

**2017 - MDA Report to Comply with Climate Change
Commission Requirements**

MSAR #10679



**From the
Maryland Department of Agriculture**

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2017 - Buy Local for GHG Benefits

Program Description

Increasing public awareness and interest in the benefits of fresh, healthful, locally sourced food has sparked an unprecedented consumer preference for locally-grown and locally-produced agricultural products. Maryland Department of Agriculture's (MDA) Buy Local campaign has effectively promoted traceable, wholesome, locally grown agricultural products. This campaign has proven to be highly successful in promoting local farms as the preferred food source for Marylanders. Furthermore, Buy Local has assisted local producers in marketing directly to not only consumers, but also supermarket, food service, institutional and other wholesale buyers. MDA developed the Maryland's Best website (www.marylandsbest.net) as a resource for finding locally grown products. A farmer's market directory is also available at: mda.maryland.gov/maryland_products/pages/farmers_market_dir.aspx.

MDA's promotion of sustainable production and consumption of local agricultural goods helps to displace the production and consumption of products transported from other states and countries. In addition to the energy savings and GHG reductions resulting from decreased transportation emissions, greater demand for local products preserves the agricultural landscape, supports agro-biodiversity, and encourages beneficial environmental practices.

Program Objectives

MDA works with farmers, local governments, restaurants, food distributors and retailers, value-added producers, public and private institutions, and trade associations to maintain and expand its popular Buy Local program. MDA's 2020 goals are to establish a state farmers market association, raise the number of farmers markets by 20%, and increase direct sales (buy/grower) by 20%.

Implementation Milestones (have they been met?)

MDA appears to have already fulfilled its goals under this initiative.

- The Maryland Farmers Market Association (MDFMA) (www.marylandfma.org) was established in 2012.
- As of 2017, there were 139 MDA-recognized farmers markets across the state, with at least one in every Maryland county and Baltimore City.
 - This number represents 90% of the 2020 goal, but it is likely that the target of 155 markets has been achieved because there are always markets that are not included in the official count for a variety of reasons.
 - Using data from a survey of farmers markets compiled by MDA and MDFMA in 2017, farmers markets generated sales of \$65 million and more than 2.3 million consumers visited the markets during the year.

- MDA does not track direct sales figures, but if annualized participant numbers at the buyer/grower expo (now renamed Maryland’s Best Expo)—held each winter since 2002—are used as a proxy, the event has grown close to 100% during the subsequent years.
- MDA participates in the U.S. Department of Agriculture’s (USDA) Farmers Market Nutrition Program (FMNP), which provides checks for the purchase of fresh produce to low-income senior residents and participants in the federal Special Supplemental Nutrition Program for Women, Infants and children (WIC).
 - Approximately 400 Maryland farmers join in this effort annually and all 139 farmers markets participate in FMNP.
 - About a third of the markets also participate in USDA’s Supplemental Nutritional Assistance Program (SNAP), formerly known as food stamps, to help expand access for low-income Marylanders to fresh local foods.
- Maryland Market Money was launched in 2013 as a state-wide effort to increase the purchasing power of food-insecure households that spend federal nutrition benefits at participating farmers markets. They provide additional dollars for such customers to spend on fresh, healthful food.
- In 2014, the Maryland Department of Human Resources joined with the MDFMA to install point-of-sale machines in farmers markets across that state, so that purchases can be made by low-income residents on electronic benefit transfer cards.
- In 2015, Maryland became the first state to pilot the Farmers Market Finder, a mobile website (farmersmarketfinder.ub.1.co/) that lists all farmers markets in the state with vendors who accept FMNP checks.
 - The site also educates participants about the use of their checks, informs them of what foods are eligible for purchase, and provides links to videos and photos of farmers active in FMNP.
 - Participants can opt to receive mobile text messages every month from the site to remind them to use their FMNP checks before they expire.
 - In addition, the site has recipes for fresh produce dishes and provides farmers market shopping tips.
- In 2016, MDA joined with the Farmer Veteran Coalition (FVC) and MidAtlantic Farm Credit to launch the Maryland’s Best, Homegrown By Heroes program. This program supports Maryland veterans who have returned home to the farm by providing unique signage to identify and promote products grown by local veterans at farmers markets and local groceries, as well as assistance through other business services.

Estimated Emission Reductions for CY 2016

The revised potential emission reductions from the Buy Local for GHG Benefits initiative in 2020 are estimated to be 0.02 MMtCO_{2e}.

Enhancement Opportunities

As is demonstrated by the numerous enhancements already made, MDA is always open to opportunities to improve the experience of all users of the Buy Local and allied programs.

Funding

The Buy Local initiative receives ongoing support from a number of sources, including grants from USDA; matching funds from MDA, and the Maryland Department of Health and Mental Hygiene; and state General Funds. The costs of some events are offset by sponsorships and registration fees.

Challenges

The primary challenge for the Buy Local program is maintenance of its success.

