REPORT OF THE

STATE WATER COMMISSION

TO THE GOVERNOR AND
THE GENERAL ASSEMBLY OF VIRGINIA

HOUSE DOCUMENT NO. 33

COMMONWEALTH OF VIRGINIA
RICHMOND
2003

REPORT OF THE

STATE WATER COMMISSION

TO THE GOVERNOR AND
THE GENERAL ASSEMBLY OF VIRGINIA

REPORT DOCUMENT NO. 37

COMMONWEALTH OF VIRGINIA
RICHMOND
2003

Members

Senator Martin E. Williams, Chairman
Delegate Allen L. Louderback, Vice-chairman
Delegate Watkins M. Abbitt, Jr.
Delegate J. Paul Councill, Jr.
Delegate James H. Dillard, II
Delegate M. Kirkland Cox
Delegate Christopher B. Saxman
Delegate Leo C. Wardrup, Jr.
Delegate Thomas C. Wright, Jr.
Senator William T. Bolling
Senator Charles J. Colgan
Senator Charles R. Hawkins
Senator Thomas K. Norment, Jr.
G. Robert Aston, Jr.
Louis L. Guy

Staff

Division of Legislative Services

Martin G. Farber, *Senior Research Associate*
Iris A. Kincaid, *Senior Operations Support Staff*
Heather K. Butros, *Editor*

TABLE OF CONTENTS

EXECUTIVE SUMMARY

The 2002 Session of the General Assembly requested the State Water Commission to undertake a two-year study of the effectiveness of the Commonwealth's water policies. During the first year of the study, the Commission devoted much of its time to reviewing the current statutory and regulatory framework for managing Virginia's water resources, examining the use of those water resources, identifying the types of information critical to development of an effective statewide water plan, and recommending legislation establishing a water-planning process.

The Virginia Constitution establishes that it is the policy of the Commonwealth to conserve, develop, and utilize its natural resources. While state government has been effective in its constitutional responsibility "to protect its atmosphere, lands and waters from pollution, impairment or destruction...," it has lacked a similar commitment in addressing issues related to water conservation and supply management. The 2002 summer drought further highlighted the need for state government not only to assume a leadership role in developing a strategy to respond to drought events but also to oversee the formulation of a longer term water plan to manage Virginia's water resources in the face of increasing conflict among user groups. To assist the Commission in delineating the possible nature and scope of a statewide water plan, the Commission, together with the Secretaries of Natural Resources and Health and Human Services, created a 23-member technical advisory committee. The panel, composed of representatives of various stakeholder groups, was asked to respond to the following questions:

1. What should be the state's and local government's roles in water supply planning?

2. What principles should guide water supply planning?

3. What tools are needed for effective planning?

Using these questions to frame its discussions, the advisory committee recommended draft legislation to the Commission that mandated the development of a statewide water resources plan and defined the process under which such planning would occur. The objectives of the planning process, as described in the draft legislation, are to (i) ensure that adequate and safe drinking water is available to all citizens and (ii) protect all beneficial uses of the Commonwealth's water resources. After much discussion of the draft proposal, the Commission, with one member dissenting, endorsed the measure, with one significant change: that development of the plan's criteria and guidelines and the preliminary water resources plan should be subject to review by the Governor and the committees of jurisdiction before becoming effective.

REPORT OF THE
STATE WATER COMMISSION

to

The Honorable Mark Warner, Governor
and
the General Assembly of Virginia
Richmond, Virginia

I. AUTHORITY FOR STUDY

The State Water Commission is a permanent agency of the Commonwealth directed by statute to (i) study all qualitative and quantitative water supply and allocation problems in the Commonwealth, (ii) coordinate the legislative recommendations of other state entities responsible for water supply and allocation issues, and (iii) report annually its findings and recommendations to the Governor and the General Assembly (Va. Code § 30-186 et seq.).

During its 2002 Session, the General Assembly passed House Joint Resolution No. 202, directing the State Water Commission to study the effectiveness of the Commonwealth's water practices (Appendix A). The resolution noted that recent drought conditions, along with increasing demand for water supplies, had highlighted the need for the Commonwealth "to better manage and plan for current and future supply needs." The resolution specifically requested the Commission to examine (i) Virginia's current water laws and policies; (ii) the adequacy of such laws and policies in providing adequate water supplies; (iii) the role the state should play in data collection, water supply planning, water allocation, dispute resolution, and water development; and (iv) the role of the state in watershed planning to provide quality raw water, both surface and ground water, for water supplies.

