

Department of Legislative Services
Maryland General Assembly
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FISCAL AND POLICY NOTE

House Bill 412

(Delegate O'Donnell)

Environmental Matters

Education, Health, and Environmental Affairs

Agriculture - Sewage Sludge - Timing of Winter Application

This bill requires that Maryland Department of Agriculture (MDA) regulations that, under current law, must prescribe the criteria, form, and content for certified nutrient management plans, establish criteria for the timing of the winter application of sewage sludge that are the same as or substantially similar to the criteria adopted for the timing of the winter application of animal manure.

The bill takes effect July 1, 2015.

Fiscal Summary

State Effect: The bill is not expected to significantly affect State finances in the near term, but it could contribute to increased State capital and/or operating expenditures in the future, associated with wastewater treatment plants owned and/or operated by the Maryland Environmental Service (MES), to the extent criteria established by MDA limit or prohibit land application of sewage sludge during the winter. However, because MDA is already in the process of developing requirements for the timing of winter nutrient application, such impacts may occur even in the absence of this bill.

Local Effect: Certain local governments incur increased costs in future years to dispose of or store sewage sludge to the extent criteria established by MDA (once the bill takes effect in 2015) limit or prohibit land application of sewage sludge during the winter. However, because MDA is already in the process of developing requirements for the timing of winter nutrient application, such impacts may occur even in the absence of this bill. **This bill may impose a mandate on a unit of local government.**

Small Business Effect: Potential meaningful.

Analysis

Current Law:

Nutrient Management Plans

Pursuant to the Water Quality Improvement Act of 1998 (Chapters 324 and 325), 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. Different implementation dates applied to operations using chemical fertilizers and operations using sewage sludge or animal manure. Operations using sewage sludge or animal manure have been required to comply with a nutrient management plan for nitrogen and phosphorus since July 1, 2005.

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 establish specified continuing education, recordkeeping, and reporting requirements.

Under MDA regulations, timing of nutrient application is one of the elements required to be addressed in determining a nutrient management plan's recommendations. Those recommendations must be consistent with specified guidelines within the *Maryland Nutrient Management Manual*. The manual does not specifically address timing of the winter application of sewage sludge, but it contains specific restrictions on the winter application of manure – specifying that manure may be applied in the winter (November 16 through February 28) only if the farm operation has inadequate storage, a nonstackable manure, and no other reasonable option to manage it. Specified guidelines must be followed if winter application is necessary because of inadequate storage, but they are intended only as a temporary measure. The manual encourages livestock and poultry producers to have adequate manure storage to accommodate manure production through the winter months.

Maryland Department of the Environment Regulation of Sewage Sludge

The Maryland Department of the Environment (MDE) regulates the land application of sewage sludge, with any applicable regulations adopted by MDE requiring the approval of MDA. A person must have an MDE sewage sludge utilization permit, for each utilization site, in order to utilize (including land application) sewage sludge in the State.

Various requirements are specified in MDE regulations for the application of sewage sludge to agricultural land. Relevant to the winter application of sewage sludge, the regulations prohibit, subject to certain exceptions, application to agricultural land under certain adverse weather conditions – specifically, when the soil is saturated, the ground is covered with snow, or when weather conditions prevent adherence to a requirement to incorporate the sludge into the soil. Under the exceptions, sewage sludge may be injected into soil through up to six inches of snow and may be surface applied to frozen ground under certain circumstances.

Use and disposal of sewage sludge is also regulated by the federal government under 40 CFR 503.

Background: Sewage sludge is one of the final products of the treatment of sewage at a wastewater treatment plant, after treatment has broken down the organic matter and killed disease-causing organisms. According to MDE, more than 700,000 wet tons of sewage sludge is generated in Maryland each year. MDE indicates that the application of sewage sludge to agricultural land recycles nutrients, saves landfill space and money, and helps reduce nutrient pollution to the Chesapeake Bay.

In 2010, 25% of the utilized sewage sludge was applied to agricultural land, 48% was hauled out of State, and the remainder went to other uses, including 7% to landfill utilization/disposal. At the end of 2010, there were 720 active sewage sludge permits. Of those permits, 325 were for land application, the vast majority of which appear to be for agricultural land application.

MDA and MDE have been discussing requirements for the timing of nutrient application (including chemical fertilizer, animal manure, and sewage sludge) in the winter, to be included in the *Maryland Nutrient Management Manual* (which is incorporated by reference in MDA regulations). MDA drafted nutrient management regulations that prohibit winter application of sewage sludge and submitted them to the Joint Committee on Administrative, Executive, and Legislative Review in November 2011, but the regulations were withdrawn prior to being published in the *Maryland Register* to allow additional stakeholder discussions. MDE advises that its regulations will be revised to establish consistency with MDA's nutrient management regulations.