Relevant Information

The 2017 sales figure for farmers markets and the extraordinary growth shown by the buyer/grower program suggest that original estimates of job creation, net economic output, and wages appear to be understated.

2017 - Conservation of Agricultural Land for GHG Benefits

Program Description

Land conservation offers an important mechanism for mitigating and adapting to climate change. Healthy and vigorous forests and grasslands not only provide direct benefits in GHG reduction but keeping them intact also helps to avoid or diminish GHG emissions associated with development.

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 working with its partners at DNR and MDP to promote the preservation and restoration of forested, grassed, and wetland areas on agricultural lands. Two MDA programs that are key to these efforts are the Maryland Agricultural Land Preservation Foundation (MALPF) and the U.S. Department of Agriculture's Conservation Reserve Enhancement Program (CREP).

MALPF, which purchases permanent preservation easements, was established in 1977 and 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 random urban development, safeguards wildlife habitat, and enhances the ecology of the Chesapeake Bay and its tributaries.

Maryland has participated in 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 five types of payments: a one-time signing bonus, annual rental payments that include a per-acre incentive, cost-share assistance, a one-time practice incentive payment, and maintenance payments.

Program Objectives

The State of Maryland's 2020 goal is to permanently protect 962,000 acres of farmland, woodland, and open space land from commercial, residential, and industrial development by purchasing permanent easements through MALPF, local government land preservation programs, local Transfer of Development Rights (TDRs), and other similar initiatives.

If fully implemented at its authorized 100,000 acres, CREP has the potential to plant 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 (have they been met?)

MALPF:

- As of June 30, 2017, 2,241 farms have been protected and land has been preserved in each of Maryland's 23 counties.
- MALPF's purchases represent a cumulative public investment of almost \$698 million and increase total acres preserved in the program to 304,858.
- Current acreage totals bring MALPF's contribution alone to 32% of the 2020 goal.
- With a total of almost 627,265 protected with easements of all types, the state has achieved 65% its 2020 target. It should be noted, however, that the total is likely to rise after the recertification reports arrive and show local program numbers for the past two years.

CREP:

- CREP enrollments have generally been declining.
 - Enrollments peaked at 74,500 acres in 2008.
 - Enrollments averaged just under 70,000 acres in the intervening years, but as of June 2017, dropped to 53,000 acres.
- The success of earlier years is unlikely to be repeated, and the achievement of almost 75% of the overall acreage goals in 2008 also represents a peak for the program.
- Despite the declines in enrollments, there are some reasons for optimism:
 - DNR's Easement Program has targeted CREP acres for permanent protection and now has 9,800 acres of former CREP-enrolled land under permanent conservation easement.
 - Most of the funded practices remain on the land and continue to provide the intended environmental benefits.

Estimated Emission Reductions for CY 2016

The revised emission reductions from the Conservation of Agricultural Land for GHG Benefits initiative in 2020 are estimated to be 0.18 MMtCO₂e.

Enhancement Opportunities

No enhancements to these ongoing programs are contemplated at this time. However, through a developing collaboration between the Mitigation and the Adaptation and Response Work Groups, MDA is participating in a new Healthy Soils initiative that will complement and supplement these and others of MDA's existing programs by enhancing the sequestration capacity of agricultural lands.

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.

The monies in CREP vary with authorized funding and participation levels. USDA funds CREP rental payments and a percentage of cost-shares and incentives through its Farm Service Agency. The Maryland Agricultural Water Quality Cost-Share Program (MACS) offers grants, which are

financed by state bond funds, to provide up to 87.5% of the costs to install eligible best management practices. State signing incentive payments are funded through grants from the Chesapeake and Atlantic Coastal Bays 2010 Trust Fund.

Challenges

Although MALPF has seen an increase in allocated funds in FY 2017 and 2018, the applications for participation in MALPF exceed available funding every year. Starting in 2009, the General Assembly diverted monies from the program and partially replaced them with bond funds. Because of these decreases, the program combined its acquisition years over five cycles in order to have enough funding in each cycle to make at least one offer in each participating county.

Even though commodity prices have dropped substantially, CREP participation has not rebounded as expected. An aging farm population and turn-over in ownership, together with concerns about the demands of maintenance standards, suggest that farm operators are less willing to enter into the lengthy contracts typical of CREP.

Relevant Information

RESI's 2015 study estimated that the programs under the Conservation of Agricultural Land for GHG Benefits initiative would, when fully implemented, support a total of 292 jobs by 2020 and produce \$982,330,321 in net economic output and \$173,229,219 in wages over the lifetime of the programs. Chapter 6 and Appendix K of the RESI report provide more detail on job creation and associated economic benefits.

2017 - Nutrient Trading for GHG Benefits

Program Description

Many of the agronomic, land use, and structural practices promoted by the Maryland Nutrient Trading Program also store carbon and lower other GHG emissions. Because of this, the existing nutrient marketplace could provide a platform for the addition of a voluntary carbon component. Just like the nutrient and sediment markets, carbon trading offers entities under regulatory requirements a potentially more cost-effective means to maintain their limits by acquiring credits or offsets generated from reductions elsewhere.

