SB 739

Department of Legislative Services

Maryland General Assembly
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FISCAL AND POLICY NOTE
Revised

Senate Bill 739 (Senator Pinsky)
Education, Health, and Environmental Affairs Environmental Matters

Agriculture - Nutrient Management Plans - Fertility Index Value Soil Testing

This bill requires specified agricultural operations to forward Fertility Index Value (FIV) soil test results to the Maryland Department of Agriculture (MDA) every five years. MDA must maintain a database of those results that is available to the public on request and must include a summary of the results in a specified annual report, in each case protecting the identity of those forwarding the results.

Fiscal Summary

State Effect: General fund expenditures increase by $762,300 in FY 2014, $958,200 in FY 2015, and $367,200 in FY 2016 for MDA to hire additional staff and develop and maintain a database. Future years reflect annualization and inflation. Revenues are not affected.

(in dollars)	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018
Revenues	$0	$0	$0	$0	$0
GF Expenditure	762,300	958,200	367,200	383,300	400,200
Net Effect	($762,300)	($958,200)	($367,200)	($383,300)	($400,200)

Note:() = decrease; GF = general funds; FF = federal funds; SF = special funds; - = indeterminate effect

Local Effect: None.

Small Business Effect: Potential meaningful.

Analysis

Bill Summary: The bill applies to (1) a person required to have a nutrient management plan and (2) a person who operates a livestock farm with 100 or more animal units or a person who operates a poultry farm with a capacity of 125,000 or more chickens. "Animal unit" is defined as 1,000 pounds of live animal weight per unit. A person subject to the bill must forward the results of the FIV soil test to MDA every five years in accordance with a staggered submission schedule established by the department. MDA must maintain a database of the FIV soil test results that is searchable by:

- a unique field identifier established by the department;
- subwatershed; and
- any other category determined by MDA to be appropriate in assisting the implementation of the State's Watershed Implementation Plan (WIP).

The database must protect the identity of the person who forwarded the FIV soil test results and be made available to the public on request. MDA must also include a summary of the results of the FIV soil tests received during the preceding year in the annual report it submits to the Governor and the General Assembly each year on the farm acreage covered by nutrient management plans and the implementation and evaluation of those plans. The summary must be included in a manner that protects the identity of the person who forwarded the results.

Current Law: Pursuant to the Water Quality Improvement Act of 1998 (Chapters 324 and 325) (SB 178/HB 599), agricultural operations with $2,500 or more in gross annual income and livestock operations with 8,000 pounds or more of live animal weight must have and comply with a nutrient management plan for nitrogen and phosphorus. A nutrient management plan is prepared to "manage the amount, placement, timing, and application of animal waste, commercial fertilizer, sludge, or other plant nutrients to prevent pollution by transport of bioavailable nutrients and to maintain productivity."

A summary of each nutrient management plan must be filed and updated with MDA at a time and in a form that the department requires by regulation. The department must maintain a copy of each summary for three years in a manner that protects the identity of the individual for whom the nutrient management plan was prepared. By December 31 of each year, MDA must report to the Governor and the General Assembly on the farm acreage covered by nutrient management plans and the implementation and evaluation of those plans.

MDA certifies and licenses nutrient management consultants and businesses to prepare nutrient management plans for farm operations and also issues certificates to farm operators to develop their own plans. In consultation with the Nutrient Management

Advisory Committee, MDA is required, by regulation, to prescribe the criteria, form, and content for certified nutrient management plans applicable to licensees and certificate holders and also to establish specified continuing education, recordkeeping, and reporting requirements.

Under MDA regulations, a person who manages or owns an agricultural operation, with certain exceptions, must revise and update the operation's nutrient management plan at least once every three years from the date the current plan was prepared. In addition, specified changes in an agricultural operation may require the operator to modify or update a plan when the information in the plan is inadequate, incomplete, or fails to address a change.

MDA regulations also require an operation to file with the department by March 1 of each year an end of cropping season report that includes, but is not limited to, any changes in information on the operation that was reported for the first submitted plan, total acreage managed under the nutrient management plan by crop, and total nutrients applied by crop.

