



Growing 5 Million Trees in Maryland Progress Report 2021-2023



Maryland Department of the Environment
Submitted December 1, 2023
Maryland General Assembly
Reporting Period Fiscal Year 2021-2023



Wes Moore
Governor

Aruna Miller
Lieutenant Governor

Serena McIlwain
Secretary

Suzanne Dorsey
Deputy Secretary



Maryland

Department of the Environment

Wes Moore, Governor
Aruna Miller, Lt. Governor

Serena McIlwain, Secretary
Suzanne E. Dorsey, Deputy Secretary

Foreword by Secretary Serena McIlwain

Maryland's forests and urban tree canopy are critical for reaching the state's net zero greenhouse emissions goal and protecting our communities from climate change impacts like flooding and extreme heat.

That is why we are so focused on planting more trees to help us in this fight to save the planet. It will take an all-of-society approach, and efforts like Maryland's 5 Million Trees Initiative (5MT) give us an opportunity to go farther as we work together. Maryland's goal is to plant and maintain 5 million native trees by 2031. It's an ambitious target but, as you will see in this report, we are making progress.



We must also ensure that everyone can enjoy the benefits of healthy trees and forests. As we work to leave no one behind, we are centering equity by supporting community-led planting projects in urban underserved areas across the state. Since July 2021, we have planted over 470,000 trees, with more than 28,000 of these trees directly benefiting environmental justice communities. The law requires that at least 10% of all trees be planted in urban underserved areas, but we are going to do more. We will go above and beyond with our partners.

Over the last two years, our 5MT leadership team has worked hard to expand access to the Initiative through more program offerings and increased staff capacity. For example, Maryland Department of Natural Resources (DNR) has ramped up seedling production by more than half a million and hired several new Tree Corps Specialists to advance landowner engagement. In year two of their Urban Trees Grant Program, Chesapeake Bay Trust (CBT) has improved their capacity to support smaller scale planting projects, built relationships with qualified nurseries and tree service companies, and are diversifying their native tree stock for future grantees. Maryland Department of Agriculture (MDA) continues to expand its programs and financial incentives available to producers and landowners for tree plantings that improve water quality, soil health, and climate change resilience. In partnership with the Maryland Urban and Community Forestry Committee, Maryland Department of Transportation (MDOT) continues expanding their Urban Tree Grant Program, with hundreds of new plantings scheduled in the coming months.

Maryland is in the business of growing trees, not just planting them. As we move forward, we will continue our efforts to support long-term maintenance and management and ensure all trees remain vibrant for generations to come. This report outlines the progress we have made on 5MT. We have built a solid foundation and are ready to take this initiative to the next level. With your help, we can build a healthier and more climate resilient future for all Marylanders.

Serena McIlwain
Secretary
Maryland Department of the Environment



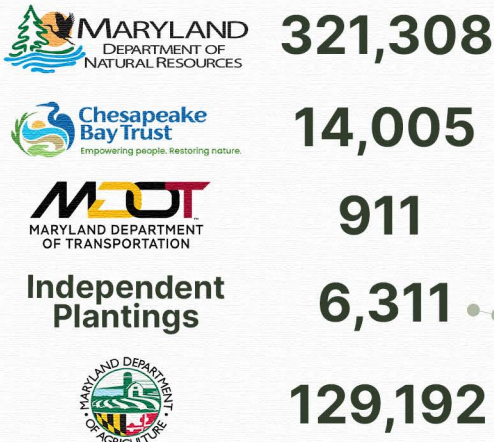
EVALUATING PLANTING PROGRESS



Created by the Tree Solutions Now Act of 2021 (TSNA), **Maryland's 5 Million Trees Initiative (5MT)** commits the state to planting and maintaining 5,000,000 native trees by the end of 2031. At least 500,000 of these trees must be planted in an urban underserved area.

5MT plantings in the State of Maryland from July 1, 2021 to June 30, 2023

Tree Plantings by Entity

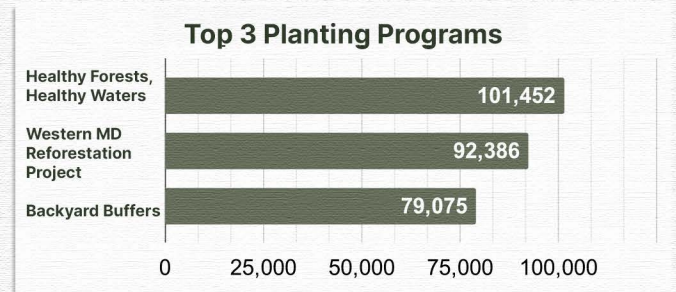


MDE coordinates 5MT with leadership support from DNR, MDA, MDOT, and CBT. This interagency network tracks and registers planting data from state supported afforestation programs. Planting data is also independently registered from local communities, NGOs, private landowners, and other entities with federal or private funding.

