equitable project funding and financing. For example, two high level approaches include:
 - *Capacity building*: Training organizations to have the knowledge and experience to develop a blue and green infrastructure project from concept to reality, including through permitting and project implementation.
 - *Capital Funding Set-asides / Carve-outs* – Most state capital funding programs favor projects with the lowest cost of per unit pollution reduction. Projects in urban communities with EJ concerns often are more expensive to design and build and are at a competitive disadvantage. Funding set-asides for projects in communities with EJ concerns support the implementation of green and blue infrastructure.

- MDE’s Water Infrastructure Financing Administration presented to the Commission, on the funding available for communities that score above the 75th percentile in the EJ Screening tool, such as through the Clean Water Commerce Program and the State Revolving Loan Fund. In 2023, there was a specific carveout (\$4 million) for EJ projects, but the Department did not receive any applications. The Commission explored avenues to support promotion and outreach of these funding opportunities, including educating EJ communities and elected officials on carve outs and EJ allocated funding.

Actions

- MDE is coordinating with the Maryland Department of Emergency Management to develop a “match-making tool” to help entities, such as non-profits, community organizations, private financiers, partner with each other to advance blue and green infrastructure projects in communities with EJ concerns.

Recommendations

- *Recommendation #1:* MDE should continue to educate and promote the EJ Screening Tool with local governments and community organizations to develop a shared prioritization for areas impacted by EJ concerns.
- *Recommendation #2:* State agencies, led by MDE, should partner with the USEPA, UMD Environmental Finance Center, CBT, and other technical providers to provide technical assistance and outreach focused on state and Federal funding and financing pathways for communities with EJ concerns. The target audience will be local governments and community organizations to align funding and financing with infrastructure projects and goals.

GOAL 2: IDENTIFY OPPORTUNITIES FOR PAY-FOR-SUCCESS PROCUREMENT WITH EXISTING PROGRAMS

The CFA made pay-for-success financing tools more broadly available across state agencies and local governments. However, educating procurement professionals about the opportunities that pay-for-success offers was identified as a barrier to adoption. The Commission will support the adoption, where appropriate, of pay-for-success contracting in state and local government procurement, including through the development of educational webinars with the procurement entities to ensure they are knowledgeable on pay-for-success.

Commission Progress

- Reviewed existing funding and financing programs available for green and blue infrastructure at the State level and focused on lessons learned from MDE’s Clean Water Commerce Program.
- Discussed opportunities to expand outreach and engagement with resources that describe what pay-for-success is and how it works and the development of contract

templates that make it easier for jurisdictions and companies to design and implement related projects.

Actions

- MDE, DNR, State Highway Administration (SHA), and DGS met regularly to discuss current and future pay-for-success implementation across our respective agencies, including the potential to develop common contract templates.
- MDE and DNR presented to the DGS Procurement Improvement Council (PIC) on potential barriers to pay-for-success contract implementation, including current requirements for fund certification and a new working group is being established within the PIC.

Recommendations

- *Recommendation #3* - MDE will work with senior leadership at DGS and BPW to mitigate or resolve procurement or contracting barriers.
- *Recommendation #4* - State agencies and local governments with experience on pay-for-success should develop targeted education and outreach with other local governments, including their finance departments, to share lessons learned and identify more opportunities for pay-for-success contracting across the State.

GOAL 3: ADDRESS BARRIERS TO IMPLEMENTATION

To reduce barriers to access, the Commission will consider the role of expanded education and outreach, not only to state agencies, but also the local governments and organizations who may be unfamiliar with the process and potential partners for pay-for-success financing.

Commission Progress

- Reviewed and discussed a previous pay-for-success project, Winter's Run, that was developed by Resource Environmental Solutions, LLC (RES) and funded through MDE; Commissioners also engaged members of the Maryland Stream Restoration Association to discuss barriers of getting more projects like Winter's Run completed.
- Regardless of the funding type, permit turnaround times were raised as a point of concern. To discuss the current process, MDE's Wetlands and Waterways Protection Program presented changes made to the agency's internal processes to more effectively and efficiently permit ecological restoration projects.

