

Department of Legislative Services
Maryland General Assembly
2006 Session

FISCAL AND POLICY NOTE
Revised

Senate Bill 379

(Senator Dyson, *et al.*)Education, Health, and Environmental Affairs and Budget
and Taxation

Environmental Matters

Environment - Patuxent River Watershed

This bill repeals various provisions regarding sewage treatment plants in the Patuxent River Watershed and requires specified wastewater treatment plants (WWTPs) that discharge wastewater into the Patuxent River or any of its tributaries to upgrade to enhanced nutrient removal (ENR) by specified dates, unless a more advanced upgrade or upgrade schedule is required by State or federal law or regulation. The requirement to upgrade would be contingent on the availability of funding from the Bay Restoration Fund.

Fiscal Summary

State Effect: Overall finances of the Bay Restoration Fund would not be affected. Total costs to upgrade the affected facilities to ENR are currently estimated at \$128.55 million; of this, \$63.00 million is already slated for funding. The Maryland Environmental Service, which operates the only State-owned WWTP (Dorsey Run) in the Patuxent River Watershed, should not be affected since it is already slated for funding and has already been upgraded to biological nutrient removal (BNR).

Local Effect: Eight of the facilities affected by the bill are currently owned by local governments; six of these facilities are already slated for ENR funding and have already been upgraded to BNR. The extent to which the other two facilities (Harwood Sr. High School and Northern High School) would upgrade to ENR prior to the bill's 2020 deadline is unknown. Costs to upgrade these two facilities to ENR are currently estimated at \$10.48 million; approximately half of the estimated amount may not be eligible for funding from the Bay Restoration Fund. **This bill may impose a future mandate on a unit of local government.**

Small Business Effect: Potential meaningful.

Analysis

Bill Summary: The deadlines established in the bill are as follows:

- January 1, 2012 for a nonfederal publicly-owned WWTP that has a design capacity of at least 500,000 gpd;
- January 1, 2016 for a nonfederal WWTP that has a design capacity of at least 50,000 gpd; and
- January 1, 2020 for a nonfederal WWTP that has a design capacity of less than 50,000 gpd.

Current Law: Current law establishes various requirements regarding the removal of nitrogen and phosphorus from sewage treatment plants in the Patuxent River Watershed. The Maryland Department of the Environment (MDE) is authorized to make the issuance of a discharge permit contingent on any conditions it considers necessary to prevent a violation of the State's water pollution control laws.

The Water Quality Financing Administration (WQFA) within MDE was established by the General Assembly in 1988 to encourage capital investment for wastewater and drinking water projects pursuant to the federal Clean Water Act and the federal Safe Drinking Water Act. WQFA administers two loan funds. One of those loan funds, the Water Quality Revolving Loan Fund (WQRLF), was established in 1988 to provide low-interest loans to public entities for wastewater projects. MDE also administers other financing programs relating to WWTPs, such as the Biological Nutrient Removal Program and the Supplemental Assistance Program.

Chapter 428 of 2004 established the Bay Restoration Fund, which is administered by WQFA. The main goal of the fund is to provide grants to WWTP owners to reduce nutrient pollution to the Chesapeake Bay by upgrading the systems with ENR technology. Priority for WWTP funding is given to major WWTPs (those with a design capacity of at least 500,000 gallons per day (gpd)). Major facilities that are privately- or federally-owned, as well as minor facilities (those with a design capacity of less than 500,000 gpd), will be targeted for funding only after the 66 major publicly-owned WWTPs are upgraded. Eligible costs include the costs attributable to upgrading a facility from BNR to ENR.

Background: According to MDE, because of concerns from watermen and others over declining oyster and fish harvests, detailed water quality studies and modeling were done on the Patuxent River in the late 1970s and early 1980s. The results of these studies were

formalized into a set of recommendations in 1981 to resolve a lawsuit by the Southern Maryland counties against the State and the upper Patuxent counties. The loading cap agreement was not put into State law; instead, the legislature opted to include only seasonal concentration limits on the major facilities. The point source portion of the Charrette Agreement was soon incorporated into the National Pollutant Discharge Elimination System permits issued for the major facilities in the watershed and then put into State law. According to MDE, the part of the agreement that required major dischargers to plan for the possible future addition of processes to reach 3.0 mg/l total nitrogen and 0.3 mg/l total phosphorus never got beyond the planning stage. Since then, the facilities have continued to expand to support growth and development in the Baltimore-Washington corridor.