40 different groups registered tree plantings towards 5MT

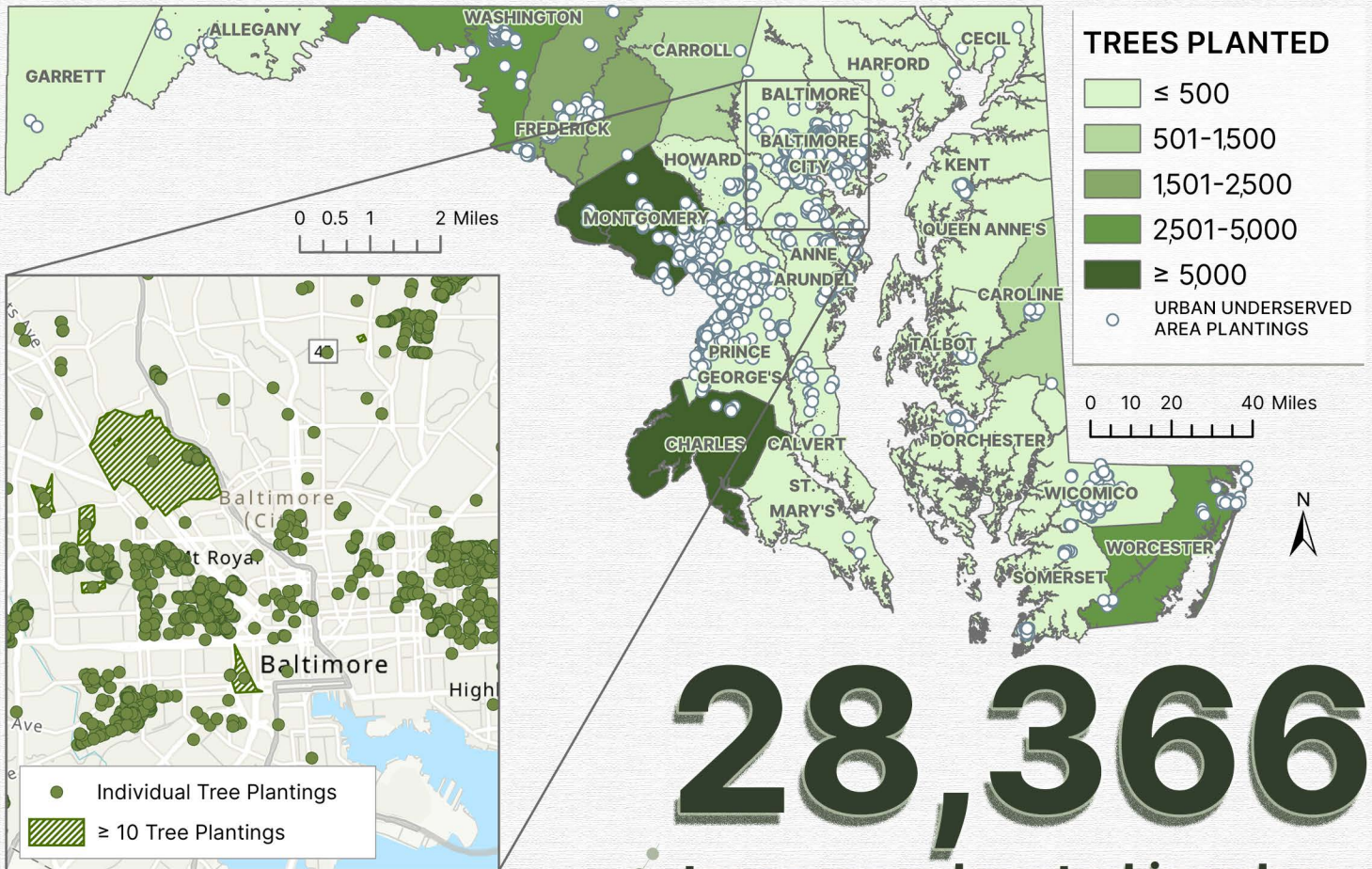
5MT supports long-term maintenance and management of planting projects by leveraging existing state and federal planting programs and independently tracking tree survivorship and mortality.