Actions

- In coordination with the Environmental Policy Innovation Center (EPIC), MDE's Wetlands and Waterways Program along with the Office of the Secretary has met regularly with other States to discuss approaches to reducing delays in restoration permitting.

Recommendations

- *Recommendation #5* - State agencies should make permitting more efficient and transparent related to ecosystem restoration projects where possible to help implement green and blue infrastructure projects more efficiently. State and local government agencies should continue making the application process transparent to encourage timely and complete submission of required materials.
- *Recommendation #6* - State agencies should prioritize relationship building with minority owned businesses and organizations interested in environmental restoration.

GOAL 4: TRACK AND REGISTER NITROGEN, PHOSPHOROUS, AND CARBON OUTCOMES

The Commission will advance a centralized tracking system for quantified and verified environmental outcomes, as defined by the CFA, and support the state as it develops quantification and verification standards for projects where environmental outcomes are procured by the state or that utilize state dollars to generate salable environmental outcomes. This work should build from established metrics and accounting for nitrogen, phosphorus, and carbon, as advanced by the Chesapeake Bay Program and MDE's Climate Change Program.

Commission Progress

- MDE provided an overview of the 5 Million Trees Initiative, and how the tree tracking tool complements the Commission's goals in quantifying carbon outcomes related to tree planting activities. Registered tree plantings by state agencies and other independent planting partners support state climate change mitigation goals and resiliency efforts, by leveraging carbon quantification for the state's greenhouse gas inventory.
- In addition to expanding the use of state tools to quantify and register carbon outcomes, MDE and EPIC reviewed efforts to further modernize existing federal tools such as the RIBITS tool supported by the USACE.

Actions

- MDE has worked with EPIC to promote and educate stakeholders and the Maryland federal delegation on the importance of modernizing and expanding the USACE RIBITS tool to include multiple environmental outcomes.
- MDE and its state agency partners have discussed ways the state's new 5 Million Trees Tracking Tool can be used to quantify carbon outcomes associated with a range of blue and green infrastructure projects.

Recommendations

- *Recommendation #7* - State agencies should work with Maryland's Congressional delegation to advocate for federal funding to modernize and expand USACE RIBITs to support improved project outcome tracking in the state.
- *Recommendation #8* - State agencies should continue to evaluate opportunities to improve or leverage other federal and regional outcome tracking tools in service of state pay-for-success projects.

GOAL 5: IDENTIFY CO-BENEFITS AND RISK ASSESSMENT TO FACILITATE TRACKING AND PRIORITIZATION

The Commission will identify key co-benefits and risks associated with the installation of green and blue infrastructure that can be quantified and tracked to guide strategic restoration activity across Maryland. Co-benefits may support key state goals including climate change resilience and environmental equity and justice. Additionally, the Commission will evaluate the benefits of a statewide registration tool for restoration projects, which would provide uniform scoring for projects to create consistency and accessibility among all financing and funding applications. This common registration tool could streamline implementation of current green and blue funding mechanisms while centering EJ communities through the utilization of the EJ Screening Tool.

Commission Progress

- MDE reviewed the 5 Million Trees Initiative and how it advances both climate mitigation and the State's EJ goals. The Tree Tracking Tool enables the state to realize planting co-benefits for all Marylanders, such as improving air and water quality, by directing plantings to urban underserved areas. The number and location of registered trees are made available using a live dashboard that spatially tracks planting progress. This platform can guide strategic restoration in high priority areas and builds confidence in funding green and blue infrastructure projects because it enables users to monitor project development.
- DNR reviewed their suite of statewide high resolution geospatial data related to restoration opportunities and the potential absolute and/or relative ecologic and climate resiliency co-benefits of those opportunities. Restoration opportunities mapped include upland tree planting, riparian tree planting, inland wetland creation, and coastal wetland creation. Environmental co-benefits have been mapped as a 1-5 ranking of the amount of the relative benefit that could be realized. DNR also identified census tracts across the State with high socioeconomic vulnerability to determine where vulnerable tracts overlap with areas at high risk for flooding or heat exposure.