II. COMMISSION DELIBERATIONS

During the first year of its study, the Commission devoted much of its time reviewing the current statutory and regulatory framework for managing the Commonwealth's water resources, examining the uses of those water resources, identifying the types of information critical to the development of an effective statewide water plan, and crafting legislation authorizing the implementation of a statewide water planning process.

A. Water Rights and Previous Water Plan Initiatives

1. Virginia Constitution and Statutory Policy

Essential to the formulation of a comprehensive state water policy is an understanding of Virginia water rights as the Virginia Constitution, the common law riparian doctrine, and the statutory laws prescribe them. The foundation of Virginia's natural resources policy, and specifically its water policy, is Article XI, Section 1 of the Virginia Constitution, which states: "(i)t shall be the policy of the Commonwealth to conserve, develop and utilize its natural resources, its public lands and its historic sites and buildings." The section goes on to say that it is the Commonwealth's policy to protect its atmosphere, lands and waters from pollution, impairment or destruction, for the benefit, enjoyment and general welfare of the people of the Commonwealth. This emphasis on the benefit, enjoyment, and the general welfare of the people suggests that the state has a public trust responsibility to manage the state's natural resources for the benefit of all its citizens.

Because it is not a self-executing article, Section 2 of the Article grants the General Assembly the authority to undertake actions to conserve, develop or utilize the natural resources of the Commonwealth and to protect its atmosphere, lands and waters. The General Assembly has asserted this authority through the enactment of various water policy statutes. One of those statutes, § 62.1-11 of the Code of Virginia, affirms directly the state's role in the management of our water resources, when it asserts that state waters are a natural resource that should be regulated by the Commonwealth. It further states that "[t]he regulation, control, development, and use of water for all purposes beneficial to the public are within the jurisdiction of the Commonwealth, which in the exercise of its police powers may establish measures to effectuate the proper utilization and protection of state waters."

The statutory authority for the Commonwealth to protect its water resources is the State Water Control Law (§ 62.1-44.2 et seq.). Enacted in 1947, it predates the federal Clean Water Act by three decades. The purposes of this law are to:

1. Protect existing high-quality state waters and restore all other state waters to a condition that will permit all reasonable public uses and support propagation and growth of aquatic life;

2. Safeguard the clean waters from pollution;

3. Prevent any increase in pollution;

4. Reduce existing pollution;

5. Promote and encourage reclamation and reuse of wastewater; and

6. Promote water resource conservation and distribution, and encourage water consumption reduction in order to provide for the health, safety and welfare of the present and future citizens of Virginia.

While the Commonwealth has been effective in carrying out the first four of these purposes, it has not made an equivalent commitment to issues of water quantity and supply management.

2. Common Law Riparian Doctrine

To some extent, our ability to better manage our water quantity or supply has been affected by the common law riparian doctrine. Because water was historically seen as plentiful in the Eastern United States, 31 states east of the Mississippi River adopted the common law riparian doctrine. This doctrine holds that water rights are a real property right that attaches to land bordering a natural watercourse. However, the riparian landowner does not own the water in which he has his riparian rights. Rather, he has the right to use that water subject to restrictions that protect all riparian owners entitled to its use. Each riparian landowner has an equal right to use water for any beneficial purpose if the use (i) is reasonable, (ii) takes place on the riparian land, and (iii) is located within the watershed of the stream. A reasonable use is any use of the water in its channel, whether agricultural, domestic, or industrial, which does not cease or materially diminish, exhaust, or alter the water's flow. However, a diversion of water beyond riparian land, in the words of a 1942 Va. Supreme Court decision "is an extraordinary and not a reasonable use." (Purcellville v. Potts, 179 Va. 514 [1942]). In other words, under this doctrine, a landowner can make reasonable use of water, but downstream users have the right to have sufficient flow for their needs. In this sense, water is a publicly held resource with private access, but not ownership.

Riparian rights are subject to challenge in the courts. In order to enforce the right a complaint must be filed with the court and damage must be shown. If the court finds that the riparian landowner is exercising his rights in a reasonable way, it will not interfere with his use of the water. If, however, a court finds that the use would not be permitted under the common law riparian doctrine, (e.g., diversion to nonriparian land occurred or to another basin) the court may order the violator to pay damages or to cease the unlawful use.