Tree Plantings by Program



ADVANCING ENVIRONMENTAL JUSTICE

5 Million Tree Initiative Tree Plantings JULY 1, 2021 - JUNE 30, 2023



28,366

trees were located in urban underserved areas

Urban underserved areas are specific geographies defined by the TSNA 2021 using U.S. Census Bureau data. Qualifying plantings must occur in an urban area and meet one of four additional socio-economic criteria related to unemployment, household income, housing project status and history of redlining.

Trees planted in urban underserved areas in Baltimore City since July 1, 2021. The specific locations of trees were submitted to MDE towards 5MT.

more than **3,000** plantings occurred statewide across all counties

Addressing Environmental Inequity

5MT supports the state's commitment to environmental justice by targeting plantings in communities disproportionately impacted by environmental and public health hazards. Expanding the State's urban tree canopy is one strategy towards advancing environmental justice across Maryland.



SUPPORTING STATE CLIMATE ACTION

5 Million for Climate Change Mitigation

As a carbon mitigation strategy, 5MT directly contributes to the State's efforts to fight climate change. As trees grow they capture and store carbon dioxide from the atmosphere and also protect communities from climate impacts like flooding and extreme heat. MDE has partnered with the University of Maryland (UMD) to help quantify the carbon benefits of Maryland's trees and forest. UMD uses data submitted by our planting partners, remote sensing data, and modeling to advance understanding of forest carbon outcomes.

From 2006-2020, MD's trees and forests gained

110 million metric tons of CO₂

Planting and maintaining our forests provides significant carbon benefits over time. Using data from UMD and the NASA Carbon Monitoring System, MDE can estimate the potential carbon benefits that 5MT plantings can provide in our lifetimes.



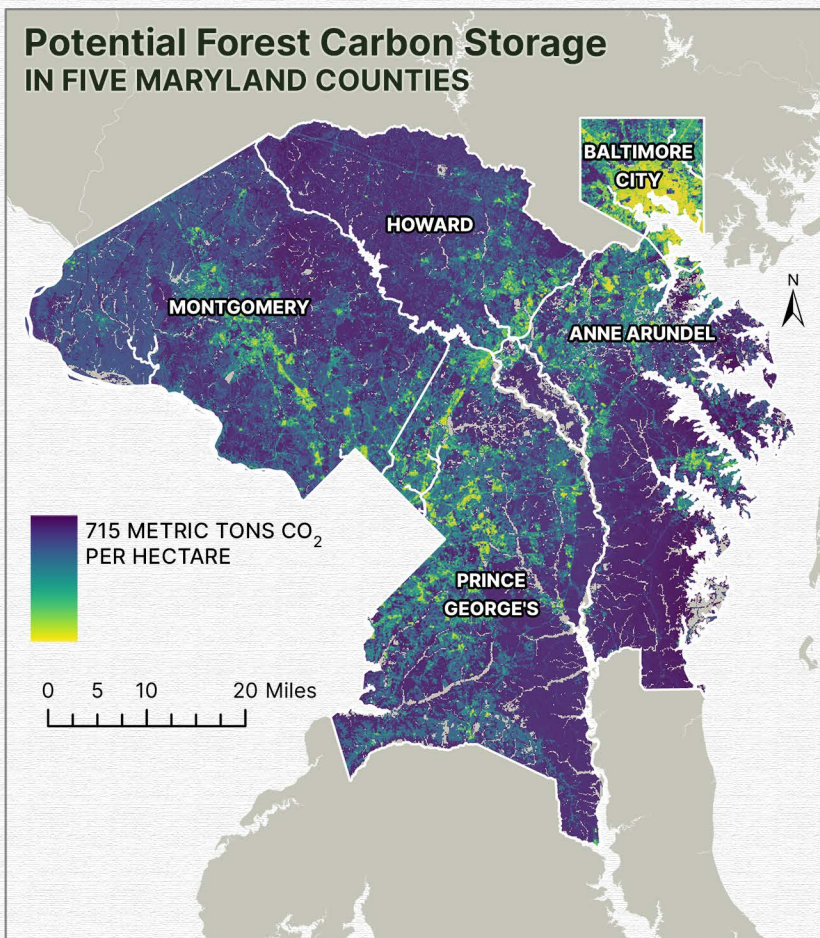
DEPARTMENT OF
GEOGRAPHICAL
SCIENCES



NASA Carbon
Monitoring System

This map illustrates the high spatial resolution of the state's carbon tools. 5MT can utilize this technology to determine how much carbon planted trees have the potential to store, as it varies across space and time.