MDA regulations require a nutrient management plan to contain data for each field or area where nutrients will be applied, including, among other things, the watershed location code and a soil analysis. FIV is defined as an index developed by the University of Maryland that is used to describe the relative availability of nutrients to a plant or crop and described in the Maryland Nutrient Management Manual. The manual indicates that different soil testing procedures generate different analytical results and provides indices for converting the analytical results generated by seven regional soil testing laboratories to the FIV scale used by the Maryland Cooperative Extension Soil Testing Laboratory. FIV is a factor used in developing required nutrient management plan recommendations.

Background:

Nutrient Management Program

As described by MDA, Maryland's Nutrient Management Program "protects water quality in the Chesapeake Bay and its tributaries by ensuring that farmers and urban land managers apply fertilizers, animal waste, and other nutrient sources in an effective and environmentally sound manner." By the end of fiscal 2012, 99.6% of the State's regulated farm operators had met the requirements for submitting initial nutrient management plans to MDA, and 98% had submitted the 2012 annual implementation reports due by March 1.

State Watershed Implementation Plan

The State's WIP identifies the measures being put in place in Maryland to comply with the Chesapeake Bay Total Maximum Daily Load (TMDL) established by the U.S. Environmental Protection Agency. The Chesapeake Bay TMDL is a part of the current bay restoration policy framework and sets the maximum amount of nutrient and sediment pollution the bay can receive and still attain water quality standards. More information on the State's bay restoration efforts, including an overview of the requirements to reduce nutrient and sediment loading under the federal Chesapeake Bay TMDL and the State's WIP, may be found in **Appendix – Chesapeake Bay Restoration Policy and Status**.

State Expenditures: General fund expenditures increase by $762,320 in fiscal 2014, $958,167 in fiscal 2015, and $367,159 in fiscal 2016, as a result of the bill, which accounts for the bill's October 1, 2013 effective date. This estimate reflects the cost of hiring three additional employees in fiscal 2014 and one additional employee in fiscal 2015 within MDA to implement the bill's requirements. The estimate assumes that MDA establishes a database hosted by a third party that has online reporting capability and is able to be integrated with other nutrient management plan information. The estimate includes salaries, fringe benefits, start-up costs (including information technology (IT) contractual services to develop the database), and ongoing operating costs.

The four additional employees hired in MDA are as follows:

- one nutrient management specialist – to review submitted FIV information and work with farm operators to ensure the continuity and value of reported FIV results (hired in October 2013);
- one IT programmer and one web developer – to help develop and maintain the database (hired in October 2013); and
- one data entry operator – to enter reports submitted by hard copy into the database (hired in January 2015).

It is unclear whether the bill only applies to a person who is required to have a nutrient management plan *and* operates either a livestock farm with 100 or more animal units or a poultry farm with a capacity of 125,000 or more chickens or whether the bill applies to any person required to have a nutrient management plan. This estimate assumes that the bill only applies to persons required to have a nutrient management plan that operate a livestock or poultry farm meeting the specified criteria. Under this assumption, MDA estimates that the bill requires management of 7,000-10,000 records of FIV results from fields on approximately 900 farms.

Future year expenditures reflect full salaries with annual increases and employee turnover and annual increases in ongoing operating expenses.

	FY 2014	FY 2015	FY 2016
Positions (New)	3	1	0
Salaries and Fringe Benefits (Total)	$198,642	$299,411	$337,938
IT Contractual Services	457,000	575,500	0
Computer Equipment/Office Furniture	13,845	4,615	0
Vehicles	18,620	0	0
Other Operating Expenses/One-time Costs	74,213	78,641	29,221
Total MDA Expenditures	**$762,320**	**$958,167**	**$367,159**

Small Business Effect: Small business farmers required to report FIV results may be meaningfully impacted. MDA indicates that FIV results will be reported for each field or management unit on a farm. The format in which MDA will require the information to be reported may not necessarily correlate to the format of an operation's nutrient management plan and may require additional field or management unit characteristic information to be provided, resulting in additional time and possibly additional costs.