While the riparian rights in surface water are relatively established, under Virginia case law, the rules governing ground water are less settled and may vary depending on whether the water is percolating water (i.e., water that seeps through the land without following a well-defined course or channel) or is underground water that flows through a reasonably well-defined channel or course. The older English Rule permits a landowner unlimited exploitation of the water found under his land. He can use as much of it as he cares to for any purpose, regardless of the effect on his neighbors. The more recent American Rule provides that the owner of the surface land is permitted to make reasonable use of the ground water, but is prohibited from the unreasonable withdrawal for sale or distribution for uses not connected with the beneficial use or ownership of the

land. This means that an owner of a well could not export water off the site without having to bear the responsibility for any damage caused to other wells. However, if he made a reasonable use of the same or a greater quantity of water on his own property, he would not be responsible for any resulting damage to his neighbor's well.

3. Regulated Riparian Model: Allocation Statutes and Permits

Population growth and industrial expansion, combined with recent drought events, have highlighted the inadequacies of the common law water rights system. Eighteen of the 31 Eastern "riparian rights" states have concluded that, with increasing demands being placed on their water resources, the riparian doctrine is not an efficient means of resolving conflicts between users or allocating water resources, and that state government has a larger role to play in the management of their water resources. So, according to a 1998 study titled Water Rights of the Eastern United States,[1] these 18 states have supplemented or replaced the common law riparian doctrine with some form of statutory water allocation or permit system.

Classified by the study as one of the "regulated riparian" states, Virginia has overlaid the traditional riparian system with a governmental regulatory permit system. Permits, which are issued by state agencies, serve as management tools in the effort to more effectively allocate and manage the Commonwealth's water resources, in a time when increasing demands are being placed on the resource. Concerned that the continued, unrestricted use of ground water was contributing to pollution and shortages of ground water, thereby jeopardizing public health and safety, the General Assembly enacted the Ground Water Act of 1973, which was revised in 1992. The stated purpose of the act is:

> to recognize and declare that the right to reasonable control of all ground water resources within this Commonwealth belongs to the public and that in order to conserve, protect and beneficially utilize the ground water of this Commonwealth and to ensure the public welfare, safety and health, provision for management and control of ground water resources is essential. (Va. Code § 62.1-254)

Under the Act, if the State Water Control Board (SWCB) finds that (i) ground water levels in an area are declining or are expected to decline excessively, (ii) the availability of ground water supply has been or may be overdrawn, or (iii) ground water in the area has been or may become polluted, it can designate an area as a ground water management area. In such management areas, if the landowner intends to withdraw more than 300,000 gallons of ground water a month, he is required to obtain a withdrawal permit from the SWCB. Certain types of withdrawals are exempted from having to obtain a permit: temporary construction dewatering; withdrawals for use by a ground

[1] Water Rights of the Eastern United States, Kenneth R. Wright, Editor, American Water Works Association, 1998, p. 106.

water heat pump, where the discharge is reinjected into aquifer; and withdrawals from a pond recharged by ground water without mechanical assistance. Currently, two areas of Virginia, eastern Virginia and the Eastern Shore, have been designated as ground water management areas.

In 1989, a second water resources management law, the Surface Water Management Areas Act (Va. Code § 62.1-242 et seq.), was enacted. Patterned after the Ground Water Management Act, it sought to protect the Commonwealth's surface water supply during periods of low flow or drought events. Under this law, if the SWCB finds that flow conditions threaten or may threaten important instream values, a particular segment of water could be designated as a surface water management area. Once designated, a permit would be required to withdraw water during periods of drought or low flow. The permit would stipulate the reduced level of withdrawals, with the rationale being that in drought conditions every withdrawer would have to "share the pain." As of this time, the James River in Richmond has been designated as the only management area.

The third supply management tool, the Virginia Water Protection Permit (Va. Code § 62.1-44.15.5 et seq.), was also enacted into law in 1989. The purpose of this statute is to preserve instream flows in order to protect such beneficial uses as navigation, maintenance of waste assimilation capacity, protection of fish and wildlife habitat, and the protection of recreational, cultural, and aesthetic values. Under this act, conditions can be placed in the permit that establishes the volume of water that may be withdrawn as part of the permitted activity. This permit serves as the state's certification under Section 401 of the federal Clean Water Act.