State Fiscal Effect: State finances are not expected to be significantly affected in the near term. However, to the extent criteria established by MDA as a result of this bill (once it takes effect in 2015) limit or prohibit land application of sewage sludge during winter months, the restriction or elimination of that disposal option during the winter could, in future years, be a contributing factor to increased capital and/or operating costs borne by the State to either store or dispose of in another manner sewage sludge

generated during winter months at wastewater treatment plants owned and/or operated by MES.

MES currently uses land application as a disposal option for sewage sludge generated from three of its wastewater treatment plants (one of which is owned by MES and the other two are owned by the State but operated by MES), contracting to have sewage sludge hauled to farm sites in Virginia. MES indicates that regulations in Virginia are projected to become more stringent, which could limit future disposal options, and that land application of the sewage sludge in Maryland could become an alternative at some point in the future.

MES indicates that, if it is not able to apply sewage sludge to land during winter months, it would need to construct additional storage. The three major MES-operated wastewater treatment plants utilizing land application to dispose of sewage sludge serve State, local, and private facilities. Transporting the sewage sludge to landfills would increase MES' costs in comparison to land application, and any increase in costs would be allocated among the users of the plants, including the State. MES is in the process of developing estimates for the volume of storage needed and the capital costs for these storage facilities.

Legislative Services notes that, while the bill requires MDA to establish specified criteria for the timing of winter application of sewage sludge, MDA is already in the process of developing requirements more stringent than current MDE regulations, which could be adopted even in the absence of this bill. Thus, the potential impacts discussed here may occur even in the absence of the bill.

Local Fiscal Effect: Local governments are affected to the extent the criteria established by MDA under the bill, once it takes effect in 2015, limit or prohibit the land application of sewage sludge during the winter. Local government-owned/-operated wastewater treatment plants that currently rely on land application to dispose of sewage sludge may be required to find other means to dispose of the sewage sludge or store it, which may result in an increase in costs.

Frederick County indicates that it could be impacted if land application of sewage sludge in Maryland is restricted, noting the potential for significant expenditures associated with building additional storage or hauling sewage sludge to more distant locations for disposal. Charles County advises that it would be required to renegotiate the terms of its agreement with sewage sludge haulers, which could impact its expenditures.

MDE indicates that there are roughly 43 publicly owned wastewater treatment plants in the State that are authorized for land application of sewage sludge. Many plants do not currently have enough storage capacity to store all of their output over the winter, and

constructing new storage or composting facilities takes significant time and resources. Not counting land acquisition and permitting costs, which vary based on location, the estimated capital cost for building a storage facility, as estimated by Synagro Central, LLC, the largest sewage sludge utilization company in Maryland, is \$733.76 per wet ton. Overall, MDE estimates that the bill could require winter storage for an estimated 98,000 wet tons, requiring about \$72 million (assuming there is no existing capacity at the wastewater treatment plants) to build storage facilities.

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Small Business Effect: Small businesses involved in the generation or management/disposal of sewage sludge may be affected to the extent that the land application of sewage sludge in the winter is limited or prohibited by criteria established by MDA as a result of the bill. The magnitude of any impact is uncertain. Presumably a change in the means of disposing of (or storing) a significant percentage of the sewage sludge generated in the State during the winter may be detrimental to certain small businesses involved with or using land application but possibly beneficial to others that may generate business from other means of disposal or storage.

Farmers (most of whom are small businesses) may also be affected by the criteria established by MDA for the timing of winter application of sewage sludge. Some farmers depend on sewage sludge for their land's nutrient value. However, MDA indicates that the nutrient value of sewage sludge and animal manure begins to decrease once they are applied and, therefore, application closer to the time of crop production, rather than over the winter, could have greater nutrient value for crop production.

Additional Information

Prior Introductions: HB 24 of 2011 passed the House but received an unfavorable report from the Senate Education, Health, and Environmental Affairs Committee. HB 813 of 2010 received an unfavorable report from the House Environmental Matters Committee.

Cross File: None.

Information Source(s): Baltimore, Charles, Frederick, Montgomery, and Somerset counties; Maryland Department of Agriculture; Maryland Department of the

Environment; Maryland Environmental Service; Northeast Maryland Waste Disposal Authority; Department of Legislative Services

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