

Department of Legislative Services
Maryland General Assembly
2007 Session

FISCAL AND POLICY NOTE

Senate Bill 499 (Senator Brinkley, *et al.*)
Education, Health, and Environmental Affairs

Environment - Water Appropriation Permits - Groundwater Recharge Area

This bill requires the Maryland Department of the Environment (MDE), when calculating a municipal corporation's groundwater recharge area in conjunction with an application for a water appropriation permit, to include several additional specified types of land as land that is under the control of the municipal corporation.

Fiscal Summary

State Effect: General fund expenditure increase of \$45,500 in FY 2008 for MDE to handle the increased workload anticipated as a result of the bill. Future year estimates are annualized and adjusted for inflation. No direct effect on revenues.

(in dollars)	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012
Revenues	\$0	\$0	\$0	\$0	\$0
GF Expenditure	45,500	57,200	60,300	63,500	67,000
Net Effect	(\$45,500)	(\$57,200)	(\$60,300)	(\$63,500)	(\$67,000)

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

Local Effect: Although affected municipalities (generally, those in the Piedmont region of the State) could incur additional costs to prepare their water appropriation permit applications, they would likely benefit from an increase in their groundwater appropriations, thereby enabling additional development. Affected counties, however, could be negatively impacted by the bill's changes.

Small Business Effect: Potential meaningful impact in affected areas.

Analysis

Bill Summary: The land that must be included in calculating the municipal corporation's groundwater recharge area is:

- land within a public water service area that is supplied by the applicant;
- land that is planned for a public service connection to the municipal corporation's water service area within the same time period that the permit would be effective;
- land within a permanent restrictive easement under specified conditions;
- public parks and lands that surround the applicant's existing groundwater recharge area;
- public open spaces that surround the applicant's existing groundwater recharge area and are reasonably expected to be underdeveloped;
- other publicly-owned land;
- land in a single-family residential subdivision under specified conditions; and
- any land within the approved county water and sewerage systems plan that is under the control of the municipal corporation.

Current Law: In order to conserve, protect, and use water resources of the State in accordance with the best interests of the people of Maryland, it is the policy of the State to control, so far as is feasible, appropriation or use of surface waters and groundwaters of the State. A permit must be obtained from MDE to appropriate or use or begin to construct any plant, building, or structure which may appropriate or use any waters of the State. The applicant must provide MDE with satisfactory proof that the proposed withdrawal of water will not jeopardize the State's natural resources. Before acting on any permit application, MDE must weigh all respective public advantages and disadvantages and make all appropriate investigations. Current regulations establish criteria MDE must follow in approving water appropriation or use permits.

In carrying out this mandate, MDE has evaluated the groundwater resources of the State and has developed methods of analysis to ensure that proposed water appropriation and use is in the best interests of the public and that it will not jeopardize the State's natural resources. This bill would affect MDE's calculation of groundwater recharge area as applied to appropriation permits for withdrawal from "water table" aquifers, which are those aquifers that are recharged by infiltration of rainfall directly from the overlying land surface. Groundwater recharge area is not a factor that is considered in issuing permits for withdrawals from "confined" aquifers, which provide groundwater for most of Maryland south and east of the "fall line", a geologic feature that separates the coastal plain from the "Piedmont" portion of the State and roughly follows the route of

Interstate 95. MDE calculates the acceptable withdrawal rate for water table aquifers based on the “water balance approach” using a multi-step evaluation:

- Based on historical streamflow records from each region of the State, MDE hydrologists have determined the amount of streamflow that has occurred historically during drought conditions in watersheds that are not influenced by significant withdrawals.
- MDE estimates the amount of groundwater available to be withdrawn (per acre) from an aquifer without causing an unacceptable impact on the natural resources of the stream based on the difference between the annual average stream baseflow in a moderate drought year (1 in 10 chance of occurring) and the lowest weekly average stream baseflow that has a 1 in 10 chance of occurring (7Q10 flow). This analysis is based on the widely accepted hydrologic principle that the average annual stream baseflow during drought conditions is representative of the average annual recharge rate of the aquifer. It also presumes that the 7Q10 flow is protective of the natural resources associated with the stream and that significant portions of the watershed will not be developed, remaining available to provide additional groundwater recharge.
- In any given area many different landowners may seek an appropriation permit. To prevent conflicts over water use and over-appropriation of the groundwater, MDE has limited the amount of withdrawal to the amount of water equal to the acres of land controlled by the applicant multiplied by the per acre amount of water determined to be available.