4. Previous Water Policy Initiatives

The Commission has examined the Commonwealth's water policies and reported its findings and recommendations twice previously, in 1980 and 1994. The 1980 report begins with the somewhat prophetic statement that "the most important and far reaching problem facing Virginia in the next ten years will be assuring an adequate supply of water for all Virginians." In the four years prior to 1980, the Commission had tried to determine the extent of the water supply problem in Virginia and sought solutions to avoid a water supply crisis. The Commission ultimately developed three proposals. Alternative A, which was strongly recommended, sought to increase state data gathering and processing activities. Under it, the SWCB would be directed to significantly increase the amount of water-use data it collects through the registration of water users. The agency would also be called upon to (i) define and development instream flow standards for the surface waters of the state, (ii) develop a planning assistance program, in which the state would help localities with demand management strategies and permitting procedures for prospects, and (iii) prepare a state water plan, the implementation of which may or may not involve interbasin transfers. The estimated cost of these new planning activities was in excess of $1 million per year over an eight-year period.

Alternative B and C were not intended to be finished products but were characterized as two major approaches to meeting Virginia's allocation needs. Neither was ever acted upon. The intent of Alternative B was to require the maximum utilization of state waters. It would have mandated that available water supplies be applied to optimum beneficial use consistent with social, economic, and environmental well being. There was not a clear understanding among the Commission members, at the time, of what that meant. Ostensibly, it would have modified the riparian doctrine by providing that any use of water was lawful unless it caused harm. Harm would only occur when a use interferes with valid existing uses, or when it decreases the market value of riparian land.

Alternative C was a draft of a new water code. The proposed water code was developed under a contract, awarded by the Commission, to Dr. William Walker, a professor at Virginia Polytechnic Institute and State University. The premise of the draft was the belief that water resources belong to all citizens and the maximum beneficial use of water is a public trust to be administered by the state. The proposal would have abandoned the current system of law and replaced it with a new administrative permit system. The draft's objective was to change the common law doctrine in order to achieve certainty in the law. However, several members of the Commission were critical of the draft, seeing it as vague and possibly creating more litigation and delays than the current laws.

In 1994, the Commission once again examined the state's water policies. It developed options for an increased state role in the management of the Commonwealth's water resources. The options covered such areas as water supply planning, development and utilization of the resource, as well as the provision of state incentives. Under planning, various alternatives were presented for the development of a statewide water use plan. Planning principles were to be established in statute, with local planning groups developing long-range 30-year plans that were consistent with these statutory principles. Some of the principles included:

- Existing water rights are to be protected and preserved subject to the principle that all state waters belong to the public to be used for beneficial purposes without waste;

- Adequate and safe supplies are to be protected for human consumption;

- Stream flows sufficient to support beneficial instream uses shall be protected;

- The natural interrelationship of surface and groundwater shall be recognized and managed conjunctively;

- Water conservation measures to prevent and minimize waste and promote wise use shall be utilized; and

- Appropriate management, planning, and response strategies shall be utilized to reduce the impact of drought.

The state would review the various locally or regionally developed plans to assess their consistency with the statutory principles. If the plans are consistent with statewide planning principles they would be approved by the SWCB and form the basis of a state water use plan that would guide water use over a 30-year period. The plan contained language that authorized interbasin transfer. But, what was different this time from previous interbasin transfer provisions was that before the state would authorize such transfers, the following conditions had to be met: (i) the benefits of the proposed transfer had to outweigh the detriments; (ii) the detriments were to be mitigated to a reasonable degree, and (iii) there would have to be no other viable option for the area receiving the water. In addition, any transfer agreement authorized by the state would include monetary compensation paid to the sending region by the receiving area.

The incentive portion of the proposed legislation contained financing options for water supply development facilities as well as the state playing a larger role on behalf of localities in interstate conflicts and in their relations with federal agencies. The draft options were taken to public hearing in 1995 but were not introduced as legislation.

In conclusion, the major theme that emerges from examination of the Commission's work over the years is the lack of state involvement in water supply planning and specifically, the absence of a statewide water use and management plan to guide the Commonwealth into the future. As one expert characterized it, the state's water supply planning effort has been "at best sporadic."

B. Drought Impact and Response Policies

Before discussing the development of a water policy or a state water supply plan, the Commission received (i) an update on the impact of the 2002 drought from Mr. Terry Wagner, Chairman of the Drought Monitoring Task Force, and (ii) a presentation on the Commonwealth's drought policies from Mr. David Paylor, Deputy Secretary of Natural Resources. According to Mr. Wagner, the current statewide drought conditions began in 1998 with the drought in the Roanoke River Basin. He attributed the current situation to several factors. Ground water levels in aquifers are approaching record lows due to three consecutive winters with below-average precipitation. Stream flows across the state are approaching record lows as well. The total precipitation average over the past three years is near normal (85 percent of long-term average). However, during the past year there has been a significant precipitation deficit as the statewide average is near 75 percent of the long-term average. In addition, during the three years, wintertime rainfall has been less than normal resulting in a lack of ground water recharge. These occurrences combined with the near total lack of rain between August 1 and August 27, 2002, resulted in the rapid, dramatic increase in the severity of the drought and its impact.

