



Joseph Bartenfelder, Secretary

2022 – Annual Status Report on Climate Change

In accordance with §2-1305 of the Maryland Environment Article

January 2023

The Maryland Department of Agriculture (MDA) is a member of the Maryland Commission on Climate Change, and works collaboratively with the Maryland Department of the Environment (MDE), other state agencies, and partners to develop and achieve plans to address climate change. Accordingly, MDA submits the information below on its programmatic efforts to advance the resilience and mitigation potential of Maryland's two million acres of agricultural lands.

Conservation of Agricultural Lands

Program Description

Land conservation offers an important mechanism for mitigating and adapting to climate change. Well managed croplands, grasslands and forests provide direct benefits in greenhouse gas (GHG) emission reductions and an opportunity to mitigate emissions associated with more developed areas.

MDA seeks to safeguard Maryland's network of natural areas, agricultural lands, and coastal zones through its established conservation programs and practices. MDA continues to pursue policies and programs that curb the conversion of agricultural lands and encourage the conservation of natural resources while also working with its partners at the Maryland Department of Natural Resources (DNR) and Maryland Department of Planning (MDP) to promote the preservation and restoration of forested, grassed, and wetland areas on agricultural lands. Two MDA programs key to these efforts are the Maryland Agricultural Land Preservation Foundation (MALPF) program and the U.S. Department of Agriculture (USDA) Conservation Reserve Enhancement Program (CREP).

MALPF, which purchases permanent preservation easements, is one of the most successful programs of its kind in the country. Besides maintaining prime farmland and woodland as a viable local base of food and fiber production, the protection of agricultural land reduces urban development pressures, safeguards wildlife habitat, and enhances the ecology of the Chesapeake Bay and its tributaries.

Maryland has participated in the federal-state CREP since 1997 to target high-priority conservation concerns by offering rental payments for 10- to 15-year set-aside contracts, and other incentives to agricultural producers to protect environmentally sensitive lands, improve wildlife habitat, and reduce nutrient and sediment loss. Currently Maryland landowners can receive four types of payments: a one-time signing bonus, annual rental payments that include a per-acre incentive, cost share assistance, and a one-time practice incentive payment.

Program Objectives

Maryland has an official land preservation goal of 1,030,000 acres. The goal was initially created by Senate Joint Resolution 10/ House Joint Resolution 22 in 2002 to preserve acreage of productive agricultural lands through MALPF, Rural Legacy, GreenPrint, and Local Purchase of Development Rights/Transfer of Development Rights (PDR/TDR) programs. Originally, those four programs were to achieve the acreage preservation goal by 2022. Subsequently, House Bill 860, signed into law by Governor Hogan in 2021, added two more easement programs to the effort: The Next Generation Farmland Acquisition Program run by the Maryland Agricultural and Resource-Based Industry Development Corporation (MARBIDCO) and easements managed by

the Maryland Environmental Trust (MET). The bill also extended the deadline for reaching the preservation goal from 2022 to 2030.

CREP goals for Maryland are to achieve 100,000 acres for water quality and wildlife benefits, including converting up to 16,000 acres of marginal land into grass, shrubs, and trees, establish 77,000 acres of grassland and forest buffers and 5,000 acres of water and wetland habitat, and restore 2,000 acres of habitat for declining, threatened, or endangered species.

Implementation Milestones

MALPF:

- Through fiscal year (FY) 2022, 2,585 farms have been protected and land has been preserved in each of Maryland's 23 counties at a public investment of over \$874 million;
- MALPF's preserved acres total 348,307 as of FY22; and
- By fall 2022, MALPF had settled 70 of the total 80 easement offers in the FY21 application cycle, and entered into more than 90 contracts to purchase agricultural easements in the FY22 application cycle. These easement purchases bring a welcome influx of funds to the landowners of newly MALPF-eased farms, as well as into the agriculture industry at large.