Background: The natural limitation on the amount of groundwater that can be withdrawn without adversely impacting the State’s natural resources has in some cases limited the amount of development that can be supported in municipalities that rely solely on groundwater from water table aquifers for water supply (primarily those located in the central “Piedmont” portion of Maryland). Each household on average uses approximately 250 gallons of water a day. In areas where the amount of groundwater recharge per acre is not sufficient, higher density developments must incorporate sufficient open space areas or otherwise restrict water use-associated land located outside of the developed areas but still within the aquifer recharge area to ensure that the groundwater recharge is not exceeded by the water withdrawal.

Concern has been raised that the State’s groundwater recharge policy encourages sprawl by preventing municipalities from building near existing public facilities.

State Expenditures: General fund expenditures could increase by an estimated \$45,538 in fiscal 2008, which accounts for the bill's October 1, 2007 effective date. This estimate reflects the cost of hiring one geologist to handle the additional time it would likely take for water appropriation permit reviews under the bill. It includes a salary, fringe benefits, one-time start-up costs, and ongoing operating expenses. The information and assumptions used in calculating the estimate are stated below:

- two additional weeks of staff time per permit application; and
- 20 permits would be affected each year.

Salary and Fringe Benefits	\$41,635
Equipment and Other Operating Expenses	<u>3,903</u>
Total FY 2008 State Expenditures	\$45,538
Positions	1

Future year expenditures reflect: (1) a full salary with 4.5% annual increases and 3% employee turnover; and (2) 1% annual increases in ongoing operating expenses.

Legislative Services notes that, without any actual experience under the bill's provisions, it is difficult to estimate the additional workload that could result from the bill's changes. To the extent the additional staff time required for each permit review is less than what has been assumed above, a full-time employee may not be needed.

As an owner of public lands affected by the bill, the Department of Natural Resources (DNR) advises that the bill would provide access to hundreds of thousands of acres for the purposes of supplying municipalities with additional water appropriations. According to DNR, the protected lands held in State interest provide for the sustainability of groundwater supplies that maintain healthy natural systems. Although the State does not currently have a formal policy to address requests for water withdrawal from State lands, DNR advises that it has begun to develop such a policy.

Local Fiscal Effect: Affected municipalities could incur additional costs to prepare their water permit applications. In general, however, those types of costs can be passed on to users and/or developers through increased water-related charges.

By expanding the groundwater recharge area credited to affected municipalities, more water would be available to municipalities, thereby allowing them to permit more development at greater densities. The bill's changes could lead to more annexations and consequently, more demand for priority funding area designations. Because the bill

would grant preference to municipal corporations over counties with respect to water appropriations, however, affected counties could be negatively impacted by the bill's changes.

Small Business Effect: To the extent the bill results in an increase in costs for affected municipalities to prepare their permit applications, small business water users and/or developers could bear this additional cost through increased water-related charges.

To the extent the bill enables additional municipal development in affected areas, small businesses (contractors, other construction-related businesses, and service-oriented businesses) in those areas could benefit. To the extent the bill results in a decrease in development in other areas, small businesses in those areas could be negatively impacted. In addition, because the bill would allow water rights to be taken from certain preserved lands (such as farmland), owners of those lands could be negatively impacted.

Additional Comments: MDE advises that the bill may conflict with current provisions of State law that require water appropriation permits to not jeopardize the natural resources of the State.

Additional Information

Prior Introductions: None.

Cross File: None.

Information Source(s): Maryland Department of the Environment, Department of Natural Resources, Maryland Department of Planning, Maryland Municipal League, Frederick County, Department of Legislative Services

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nas/ljm

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