ENR upgrades of the State's 66 major publicly-owned WWTPs are currently underway. As of January 1, 2006, 1 major WWTP (Celanese in Allegany County) is operating at the ENR level; 6 are under construction; 11 are in design; and 30 are in planning. MDE is continuing to work to bring the remaining 18 major publicly-owned WWTPs into the program. According to MDE, there are 10 major WWTPs and 15 minor WWTPs within the Patuxent River Watershed. The names, location, design capacity, ENR deadline under the bill, estimated ENR cost, and current status of the ENR upgrade schedule for the nonfederal facilities covered by the bill are shown in **Appendix 1**.

State/Local/Small Business Effect: The bill would not affect the overall finances of the Bay Restoration Fund. Current estimates of upgrading the affected facilities total approximately \$128.55 million. Of this, an estimated \$63.00 million is already slated for funding. The extent to which Bay Restoration Fund monies will be available in the out-years cannot be predicted at this time. Even if such funds are available, affected facilities may incur other costs. Eligible costs under the Bay Restoration Fund include only the costs of upgrading a facility from BNR to ENR. In addition, ENR upgrades may involve other plant improvements that are not eligible for funding from the Bay Restoration Fund. Finally, in addition to capital costs, there are additional operating and maintenance costs associated with ENR.

Nineteen WWTPs would be covered under the bill's provisions. Seven WWTPs (the major publicly-owned facilities) would be required to upgrade to ENR by January 1, 2012, if funding is available from the Bay Restoration Fund. According to MDE, one of these facilities does not need to upgrade because it is already achieving ENR, and the other six facilities (five of which are locally-owned and one of which is State-owned) are already slated for ENR funding and have already upgraded to BNR. Based on the current ENR upgrade schedule, these facilities are anticipated to be operating at ENR prior to the bill's deadline, even in the absence of the bill. The total cost to upgrade these six facilities to ENR is currently estimated at \$63.00 million.

Seven privately-owned WWTPs would be required to upgrade to ENR by January 1, 2016, if funding is available from the Bay Restoration Fund. The total cost to upgrade those facilities to ENR is currently estimated at \$39.44 million; MDE advises, however, that approximately half of that amount may not be eligible for funding from the Bay Restoration Fund. Further, MDE advises that Anne Arundel County is currently negotiating to take over ownership of one of these facilities (Piney Orchard).

Five WWTPs (two locally-owned facilities and three privately-owned facilities) would be required to upgrade to ENR by January 1, 2020, if funding is available from the Bay Restoration Fund. The total cost to upgrade those facilities to ENR is currently estimated at \$26.11 million; MDE advises, however, that approximately half of that amount may not be eligible for funding from the Bay Restoration Fund.

The extent to which facilities not currently slated for ENR funding would upgrade to ENR even in the absence of this bill is unknown. It is possible that several of these facilities would have already upgraded to ENR by the bill's deadlines even in the absence of the bill in order to possibly meet future federal and/or State requirements. In addition, the availability of financial assistance to cover any costs not eligible for funding from the Bay Restoration Fund cannot be predicted. Accordingly, the actual impact of the bill on affected facilities cannot be reliably estimated at this time.

To the extent the bill results in upgrades that otherwise would not occur, small businesses involved with implementing the upgrades could benefit from an increase in the demand for their services. In addition, any customers of affected WWTPs, including small businesses, could be affected to the extent WWTP owners increase their water and sewer rates in an effort to offset any costs not covered by the Bay Restoration Fund.

Additional Comments: Legislative Services notes that, in its January 2006 report to the Governor and specified committees of the General Assembly, the Bay Restoration Fund Advisory Committee noted that WWTP construction costs on recently opened bids are coming in from 20% to 30% higher than the original planning-level estimates. As a result, costs to upgrade the 66 major publicly-owned WWTPs are likely to be much closer to the upper end of the \$750 million to \$1 billion range estimated at the time the Bay Restoration Fund was enacted. The escalating costs can be attributed to increasing energy, steel, and concrete costs. To the extent costs continue to increase, some upgrades could be delayed.

MDE advises that nutrient removal for smaller facilities (those with a design capacity of less than 500,000 gpd) is more costly on a dollar-per-pound basis than nutrient removal for larger facilities. According to MDE, upgrades to the 66 major publicly-owned WWTPs will cover an estimated 95% of the discharge to the bay.

Additional Information

Prior Introductions: None.

Cross File: None.