CREP:

- As of September 2022, CREP enrollment in Maryland was at 42,490 acres;
- State cost share totaled \$144,961 in FY22 to support landowners with the installation of CREP-related best management practices and awarded \$396,517 in signing bonuses;
- In addition to CREP contracts, DNR's Easement Program has targeted CREP acres for permanent protection and now has 6,685 acres of former CREP-enrolled land under permanent conservation easement; and
- In recognition of the high priority to increase riparian forest buffers in Maryland, MDA increased the one-time signing bonus for new CREP tree plantings to \$1,000 per acre (previously \$100 per acre) in October 2021, and proceeded to award \$79,730 during federal FY22.

Estimated Emission Reductions for Calendar Year 2022

In progress. In cooperation with MDE and the U.S. Climate Alliance, MDA is revising its methodology to quantify and report estimated emissions reductions from its land conservation activities. An updated estimate will be provided in future reports.

Enhancement Opportunities

MDA is actively working to best align existing preservation and conservation programs in support of the state's climate goals. For example, MALPF-preserved farms are able to help the State of Maryland meet its renewable energy goals by establishing alternative/renewable energy systems on their properties for their agricultural and residential energy needs. MALPF policy allows for the installation and use of these systems, provided that the energy generated does not exceed 125% of the energy used on an annual basis, for residential and agricultural uses. Landowners are also allowed to be reimbursed by the energy utility/provider for excess power generated.

In addition, easements and CREP contracts require a current soil conservation and water quality plan. These plans, developed by the local Soil Conservation District, need to be updated every 10 years, or upon new ownership of the land. As part of updating plans, owners can discuss adding components of the Healthy Soils Program and/or Forest Management/Forest Stewardship plans to their operation. Such properties may also be eligible to participate in emerging markets for ecosystem services.

Funding

MALPF's purchases are funded by dedicated percentages of the Real Estate Transfer Tax and the Agricultural Transfer Tax, along with county and state allocations. Additionally, The Great Maryland Outdoors Act, passed in 2022, will provide a one-time appropriation of ~\$16.5 million to the MALPF Fund in FY24.

The federal monies toward CREP vary with authorized funding and participation levels based on USDA incentives administered through its Farm Service Agency, while the Maryland Agricultural Water Quality Cost Share Program (MACS) offers grants, which are financed by state bond funds, to provide up to 100% of the costs to install high priority best management practices. State signing incentive payments, administered by MDA, are funded through the Chesapeake and Atlantic Coastal Bays Trust Fund, and the Tree Solutions Now Act of 2021.

Challenges

Since FY19, MALPF has returned to the annual application cycle and full funding to the program has been restored by Governor Larry Hogan. This change has enabled MALPF to increase the number of properties placed under easement; however, demand for participation in MALPF still exceeds available funding.

Annual CREP enrollment continues to decline since a peak enrollment of 74,500 acres in 2008. While many factors influence participation, market uncertainty for commodity crops coupled with concerns about the ongoing demands of CREP maintenance standards, suggest that farm operators are less willing to enter into the lengthy contracts typical of CREP. Accordingly, MDA is looking at innovative ways to increase CREP adoption through increased cost share and signing bonuses, while complementing program options like the Conservation Buffer Initiative.

MDA Healthy Soils Program

Program Description

The 2017 Healthy Soils Act charged MDA with the development of a Healthy Soils Program to improve the health, yield, and profitability of Maryland's soils and promote the further adoption of conservation practices that foster soil health while increasing sequestration capacity. In support of this initiative, MDA initially collaborated with stakeholders from the Healthy Soils Consortium to complete a comprehensive scientific literature review to identify those practices that are most effective at improving soil health and building soil carbon stocks. Information from this literature review was used to create a menu of Maryland-specific conservation practices that advance soil health. Subsequently, in 2019, the Soil Health Advisory Committee was formed to serve as a more formal advisory body to MDA. Starting from the menu of Maryland-specific conservation

practices, the Advisory Committee developed further recommendations on how conservation practices and programs would advance the objectives of the Healthy Soils Program. Recommendations were submitted to MDA Secretary Bartenfelder in January 2022, and resulted in the roll out the [Cover Crop Plus](#) program in summer 2022, to leverage the success of cover cropping in the state and encourage earlier planting, later termination, and multi-year planning for soil health. A second program, [the Healthy Soils Competitive Fund](#), is being launched in winter 2023 to encourage innovative soil health management. Both of these new programs capitalize on co-benefits for air and water quality, and carbon sequestration that build upon Maryland's nationally recognized progressive farming practices and programs.

