Frequently Asked Questions:
Phosphorus Management Tool
Economic Analysis Study

What is the PMT?

The Phosphorus Management Tool (PMT) is a risk assessment tool that only applies on farms where soil phosphorus has a Fertility Index Value (FIV) of 150 or more. The FIV is a measurement, determined by a soil test, of how much phosphorus is in the soil compared to how much is needed to grow crops. The PMT identifies areas where excess phosphorus is present in the soil and where a high potential for phosphorus loss exists. A loss of phosphorous contributes to excessive nutrient runoff into nearby waterways and the Chesapeake Bay. The PMT also allows farmers to evaluate management options they can use on their farms to reduce the risk of phosphorus losses from agricultural fields to nearby waterways.

The PMT, which will replace the Phosphorus Site Index, reflects the latest research by University of Maryland scientists in collaboration with regional and national experts. Revising and updating the tool is an element of Maryland's Watershed Implementation Plan (WIP), the federally mandated document that outlines specific steps the state will take to protect and restore the Chesapeake Bay. MDA is confident that the PMT science is sound, based on 20 years of evolving federal and state research to better understand soil phosphorus and managing risk of loss to rivers and streams.

Why did the Maryland Department of Agriculture (MDA) commission the Economic Analysis Study?

To comply with the General Assembly's 2014 Joint Chairman's Report budget requirements, MDA contracted with the Business, Economic and Community Network (BEACON) at the Franklin P. Perdue School of Business at Salisbury University under the direction of Dr. Memo Diriker to conduct an economic evaluation related to implementation of the PMT. The study began in March 2014.

The BEACON team, with the help of MDA and community-based organizations, developed a list of approximately 75 representatives from agricultural, business, environmental, public policy and related sectors to collect the data and information needed to conduct the study. The information gathering process and panel inputs resulted in 4,500 pages of information and feedback. Additional input was also sought and received from EPA, DPI and other sources for incorporation into the three scenarios. Prior to its release, the study's lead author, BEACON Director Dr. Memo Diriker, submitted the study for peer review by a panel of academics with agricultural and economic modeling expertise.

What was the purpose of the study?

The goal of the study is to better understand the potential economic costs of the PMT implementation on farmers and its benefits on the economy as a whole and to inform the department's policy and programmatic development. The study assessed available economic and financial data and information related to the proposed PMT implementation, including the potential costs, potential benefits, and other related decision-points. The study analyzed this data at a macro-level under three viable implementation scenarios, which were provided by MDA.

Why did the study focus on Eastern Shore stakeholders?

Based on field trials conducted by the University of Maryland, the PMT is estimated to have the greatest impact on the Eastern Shore due to high existing soil phosphorus levels.

Now that we have a study detailing the costs and benefits of the PMT, what is the state's next step?

MDA is currently reviewing the study and will consider the findings and issues raised. The study will help MDA determine what new and existing financial and technical assistance would be needed to implement the PMT, including potential programmatic and policy changes.

What are the key findings of the BEACON PMT Economic Analysis Study?

Based on the analysis of the three scenarios, Scenario 3 has the lowest "Reduced Cost" estimate (Eastern Shore farmers' PMT implementation costs minus current and potential subsidies) with a mean value of $22.5 Million ($1.8 Million Standard Deviation) total over 6 years.

Separately, it is estimated that, at the end of the Scenario 3 time frame, the PMT implementation could contribute about $100 Million a year towards the value of a clean Bay. This number includes value enhancements and potential cost savings attributable to Maryland meeting its Chesapeake Clean Water Blueprint goals.

Unless part of the estimated benefits are monetized and used to further defray the costs of PMT implementation on the Eastern Shore, the implementation costs on the Shore should not be compared to the benefits that will be enjoyed by all Marylanders.

How will the State help to mitigate the impact of the PMT?

In the past, MDA has used a variety of resources to address regulatory impacts, including General and Special Funds, the 2010 Trust Fund, Bay Restoration Fund, certain USDA Natural Resources Conservation Service programs and other federal funding.

The O'Malley-Brown Administration is committed to providing farmers with the resources they need to comply with environmental regulations and help Maryland meet its nutrient reduction milestones for the Chesapeake Bay. Over the last seven years, the Administration has directed more than $170 million to help the agricultural industry reduce pollution into local streams, rivers, and the Chesapeake Bay.

What resources have MDA already put in place to help farmers manage the impact of PMT regulations?

The Administration stands behind the State's commitment to EPA to implement a Watershed Implementation Plan to achieve a healthy Chesapeake Bay and grow our State's green economy. The PMT is included in the WIP as a programmatic milestone. Maryland will take every step possible to both protect water quality and ensure the viability of family farms in Maryland.

- **Increased cost-share funding caps for transporting excess manure from dairy, beef and other non-poultry producers** up to $15,000 per season or $30,000 per year. (The previous limit for individual farms was $7,500 per year.)
- **Enhanced the Manure Transport Program** with an additional $500,000 in funding in FY13 and FY14 (for a total of $1.2 million for those two years). In FY15, State enhancement increased to $750,000. Poultry companies are offering additional support with expanded commitments and agreements for participation and company matches for the program.
- **Deploying new technologies through the Animal Waste Technology Fund** ($2.5 million per year) by providing grants to companies that demonstrate new technologies that generate energy from animal manure, reduce on-farm waste streams, and repurpose manure by creating marketable fertilizer and other products and by-products.
- Providing **grants for new technologies through the Maryland Industrial Partnerships Program**, which on September 9, 2014, approved five poultry manure-to-energy technology projects, worth $1.9 million.
- **Secured Cost Share Grants for Manure Incorporation/Injection –** In FY13 and FY14, the O'Malley – Brown Administration allocated an additional $2 million in the Maryland Agricultural Cost Share (MACS) Program to help those farmers who need to implement BMPs on their farms to comply with new nutrient management regulations adopted in 2012.
- **Revitalized the Manure Matching Service,** which connects farmers who have excess animal manure with farmers or alternative use projects that can use the manure as a valuable resource. The service helps farmers manage manure resources, comply with nutrient management regulations, and protect water quality in streams, rivers and the Chesapeake Bay. The free service is available to all types of animal producers with excess manure, including poultry, dairy, beef, hog and horse operations.
- **Funded 43 additional Soil Conservation District positions** between FY09 and FY13 to ensure farmers get the technical assistance they need.
- **Exploring a state-operated facility to receive poultry litter,** which will be considered as a "last resort," if no other markets exist.
- **Developing a manure-to-energy facility**, which will be able to handle more than half of the annual estimated excess litter from PMT implementation.