Information Source(s): Maryland Department of the Environment, Maryland and Virginia Milk Producers Cooperative Association, Department of Legislative Services

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Appendix 1
Current Status of Current ENR Upgrade Schedule, ENR Deadline Under Bill, and Estimated ENR Cost
for Affected WWTPs in the Patuxent River Watershed

<u>WWTP</u>	<u>County</u>	<u>Design Capacity (mgd)</u>	<u>ENR Deadline Under Bill</u>	<u>Estimated ENR Cost (millions of dollars)¹</u>	<u>ENR Upgrade Schedule</u>
Dorsey Run	Anne Arundel	2.000	January 1, 2012	\$3.90	Planning completion by 2006; design completion by 2007; construction completion by 2010
Maryland City	Anne Arundel	2.500	January 1, 2012	\$1.40	Planning completion by 2006; design completion by 2007; construction completion by 2010
Patuxent	Anne Arundel	7.500	January 1, 2012	\$0	Based on the county, the plant is achieving ENR and no upgrade is needed
Little Patuxent	Howard	25.000	January 1, 2012	\$28.00	Planning completion by 2006; design completion by 2007; construction completion by 2010
Bowie	Prince George's	3.300	January 1, 2012	\$9.80	Design completion by 2006; construction completion by 2009
Parkway	Prince George's	7.500	January 1, 2012	\$8.30	Planning completion by 2006; design completion by 2007; construction completion by 2010
Western Branch	Prince George's	30.000	January 1, 2012	\$11.60	Design completion by 2006; construction completion by 2010

<u>WWTP</u>	<u>County</u>	<u>Design Capacity (mgd)</u>	<u>ENR Deadline Under Bill</u>	<u>Estimated ENR Cost (millions of dollars)¹</u>	<u>ENR Upgrade Schedule</u>
Boone's Mobile	Anne Arundel	0.080	January 1, 2016	\$5.29	Not currently targeted because it is a minor facility and privately-owned; may be initiated after 2012
Lyons Creek Mobile	Anne Arundel	0.125	January 1, 2016	\$5.35	Not currently targeted because it is a minor facility and privately-owned; may be initiated after 2012
Maryland Manor	Anne Arundel	0.070	January 1, 2016	\$5.28	Not currently targeted because it is a minor facility and privately-owned; may be initiated after 2012
Piney Orchard ²	Anne Arundel	1.200	January 1, 2016	\$6.71	Not currently targeted because it is privately-owned; may be initiated after 2012
Waysons Mobile	Anne Arundel	0.060	January 1, 2016	\$5.26	Not currently targeted because it is a minor facility and privately-owned; may be initiated after 2012
MD&VA Milk Producer	Howard	0.325	January 1, 2016	\$5.60	Not currently targeted because it is a minor facility and privately-owned; may be initiated after 2012
Marlboro Meadows	Prince George's	0.600	January 1, 2016	\$5.95	Not currently targeted because it is privately-owned; may be initiated after 2012
Harwood Southern Sr. High School	Anne Arundel	0.040	January 1, 2020	\$5.24	Not currently targeted because it is a minor facility; may be initiated after 2012

<u>WWTP</u>	<u>County</u>	<u>Design Capacity (mgd)</u>	<u>ENR Deadline Under Bill</u>	<u>Estimated ENR Cost (millions of dollars)¹</u>	<u>ENR Upgrade Schedule</u>
Parkway Inn	Anne Arundel	0.020	January 1, 2020	\$5.21	Not currently targeted because it is a minor facility and privately-owned; may be initiated after 2012
Patuxent Mobile	Anne Arundel	0.035	January 1, 2020	\$5.23	Not currently targeted because it is a minor facility and privately-owned; may be initiated after 2012
Northern High School	Calvert	0.040	January 1, 2020	\$5.24	Not currently targeted because it is a minor facility; may be initiated after 2012
Edgemoor Resident	Prince George's	0.005	January 1, 2020	\$5.19	Not currently targeted because it is a minor facility and privately-owned; may be initiated after 2012
Total				\$128.55	

¹Includes costs to upgrade facilities to BNR, where applicable.

²According to MDE, although this facility is currently privately-owned, Anne Arundel County is negotiating to take over ownership of the facility. Note: Facilities that are not initially targeted for Bay Restoration Fund funding may be targeted no earlier than 2012 based on the fund availability after completing the targeted 66 facilities. At that point, those facilities will be selected based on the statewide priority system consistent with the Bay Restoration Fund criteria.

Source: Maryland Department of the Environment