Potential Forest Carbon Storage IN FIVE MARYLAND COUNTIES



Tracking Progress Towards 2045

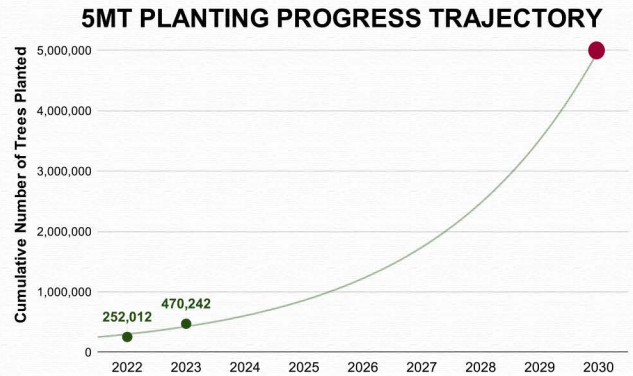
Maryland has a goal of reaching net zero greenhouse gas emissions by 2045. Natural climate solutions like forests are a critical part of the state's strategy. MDE uses this cutting edge science to inform its climate planning and track progress through its triennial greenhouse gas (GHG) inventory. In 2022, Maryland became the first state in the nation to use a remote sensing based forest GHG inventory, enabling the state to better understand and respond to annual changes in its forest carbon sink.

HELP US REACH 5 MILLION TREES

In 2023, Governor Moore allocated \$15 million dollars to support 5MT. CBT and DNR have leveraged this state investment to bring in more than \$33 million in federal funding to bolster the state's tree planting programs. Building on this success, we will continue to pursue innovating funding strategies that can help us increase the pace of plantings and ensure we reach our goal.



Register your trees using our tool and track collective progress on our hubsite!



Maryland's progress depends on all of us. Marylanders can help reach our goal by planting trees in their backyard or school yard, volunteering at a local planting event, or spreading the word. By registering plantings with us, we can support the State's carbon mitigation and climate goals, and monitor tree health over time. Spatial planning can also help us ensure that environmental and health benefits are realized in communities with environmental justice concerns. Through this collective effort, we are committed to working with our planting partners to identify and resolve any barriers to implementation so we can accelerate progress together.

Acknowledgements

5 MILLION TREE INITIATIVE DATA COUNCIL

MARYLAND DEPARTMENT OF THE ENVIRONMENT

Frances Marie Panday, Tree Data and Programs Officer
Dr. Rachel Lamb, Senior Climate Advisor
Kate Majchrzak, GIS Analyst

CHESAPEAKE BAY TRUST

Dr. Jana Davis, President
Greg Burks, Urban Trees Program Manager
Lianna Gomori-Ruben, Urban Trees Senior Program Officer

MARYLAND DEPARTMENT OF TRANSPORTATION

Allison Breitenother, Urban Tree Grant Program Manager
Nick Kurtz, Consultant, Climate Resilience Analyst

MARYLAND DEPARTMENT OF AGRICULTURE

Alisha Mulkey, Manager, Program Planning & Evaluation
Elizabeth Hoffman, Tracking Coordinator, WIP

MARYLAND DEPARTMENT OF NATURAL RESOURCES

Justin Bowers, Associate Director, Policy & External Relations
Justin Arseneault, Forest Planner
Dr. Anne Hairston-Strang, State Forester
Rachel Marks, Natural Resource Planner

UNIVERSITY OF MARYLAND

DEPARTMENT OF GEOGRAPHICAL SCIENCES

Dr. George Hurtt, Professor and Associate Chair
Dr. Lei Ma, Assistant Research Professor
Quan Shen, Ph.D. Candidate
Valeria Morales, Faculty Specialist

MARYLAND ENVIRONMENTAL SERVICES

Theresa Foye, GIS Section Chief
Barka T-W Shimelis, Lead GIS Specialist
Sam Lee, Lead GIS Specialist
Kelly Alexander, GIS Specialist
Kayla Rhue, Assistant Section Chief

State funding for the 5MT comes from a range of sources, including the DNR Chesapeake and Atlantic Coastal Bays Trust Fund.

Picture on Page 2 courtesy of Chesapeake Bay Trust with Defensores de la Cuenca. Picture on Page 4 courtesy of the Maryland Department of Natural Resources and Maryland Forest Service at Gibson Run.

Carbon sequestration potential data for the map on Page 3 courtesy of UMD and NASA CMS. Learn more about the data and research at <https://doi.org/10.3334/ORNLDAAAC/1660>