

REPORT OF THE

STATE WATER COMMISSION

**TO THE GOVERNOR AND
THE GENERAL ASSEMBLY OF VIRGINIA**



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REPORT OF THE STATE WATER COMMISSION

EXECUTIVE SUMMARY

The State Water Commission is a 15-member legislative body established by statute that is charged with (i) studying all aspects of water supply and allocation problems in the Commonwealth, and (ii) coordinating the legislative recommendations of all state entities that have responsibilities with respect to water supply and allocation issues. The Commission met in January 2009 and elected Delegate Harvey Morgan as its chairman and Senator John Miller as vice-chairman. The purpose of the meeting was to receive testimony on the "state of Virginia's water resources." Officials of those state agencies responsible for maintaining adequate supplies of ground and surface waters (water quantity) and protecting the quality of its waters (water quality) outlined the state's efforts to ensure that Virginia's current and future water supplies will be sufficient and of a quality to meet the needs of a growing population.

In 1999 and again in 2002, Virginia experienced severe drought conditions that threatened the state and local governments' ability to provide sufficient water supplies to Virginia's population. These situations provided the impetus for the General Assembly to request the State Water Commission to undertake a study of the effectiveness of the Commonwealth's water policies. Testimony by several experts indicated that at the state and local levels, water supply planning was at best "passive" and "episodic." The response to shortages of water included drought relief measures rather than a long-term planning perspective. The Commission, in conjunction with the executive branch, recommended legislation establishing a comprehensive water supply planning process that would result in the development of local, regional, and state water supply plans.

While Virginia has begun the process of developing water supply plans, an official of the Department of Environmental Quality (DEQ) noted that the state has certain water quantity management tools currently available to it for managing water withdrawals and use. With its passage by the legislature in 2003, the water supply planning program has provided a new tool, in addition to such existing statutes and regulations as the Virginia Water Protection Program, the Ground Water Management Act of 1992, and the water use reporting program, to better manage water withdrawals and use. In June 2005, the State Water Control Board (SWCB) adopted the final water supply planning regulation. Under this regulation all counties, cities, and towns individually or as part of a regional plan, are required to submit a water supply plan to the SWCB. The plan is to contain the following information: a description of existing water sources; a description of existing water use; an assessment of projected water demand; a statement of future need; an analysis that identifies potential alternatives to address projected deficits in

supplies; a description of existing water resources conditions; a description of water demand management actions; and a drought contingency and response plan.

By developing a statewide plan, the DEQ hopes to maximize the economic and environmental potential of Virginia's water resources through water supply planning to meet current and future beneficial uses of water. By creating a planning partnership among state, local, and regional interests, the state would be emphasizing the concept of the interdependence of water uses thereby promoting the wise and optimum use of our water resources.

The dates for submission of a local water supply plan are based on the size of the locality's population, with the larger localities (population greater than 35,000) required to submit their plans by November 2, 2008. If localities are engaged in developing regional plans they are required to submit a letter of intent to develop a regional water plan by the same November date.

The efforts to develop a plan and ensure adequate water supplies in the future face certain challenges. Even as staffing and financial resources become scarcer, it continues to be necessary to collect and analyze water resources data. It is important that the state continue its analysis of ground water availability, promote a range of conservation approaches, and encourage nontraditional sources of supply, including the use of such alternative technologies as desalination.

Protecting the quality of Virginia's waters is primarily the responsibility of DEQ and the Department of Conservation and Recreation (DCR). Water quality management by DEQ for point sources of pollution is a step-by-step process. First, water quality standards are established using the indicators of dissolved oxygen, water clarity, and chlorophyll "a." The agency then determines whether the waters into which wastewater is discharged are meeting the standards. If the particular segments of waters are not meeting water quality standards they are placed on the list of "impaired waters." For those waters that are designated as impaired, DEQ develops total maximum daily load (TMDL). A TMDL study identifies the pollutant sources causing the impairment and determines how much of the pollutant the waters can receive (the "load") and still meet water quality standards. An implementation plan, which is required by Virginia law, is then developed that identifies strategies for reducing the sources of pollution and these strategies are then put in place for the impaired body of water. The goal is to have these waters removed from the impaired waters list (303d).

All of Virginia's water basins are monitored at least once during a six-year cycle to assess the extent to which they are meeting water quality standards. Currently, 5,408 of the total of 15,951 miles of rivers have been assessed, with 10,543 classified as impaired. While it appears that there has been a large increase in river miles impaired, it is not because the rivers are getting dirtier but rather

that more rivers are being monitored and assessed. For 2008, the major cause of impairment to rivers was bacteria from nonpoint sources, wildlife, and failed septic systems.