The bill requires the identity of persons who report FIV results to be protected, but also requires the database of results to be available to the public and searchable by specified categories, including a unique field identifier established by MDA, subwatershed, and any other category determined by MDA to be appropriate in assisting the implementation of the State's WIP. To the extent the search categories may allow a member of the public to determine the FIV results of a given farm (if, for example, there is only one or a small number of farms in a subwatershed) the farm could be negatively impacted. For example, a farm that has limited capacity in its fields to stay within nutrient management phosphorus restrictions may be put at a disadvantage when seeking to rent additional land to use manure the farm produces or transfer manure for use on other farms, if the farm's FIV results are public knowledge.

Additional Information

Prior Introductions: None.

Cross File: None.

Information Source(s): Maryland Department of Agriculture, University System of Maryland, Department of Legislative Services

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Appendix – Chesapeake Bay Restoration Policy and Status

Past efforts to restore the Chesapeake Bay watershed, which includes parts of Delaware, the District of Columbia, Maryland, New York, Pennsylvania, Virginia, and West Virginia, have resulted in insufficient progress and continued poor water quality. However, a regional restoration initiative, required by the federal government and characterized by accountability measures and shorter term program evaluation, is underway.

Policy Framework

The current bay restoration policy framework is primarily guided by an executive order, two-year goal milestone setting, and a Chesapeake Bay Total Maximum Daily Load (TMDL). In May 2009, President Barack Obama signed an executive order that recognizes the bay as a national treasure and calls on the federal government to lead a renewed effort to restore and protect the nation's largest estuary and its watershed. Concurrent with the issuance of the executive order, bay jurisdictions committed to achieving specific, short-term bay restoration milestones in order to assess progress toward achieving nitrogen, phosphorus, and sediment pollution reduction goals. As part of this effort, pollution reduction progress and program information is submitted to the U.S. Environmental Protection Agency (EPA) every two years.

In December 2010, EPA established a Chesapeake Bay TMDL, as required under the federal Clean Water Act and in response to consent decrees in Virginia and the District of Columbia. TMDL sets the maximum amount of nutrient and sediment pollution the bay can receive and still attain water quality standards. It also identifies specific pollution reduction requirements; all reduction measures must be in place by 2025, with at least 60% of the actions completed by 2017. As shown in **Exhibit 1**, the State must establish pollution control measures by 2025 that, based on 2010 levels, will reduce nitrogen loads to the bay by 22.0%, phosphorus loads by 14.9%, and sediment loads by 1.9%.

Exhibit 1
Maryland's Pollution Reduction Goals in the Bay TMDL
(Million Pounds per Year)

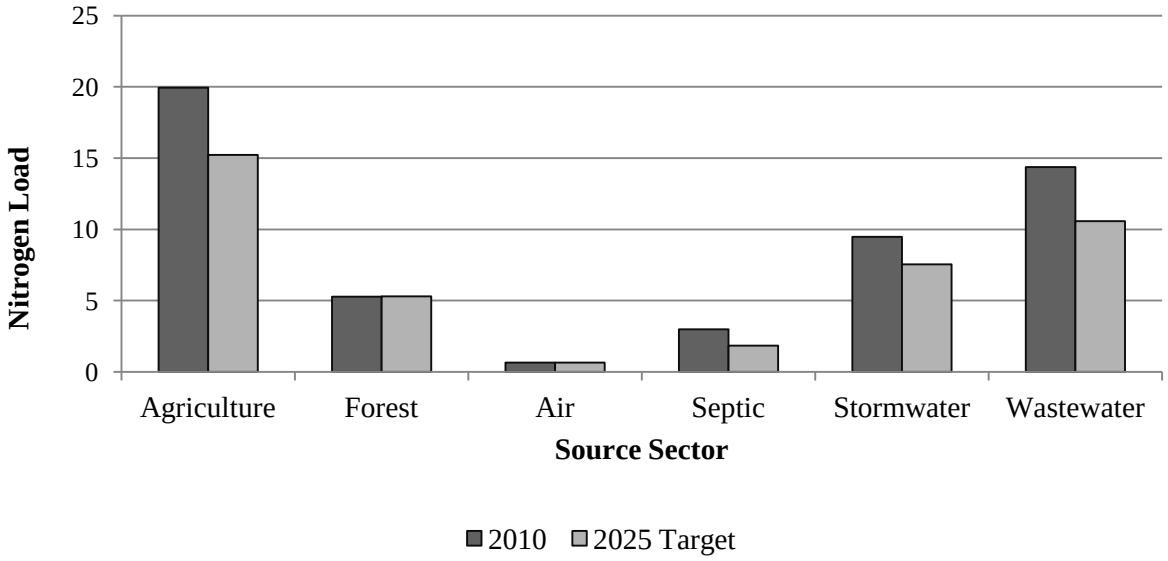
Pollutant	2010 Loads	Bay TMDL Target Load	Percent Reduction
Nitrogen	52.76	41.17	22.0%
Phosphorus	3.30	2.81	14.9%
Sediment	1,376	1,350	1.9%