Program Objectives

MDA expects to add carbon credits and enhanced nutrient credits to the Maryland Nutrient Trading Program. Carbon and enhanced nutrient credits would be “stacked” onto existing nutrient and sediment credits as tradable commodities. This will increase the potential value of the total credit package and serve as another incremental step toward building a comprehensive environmental marketplace. Encouraging cross-sector trades between nonpoint and permitted point sources will create new opportunities for GHG reductions. Nonpoint sources include agricultural operations. Permitted point sources now include entities operating under the Municipal Separate Storm Sewer System (MS4) permits. Cross-sector trades will also improve water quality, reduce fertilizer and energy use, reduce soil erosion, and restore wetlands and wildlife habitats. In addition, it will also provide supplemental income for farmers and foresters, and promote the preservation of agricultural and forested lands. By 2020, MDA aims to achieve participation by 10% of farms and landowners in providing nutrient, sediment and carbon credits to an active environmental market in Maryland.

Implementation Milestones (have they been met?)

- The Bay Restoration Fund (BRF) provides monies to upgrade Maryland’s major wastewater treatment plants. Maryland’s program was designed from its inception to supply offsets to accommodate new growth and development. This program is unique to many trading programs across the county that furnish compliance credits for existing wastewater facilities.
- Accounting for Growth (now known as “Aligning for Growth”) policies and regulations still have not been finalized, leaving the program without the necessary driver for trading. The cross-sector proposal to allow Phase I MS4 jurisdictions to meet a portion of their impervious area restoration requirement, through the purchase of credits, promises to offer a much needed alternative.
- In 2015, the Maryland Agricultural Nutrient Trading Advisory Committee was disbanded and a new Water Quality Trading Advisory Committee (WQTAC) was convened in 2016.

WQTAC provides direction to the overall trading program and oversees any further development of the trading infrastructure. The initial tasks of the new committee have been to review and refine a comprehensive trading manual and assist with the development of trading regulations.

- A public/private stakeholder advisory group started meeting in November 2009. Their purpose was to assess carbon mitigation activities, determine a menu of eligible practices, and develop the policies and guidelines to implement a carbon trading program. These efforts were discontinued in 2012 when carbon credit prices collapsed worldwide. It is expected that the Healthy Soils Consortium, convened in August 2016, will take on the tasks of the previous carbon advisory group to inventory best management practices and create a carbon and GHG practice menu.
- A multi-state trading platform has been realized using the Maryland model as the template, and this platform already has the embedded capacity to calculate carbon credits.
- MDA completed development of a web-based, inter-active, site-specific assessment tool to determine offset needs for development projects, as well as substantial enhancements to online registry and marketplace components to make them functional for all types of trades and use by all sectors.
- MDA's regulations for the generation, verification, and certification of agricultural nutrient and sediment credits became effective as of August 29, 2016. MDE's proposed trading regulations for the Maryland Water Quality Trading Program have recently been published in the *Maryland Register*.
- While the timing of fully functioning nutrient and sediment marketplace remains uncertain, it is still possible that 5-10% of Maryland's farms could be generating nutrient, sediment, and/or carbon credits in an active environmental market by 2020.

Estimated Emission Reductions for CY 2016

The revised potential emission reductions from the Nutrient Trading for GHG Benefits initiative in 2020 are estimated to be 0.57 MMtCO_{2e}.

Enhancement Opportunities

Work on Aligning for Growth policies and guidance has resumed under the aegis of the Water Quality Trading Advisory Committee and they are expected to be finalized next year.

Funding

Trading program policy and infrastructure development was funded by: the U.S. Department of Agriculture through the Natural Resources Conservation Service's Conservation Innovation Grants; the U.S. Environmental Protection Agency Clean Water Act, Section 319(h); and Chesapeake Bay Implementation, Section 117, Grants. The last remaining grant will end during Fiscal Year 2017 and alternative funding will be sought.

Challenges

Major concerns center on the following issues:

- Appropriate metrics to estimate or measure pollution reductions and carbon sequestration
- Viability of a voluntary program and participation levels
- Verification and certification protocols and the assurance that credits are real and reliable
- Public reporting procedures and accessibility and their role in fostering transparency and trust
- Compliance, liability, and enforcement provisions and exposure to legal action

Relevant Information

RESI has not yet evaluated the potential economic impact of an active environmental market. Such a market would provide new employment and income opportunities for individuals and organizations that offer services to support an environmental restoration economy. Furthermore, such a market will benefit the environment by creating a need for regular inspections, assessment and verification of credits, and the development of environment-friendly systems. These credits can then be acquired, managed and re-sold, and would be a revenue source for engineers, contractors, aggregators, brokers, environmental bankers and more.