In terms of the hydrologic impact of the drought, by the end of August 2002, when the Governor issued the Drought Response Executive Order, the Shenandoah,

Rappahannock, York, James, Chowan and Roanoke River Basins were recording record minimum flows. The Potomac, Kanawha, Big Sandy and Tennessee River Basins were low but not at record levels. Major reservoirs across the state were well below normal levels and consequently have reduced the amount of water released. The drought's impact on ground water has been significant. Below average water precipitation in 1999, 2000, and 2001 resulted in below average ground water recharge. The shallow water table levels are approaching record lows across the state. Deeper rock aquifers west of Route 95 show some decline but not of the magnitude of water table aquifers. The deep aquifers east of Interstate 95 are not effected directly by drought, but rather show the effects of increased demands, with the water levels in some of these aquifers having declined relatively rapidly due to the increased demand.

The drought has had a significant impact on the state's agricultural sector. Sixty-six counties have sought drought disaster designation due to crop losses caused by drought conditions. Ten counties have received primary drought disaster designation and 38 contiguous cities and counties have received secondary drought disaster designation. While there was a slight improvement in agricultural conditions at the end of July, conditions have declined rapidly since August 1. The dry conditions have resulted in very low crop yield potentials. Livestock producers are using existing feed stocks normally saved for use in the winter months.

The forestry sector experienced impacts from the drought that were similar to those of Virginia's agricultural sector. The Department of Forestry forest drought indices indicated that, prior to August 27, 2002, the forest resources were experiencing extreme drought levels not normally seen in Virginia. Through August 2002, 1,578 wildfires have burned 12,518 acres. This level of wildfire activity is well above the five- and 10-year averages. Under the current drought conditions, Virginia can expect an "extreme" fall wildfire season. The drought also has increased the susceptibility of forests to pest damage (southern pine beetle and gypsy moth).

The drought has also effected Virginia's water supply. Several public water supply systems have experienced severe water shortages (Towns of Gretna, Farmville, and Orange and the Cities of Charlottesville and Portsmouth). Mandatory water restrictions have been imposed at 172 waterworks, and voluntary restrictions are in place in 282 others. During July and August, the Virginia Department of Health issued more than 4,000 well replacement permits because of failed private water supply wells.

Both the 30-day and 90-day precipitation outlook (through December) was for below average precipitation. The winter outlook (December-February) calls for equal chances of below normal, or above normal precipitation. If there is below average precipitation during the next 90 days the drought impacts in all sectors will likely intensify. Below average precipitation through May 2003 will result in the continued decline in ground water levels and could result in drought conditions of historic proportions in the summer of 2003. An extended period of average precipitation will be required to ameliorate the long-term impacts of the drought.

Mr. Paylor discussed Executive Order 33 and the drought-related actions taken pursuant to the Order. On August 1, virtually all of the public water suppliers reported that their supplies were not adequate to meet their populations' needs. Three weeks later a number of water systems exhausted their supply. In the face of these failures, the Governor issued Executive Order 33, which created a drought board. The board began to evaluate water regulations, assist farmers and public water suppliers to meet their emergency needs, and required state agencies to develop plans to reduce their water use by 15 percent. The plan developed by the board restricted nonessential water use in most of the state, except southwest Virginia, which had experienced significant rainfall throughout the summer, and in Northern Virginia, which had flow augmentation reservoirs.

Mr. Paylor indicated that the administration, like the Commission, is interested in developing a long-term, comprehensive water plan. A number of localities have developed rather comprehensive water plans, but others have not considered such things as water conservation and water reuse, developing contingency plans, public education, and conjunctive use of surface and groundwater supplies. In response to a question from Chairman Williams regarding the need to develop a water supply/use plan, Mr. Paylor indicated that he anticipated forming a technical advisory committee, composed of the various stakeholders, to begin the development of a statewide water plan, with the product of their deliberations being brought before the Commission for its consideration. He emphasized that the development of such a plan will not have an impact on the current drought but will focus on the long-term water supply needs of the people of the Commonwealth so as to minimize the impact of future droughts.