TMDL: Total Maximum Daily Load

Source: Maryland Department of the Environment; U.S. Environmental Protection Agency

As part of the Chesapeake Bay TMDL, bay jurisdictions must develop watershed implementation plans (WIPs) that identify the measures being put in place to reduce pollution and restore the bay. WIPs (1) identify pollution load reductions to be achieved by various source sectors and in different geographic areas and (2) help to provide "reasonable assurance" that sources of pollution will be cleaned up, which is a basic requirement of all TMDLs. In 2010, bay jurisdictions submitted Phase I WIPs that detail how the jurisdiction plans to achieve its pollution reduction goals under TMDL. The bay jurisdictions were required to submit Phase II WIPs in early 2012 that established more detailed strategies to achieve the bay TMDL on a geographically smaller scale. **Exhibit 2** shows Maryland's current and 2025 target nitrogen pollution loads by source sector and illustrates that agriculture, wastewater, and stormwater are the major sources of pollution and are being targeted for significant load reductions. A Phase III WIP, which must be submitted to EPA in 2017, will ensure that all practices are in place by 2025 so that water quality standards can be met.

Exhibit 2
Current and Target Nitrogen Pollution Loads by Source
(Million Pounds per Year)



Source: Maryland's Phase II Watershed Implementation Plan

EPA has the discretionary authority to ensure that the bay jurisdictions develop and implement appropriate WIPs; attain appropriate two-year milestones of progress; and provide timely and complete information as part of the TMDL process. EPA may, among other things, increase oversight of state-issued pollution permits, require additional pollution reductions, prohibit new or expanded pollution discharges, redirect or condition federal grant funds, and revise water quality standards to better protect local and downstream waters. Last summer, EPA withheld $1.2 million in federal aid from Virginia and made allocation of the funds contingent upon the state addressing specified stormwater management issues.

Progress to Date

Maryland achieved its first set of two-year bay restoration milestone goals and is implementing strategies set forth in its WIP. The first set of two-year milestones required Maryland to reduce nitrogen loads by 3.75 million pounds and phosphorus loads by 193,000 pounds (relative to calendar 2008 load levels). In June 2012, it was announced that Maryland had met its 2009-2011 milestones and was on track to achieve its 2012-2013 milestones. While the State met and even exceeded several goals, it did not meet all of its goals. For example, Maryland committed to installing 125 agricultural water control structures, but only met 39% of that goal. Additionally, the State

committed to stormwater management retrofits to address 119,700 pounds of nutrients, but met only 88% of that goal. During the milestone period, Maryland assessed and adapted goals to reflect actual conditions and overshot its reduction goals for added security.

More Information

A December 2012 Department of Legislative Services report titled *Achieving the Chesapeake Bay Restoration Mandate in Maryland* provides more information about this issue and is available at http://dls.state.md.us/data/polanasubare/polanasubare_natresenvntra/Achieving-the-Chesapeake-Bay-Restoration-Mandate-in-Maryland.pdf.