Actions

- DNR is incorporating restoration opportunity, environmental co-benefits, and climate resiliency co-benefits into its existing Trust Fund Mapper, to support applicants to the DNR Trust Fund; this information could be used to rank applications and provide a consistent approach to quantification across green and blue infrastructure options.
- MDE is working with DNR to align co-benefit calculations and is considering ways to include similar estimates into their 5 Million Trees Initiative tools and other Bay Restoration funding programs.

Recommendations

- *Recommendation #9* - State agencies should continue funding updates to the DNR Trust Fund Mapper and the MDE 5 Million Trees Initiative Tool.
- *Recommendation #10* - State agencies should further prioritize funding for ecological restoration projects with quantified co-benefits, as informed by consistent and standardized data and tools.
- *Recommendation #11* - State agencies should work with local governments to maximize awareness and use of existing state and federal tools.

CONCLUSION

In 2024, the Commission will continue to advance pay-for-success contracting for green and blue infrastructure in state agencies and identify recommendations to promote and incentivize nature based solutions to address local concerns while building more equitable, resilient, thriving communities. The Commission membership provides diverse perspectives to prioritize and fund green and blue infrastructure within the State.

APPENDIX

2023 Commission Members

Per the Conservation Finance Act, the Commission consists of the following members, appointed by the Secretary of the Environment:

Membership	Appointee Name	Organization
Local Government: County Representative	Stephanie Jones (Co-Chair)	Queen Anne County, Long Range Principal Planner, Planning and Zoning
Local Government: County Representative	Frank Dawson	Montgomery County, Chief, Division of Watershed Management
Local Government: Municipal Representative	Lawrence DiRe	Town of Federalsburg, Town Manager
Local Government: Municipal Representative	Nancy Somerville	Town of Chevy Chase View, Council Member
Private Ecological Restoration Company Representative	Kristen Keene	Client Solutions Manager, Resource Environmental Solutions, LLC
Private Ecological Restoration Company Representative	Marcus Smith (Alternate: Dana Cooper)	Director of Land Acquisition, Greenvest (General Counsel, Greenvest)
Investor Company Representative	Nick Dilks	Managing Partner, Ecosystem Investment Partners
Investor Company Representative	Tim Mooradd	Senior Manager – Structured Investments, Hannon Armstrong
Non-Profit Representative	Joseph Galarraga	Coastal Resilience Project Manager, The Nature Conservancy
Non-Profit Representative	Laura Todd	Green Infrastructure Projects Manager, Alliance for the Chesapeake
UMD-EFC	Dr. Jennifer Egan	Program Manager for Environmental Economics and Conservation Finance (jegan@umd.edu)

PEARL	Dr. Scott Knoche	Director, Patuxent Environmental and Aquatic Research Laboratory
Public Representative	Dr. Tim Male	Executive Director of Environmental Policy Innovation Center
Public Representative	Greg Burks	Urban Trees Program Manager, Chesapeake Bay Trust
Public Representative	Randy Rowel	CEO of Breaking Boundaries LLC, Co-Founder of RR & Associates
State Agency Representative	Dr. Suzanne Dorsey (Co-Chair)	Deputy Secretary at MDE
State Agency Representative	David Goshorn	Deputy Secretary at DNR

MDE Staff support to the Commission was provided by:

- Gabrielle Leach, Senior Government Relations Officer
- Dr. Rachel Lamb, Senior Climate Advisor
- Jeff Fretwell, Director, Water Infrastructure Financing Administration
- June Dwyer, Acting Director, Operational Services Administration
- Frances Marie Panday, Nature Based Solutions Specialist



Maryland
Department of
the Environment