C. State Agencies' Roles and Responsibilities for Water Supply Management

The two state agencies responsible for management of Virginia's water supply are the Virginia Department of Health (VDH) and the Department of Environmental Quality (DEQ). Mr. Bob Hicks, Director of the Environmental Health Services at VDH, described his agency's role in regulating Virginia drinking water supplies. His agency exercises varying degrees of regulatory control over private individual wells and public drinking water systems. With respect to individual wells, the Code of Virginia identifies the State Board of Health as the regulatory board with the responsibility to protect the public health and to ensure that all private wells are located, constructed, and maintained in a manner that does not adversely affect ground water resources, or the public welfare, safety and health. The Department of Health estimates that there are more than one million individual wells in Virginia.

The state law also charges the Board of Health with the "general supervision and control over all water supplies and waterworks in the Commonwealth insofar as the bacteriological, chemical, radiological, or physical quality of waters furnished for drinking or domestic use may affect public health and may require that all water supplies be pure water" (Va. Code § 32.1-169). Virginia has regulated public drinking water systems since 1910, which predates the federal Safe Drinking Water Act by 64 years. For the past 25 years the VDH has been designated as the primary enforcement agency for

the federal act. Approximately 90 percent of Virginian's are served by public water systems (community well systems and waterworks). According to Mr. Hicks, Virginia has 3,600 drinking water systems, of which 3,275 are total ground water systems (wells) and 335 are total surface water systems (waterworks). Approximately 90 percent of Virginians are served by public water systems.

State Health Department regulations describe the requirements for obtaining construction and operation permits for drinking water facilities establish minimum health and aesthetic standards for pure water, construction standards, requirements for inspections and water testing, and record keeping. Public drinking water systems (waterworks) are also required to demonstrate then operational, managerial and fiscal viability through the submission of a business.

Mr. Hicks noted that the overall process of delivering drinking water begins with source development. Increasing numbers of waterworks owners are realizing the importance of having an adequate source of water to supply the water demand of their service area and any anticipated growth. In developing a water source, the regulations require the waterworks owner to address water quantity and quality. To assure water quality, the owner is to seek the best available source of supply that presents minimal risks of contamination. To assure there will be a sufficient quantity of water, the regulations contain a "safe yield" requirement that must be addressed by the owner when developing both groundwater and surface water supplies. For a surface water source, the safe yield is defined as the minimum withdrawal rate available during a day and recurring every 30 years (30-year one-day low flow). The safe yield data for surface water had been provided by DEQ but because of staffing reductions that data is no longer available from DEQ. For a groundwater source the safe yield standard is that the well must deliver five gallons per minimum per residential connection.

There is a two-tier permitting process for public water suppliers. The first tier requires the owner of a facility to obtain a construction permit. The process includes requirements for preliminary engineering conferences and reports, followed by submittal of engineering plans and specifications. Construction permits are issued for projects where waterworks have adequate water. Following the issuance of the construction permit, and the successful completion of the permitted construction project, the Health Commissioner authorizes the waterworks to begin to provide drinking water by issuing the operation permit.

The waterworks regulations also require that:

- Waterworks that reach 80 percent of their rated capacity begin to plan for their future needs; and

- All systems with treatment or that serve greater than 10,000 gallons per day to file regular operation reports that include data on water production.

Essential to any water supply planning effort is the capacity of an agency such as VDH to collect the types of information that will enable the state and localities to accurately project future demand and undertake effectively measures to manage current water resources. The agency has what officials characterize as a comprehensive database. It receives monthly operating reports that indicate water usage as well as monthly results for certain contaminants. It also has the ability to adequately rate the capacity of ground water sources. However, it is limited in its ability to require suppliers to engage in various water conservation strategies. It currently lacks the statutory authority to require waterworks owners to (i) have a water conservation plan and (ii) perform regular water audits to evaluate water losses (production vs. metered use).

Mr. Bob Burnley, Director of DEQ, discussed his agency's water resource data collection efforts and the tools available (regulatory and statutory) to manage the Commonwealth's water supply. Data is gathered through a statewide network of surface and ground water collection sites. There are 384 streams gauging stations operated by DEQ and the United States Geological Survey (USGS); of this total 165 are continuous recording stations (67 DEQ and 98 USGS) and 230 are miscellaneous sites. These include 125 real time gauges. The information recorded by these gauges is accessible from an agency Internet site in real time. There are 267 ground water level collection sites (183 DEQ and 84 USGS). In addition to these collection sites, a third source of data is annual reports submitted by individuals withdrawing (i) surface and ground water in amounts greater than 10,000 gallons per day in any month or (ii) more than one million gallons in any month for agricultural irrigation.