Program Objectives

In summer 2022 the Cover Crop Plus program was rolled out and aims to encourage producers to adopt cover crop management that is focused on soil health. By planting multi-species mixes earlier in the year, terminating cover sooner to cash crop planting dates, and practicing conservation tillage, producers are able to keep a living root in the ground for more of the year, potentially sequester more carbon, and retain more nutrients. Committing to a 3-year contract ensures the longevity of the practice, as building soil health necessitates time.

In winter 2023 the Healthy Soils Competitive Fund is being launched to provide a funding source for producers who want to experiment with innovative conservation practice management or who are otherwise unable to access state funds because of program restrictions. These funds will encourage continued learning in the farming community as we work to build agriculture's role as a climate solution.

Both programs share similar metrics to measure outcomes and to advance our collective knowledge of Maryland soils, and build on MDA grant projects funded by the National Fish and Wildlife Foundation (NFWF) and a USDA-Regional Conservation Partnership Program.

Implementation Milestones

The Cover Crop Plus program enrolled 20 producers with approximately 3,800 acres in its pilot year. These producers are all planting extended season and multispecies cover crops, are planting cash crops within a week of cover crop termination, and are committing to conservation tillage practices. Several producers are also combining these management techniques with livestock rotational grazing, Pre-sidedress Nitrate Testing, and/or conservation crop rotation. These acres, plus an additional 464 acres enrolled in 2022 with the NFWF grant, bring total enrollment in MDA's Healthy Soils Program to over 12,000 acres as of FY22.

Additionally, two in-person field days were held in 2022 engaging 80 farmers and service providers in advanced soil health topics.

The Soil Health Advisory Committee wrapped up 2 years of quarterly meetings, arriving at the recommendations contained in the [Healthy Soils Program Report](#). Recommendations focus on program development, adaptability, and measurement of outcomes. An annual meeting of the Advisory Committee is expected to occur to review the status of recommendations.

Estimated Emissions Reductions for Calendar Year 2022

In progress. In cooperation with MDE and the U.S. Climate Alliance, MDA is revising its methodology to quantify and report estimated emissions reductions from its Healthy Soils Program activities. An updated estimate will be provided in future reports.

Enhancement Opportunities

As MDA continues developing the Healthy Soils Program, opportunities to collaborate with sister agencies and other partners will help to strengthen program impact. MDA is currently working with MDE and DNR to determine the best way to account for GHG outcomes in the state's inventory. It is MDA's intent to find the best methods to represent the high level of stewardship among Maryland farmers, historically and in the future.

Likewise as new Healthy Soils Program offerings are developed, the department remains mindful of the opportunity to do so in a way that prioritizes diversity, equity, inclusion, and justice among resources made available to producers across the state and allows producers to flourish in their role as land stewards, a critical piece of the state's GHG reduction goals.

Funding

The Climate Solutions Now Act of 2022 specifies an appropriation of \$500,000 in the governor's budget from FYs 2024-2028 for the MDA Healthy Soils Program. For FY23, a budget of \$450,000 from the Chesapeake and Atlantic Coastal Bays Trust Fund will be utilized for the program.

Funds through USDA-Regional Conservation Partnership Program are fully obligated and funds from the NFWF will conclude in calendar year 2024.

Challenges

Unpredictable market conditions for crops and farm inputs have made producers hesitant to commit to long term conservation practice implementation. Future programming will have to be adaptive to producer needs, while still meeting conservation and environmental goals, in order to encourage participation.