DEQ has adopted a watershed approach to restoring impaired waters. An annual pollution load is allocated among the various point and nonpoint sources of discharges within a watershed. A determination is made by DEQ as to the pollutant load that a particular reach of a river can assimilate and still meet water quality standards. Through May 2008, TMDLs have been developed for 546 impaired water segments, with an additional 208 TMDLs required to be completed by 2010 in order to meet the federal court's consent decree. Eighty-eight TMDL implementation plans have been completed and 29 are currently being developed. Forty impaired water bodies have received funds for actual implementation of the TMDL plan, with another 28 soon to receive implementation funds. There are approximately 1,500 TMDLs statewide remaining to be developed by 2018. Because the Chesapeake Bay will not achieve water quality standards by 2010, a separate TMDL is being developed for the Bay, by Virginia, working with the Environmental Protection Agency (EPA) and the five other Bay watershed states and the District of Columbia. The goal is for the EPA to issue the TMDL by 2010 because the TMDL must be completed pursuant to a court order no later than May 1, 2011.

The Commission also received a progress report on nutrient trading in the Chesapeake Bay watershed in Virginia. By instituting a nutrient trading regime it is believed that nutrient reductions will be attained in a more cost-effective manner over a shorter period of time. The DEQ estimates that trading will result in savings of 23-33% in capital costs, as some facilities will be able to purchase nutrient credits rather than having to finance costly upgrades to their treatment plants. There is a nutrient trading general permit required to participate in the trading program. Currently, 152 facilities have registered for the permit, with pending registrations for 10 new and expanding facilities and 15 new or expanding facilities that have not as yet registered. The Virginia Nutrient Credit Exchange Association is established by statute to aid wastewater treatment plant owners to obtain credits. The Exchange is striving to keep the price of credits low in order to encourage trading.

A major source for financing the upgrading of nutrient removal technology agricultural cost sharing programs is the Water Quality Improvement Fund (WQIF). As of now, 80 grant applications have been received for construction of nutrient facilities costing approximately \$815 million. Agreements have been signed by DEQ and the applicants for 41 projects, reflecting a commitment of \$525 million. Another 17 applications are under active processing at a cost of \$128 million.

Protecting water quality from nonpoint sources of pollution is the responsibility of the Department of Conservation and Recreation (DCR). Nonpoint sources of pollution include runoff from agricultural lands, forests (streambanks), streets, construction sites, septic tanks, streambanks, over-fertilized lawns, etc. Collectively, nonpoint sources are the major sources of nutrient and sediment pollution in the Chesapeake Bay and its tributaries. Approximately 70% of the nitrogen loadings are from these nonpoint sources; while almost 81% of the total phosphorous loading originated from nonpoint sources. Although agriculture and point sources are decreasing as sources of pollution, the pressures of population growth and development now represent the greatest challenge to restoring and protecting the Bay watershed. Suburban and urban stormwater is currently the only source of pollution that is increasing. From 1990 to 2000, the watershed population grew 8%, while the amount of impervious surfaces increased by 41%.

To address the pollution problem, Virginia developed tributaries strategies for five areas: the Shenandoah/Potomac Rivers, the Rappahannock River, the York River, the James River, and the Eastern Shore. The strategies include various approaches to meet the loading allocation assigned to the state by the Chesapeake Bay Program. In addition to the implementation of the tributary strategies, the General Assembly mandated the adoption of the Virginia Water Clean-up Plan. This plan focused on five elements: land conservation, wastewater treatment plants, agriculture, developed and developing lands, and sources of air pollution. The Commission received testimony regarding two of the plan's elements - agricultural programs and developed and developing lands. To reduce pollution from agriculture, DCR provides financial incentive to farmers using the Voluntary BMP Cost-Share Program. This program is funded through the Natural Resources Commitment Fund. Over the last several years, matching funds have been allocated to five priority practices: cover crops, riparian buffers, conservation tillage, nutrient management, and livestock exclusion from streams. By statute 57% of the moneys are allocated to projects in the Chesapeake Bay, 38% disbursed to projects in the Southern Rivers, and 5% allocated to Soil and Water Conservation Districts

The DCR is responsible for administering three programs to regulate the pollution runoff from developed or developing lands. The objective of the first program, erosion and sediment control, is to control sediment resulting from land disturbing activities occurring during the development process. The DCR oversees 165 locally administered erosion and sediment control programs. The second of these programs, the stormwater management program, is aimed at reducing the long-term impact to water quality resulting from land development. Currently, significant regulatory changes are being instituted that will establish technical standards and require local administration of the programs. The third regulatory program, the Chesapeake Bay Preservation Act applies to 84 coastal plain jurisdictions, located wholly, or in part, east of Interstate 95. The Act empowers localities to examine land conversion projects in environmental sensitive coastal

areas and determine the potential impact such land use activities have on water quality.

The DCR has recently initiated various marketing strategies and a public information campaign to educate the public on the impact of types of land use and development on water quality. The campaign has focused on both the rapidly developing suburban areas, as well as rural lands and has emphasized effective lawn care in suburban areas, sought to change fertilizer behavior, and developed marketing techniques to promote water-friendly agricultural practices, including the installation of a range of best management practices.

While progress is being made in controlling pollution from nonpoint sources, funding to carry out these programs has been unpredictable and dependent upon state surpluses and year-end contributions to the Water Quality Improvement Fund- Nonpoint Account.

Respectfully submitted,

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