The data gathered from these sites indicates that 1.38 billion gallons of water is being withdrawn daily, of which 87 percent is surface water and 11 percent is ground water. This figure does not include water used for power generation, which is considered a nonconsumptive use, as it is returned to the stream, or smaller amounts of water withdrawn generally from ground water sources, which are not required to be reported. Of the top 15 water withdrawers, the six that withdraw the most water are power plants, followed by a manufacturing plant and public drinking water suppliers (Appendix B). Eighty-three percent of water use is for power generation, followed by public water supply (nine percent) and manufacturing/commercial (seven percent). If power generation is excluded, the types of use in descending order are: public water supply (54 percent), manufacturing (39 percent), mining (three percent), irrigation (two percent), agriculture (one percent), and commercial (one percent).

Having described the water needs of various categories of users, Mr. Burnley concluded his remarks by discussing the tools/statutes DEQ has available to manage the Commonwealth's water resources. As described earlier in this report these include the Virginia Water Protection Permit Program, the Ground Water Act, and the Surface Water Management Act. In the case of each of these laws, the state has the authority to prescribe the amount of water that can be withdrawn by a permit holder under specific circumstances.

D. Federal Role in Water Resources Data Collection and Analysis

Mr. Ward Staubitz, District Chief, U.S.G.S., described his agency's role in collecting and disseminating water quality and quantity data for Virginia waters. USGS works in partnership with the various state agencies' to conduct water quality and water supply assessments. He emphasized that the fundamental question in evaluating water supply capacity is "how much water is available?" For surface water, the information is obtained through the use of stream gauges, which are the essential measuring instrument for assessing surface water supplies. While the number of U.S.G.S's gauges have remained stable throughout the state, DEQ's gauges have declined from 99 gauges 15 years ago to 65 gauges today. This will limit to some extent the ability of the Commonwealth and the USGS to plan for future water supplies.

Evaluating the ground water resource is more difficult. A profile of the resource and forecasts are compiled using observation wells, aquifer assessments and computer models. DEQ and USGS maintain a groundwater observation well network. Approximately 90 percent of the observation wells are located in the Coastal Plain, with most of them used for monitoring ground water on the Eastern Shore and Southeastern Virginia groundwater management areas. The data collected in these areas over the past 50 years has enabled the two agencies to characterize the aquifer system, develop analytical tools, and provide management strategies. This has enabled the Commonwealth's local governments to better manage ground water withdrawals and project the impact of increased withdrawals. Currently, the Coastal Plain model is being updated as part of a cooperative effort of the Hampton Roads Planning District Commission, DEQ and USGS, and will include an analysis of the extent of salt water intrusion. The updated model will serve as an additional tool in projecting what water sources will be available for future water supply development projects.

According to Mr. Staubitz, to engage in effective water supply planning, one should have data on the extremes, both high and low, of the flow regimes as well as the normal flow rates. The analysis of the data should be an ongoing activity in order to be able to determine the frequency of certain events as droughts. As population increases greater demands are placed on state waters, requiring government to manage the resource with a finer tolerance and greater precision. The margin of error will be less as competing uses grow. So, those responsible for providing water information will have to make such data available on more of a real-time basis to water supply providers

Mr. Staubitz emphasized that any water supply planning initiative should be cognizant of the following:

- Long-term ground water and surface water monitoring networks should be maintained even in times of severe budget constraints;

- Hydrologic assessments (ground water and surface water interactions) are required to make informed decisions;

- Ground water information is lacking for the fractured rock terrain west of I-95;

- Instream flow studies should serve as a foundation for surface water assessments; and

- Greater demands for water resources will require more precise water information.

E. Developing a Statewide Water Plan

To assist in the effort to develop a comprehensive water resources and supply plan for the Commonwealth, the Commission, in cooperation with the Secretaries of Natural Resources and Health and Human Resources, established the Water Policy Technical Advisory Committee. This 23-member panel was composed of state and federal officials, local government water suppliers, conservation organizations, business and agricultural interests, riparian landowners, and university researchers. All of the members either had specific technical expertise in water supply/resource planning or were directly affected by the withdrawal of water from Virginian's rivers and streams (Appendix C). The advisory committee was asked to respond to the following questions:

1. What should be the state's and local government's roles in water supply planning?

2. What principles should guide water supply planning?

3. What tools are needed for effective planning?

Mr. Paylor summarized the panel's charge as one of "identifying the role and responsibilities of state and local governments to assure ground water and surface water resources are used in a sustainable way that protects the environmental resources and meets citizen water needs (agricultural, business, and residential) now and in the future."

The advisory committee met four times during the fall and winter of 2002. As a result of its wide-ranging discussions, the panel reached a consensus on how to structure a water planning process and what role state and local governments should play in the development of a comprehensive statewide plan. The result of the panels' work was to be presented to the full Commission at its last meeting prior the 2003 Session of the General Assembly.

III. FINDINGS AND RECOMMENDATIONS

An essential element in formulating a comprehensive approach to managing Virginia's water resources is the development of a statewide water use plan. The historic drought of 2002 demonstrated the consequences of not being prepared to effectively respond to what became a water quantity crisis. Such a plan should not only respond to shorter-term drought events, but also should include the tools and strategies necessary for decision makers to ensure that the longer-term water needs of an ever-increasing population will be met. The resulting plan should be the product of a joint effort among state agencies, local governments, and the various stakeholder groups.

Previous efforts to develop a state water plan have failed in part because of the lack of involvement in the planning process of the various user groups. As noted previously in this report, the Commission, together with the Secretaries of Natural Resources and Health and Human Services, empanelled a 23-member advisory committee to examine water supply planning. At the Commission's final meeting of the year, Mr. Paylor presented the recommendations of the Water Policy Technical Advisory Committee. He stated there was a consensus among the panel members on a number of water planning issues. First, the state should take a leadership role in water supply/resources planning. Secondly, the plans should be developed by local or regional entities in a form that is in accordance with state-approved criteria. Thirdly, these locally or regionally generated plans should become the basis of the SWCB-approved statewide water plan. There were other policy areas, such as water allocation issues, that remain unresolved and will require further discussions in 2003, according to Mr. Paylor.

Having reached a consensus on the roles of the state and local governments in the development of the state water use plan, the advisory group drafted legislation that provides the framework for a water supply planning process. The proposed measure requires the SWCB, in cooperation with the Commission of Health, local governments, public service authorities, and other interested parties to establish a comprehensive water supply planning process for the development of local, regional, and state water supply plans. The objectives of the planning process as described in the draft legislation are to (i) ensure that adequate and safe drinking water is available to all citizens and (ii) protect all beneficial uses of the Commonwealth's water resources. Local or regional plans are to be prepared and submitted to DEQ in accordance with criteria and guidelines developed by the SWCB. If the legislation is passed, regulations will have to be promulgated to develop the specific criteria for development of the plan. In addition, a preliminary state water resources plan, which would contain information from existing local and regional water supply plans, would be developed. The development of the preliminary plan will enable DEQ to evaluate what data is currently being used for water supply planning and to identify gaps in information on Virginia's water resources. The lack of essential information will require more extensive data collection efforts if the Commonwealth is to develop an effective state plan.

Having reviewed the proposed legislation, the Commission agrees with the approach to water use planning that is recommended by the advisory committee. The Commonwealth is best served by establishing a process or procedure for planning the use of its water resources. The objective should not be to produce a one-time statewide water use plan, but rather to develop a plan that may be periodically revised or amended to allow for changes in strategies for meeting the water supply needs of Virginia, while at the same time protecting all other beneficial uses of our water resources. The plan should allow for continuous interpretation and analysis of the Commonwealth's water resources needs.

Unlike previous planning initiatives, the one being proposed by the advisory committee requires, by statute, that local government play a role in the development of the plan. Localities, as well as other interested parties, would develop local or regional plans following criteria established by the SWCB. Although commission members believe such an approach has merit, we are concerned with giving absolute authority to develop and implement a statewide water resources plan to an unelected body such as the SWCB. The legislature should exercise some degree of oversight by reviewing both the plan's draft criteria and the preliminary water resources plan prior to their adoption by the Board. This can be accomplished by amending the proposed legislation to include a provision that delays the effective date of any regulations necessary to carry out the provisions of the bill, including the criteria and the preliminary water resources plan, until July 1, 2004. In addition, a second Commission amendment to the legislation would require that the draft criteria and the preliminary plan be submitted to the Governor, the standing committees having jurisdiction over such matters and the State Water Commission by December 1, 2003. These deadlines will afford the legislative branch an opportunity to review the executive branch board's actions before they become final and, if necessary, provide additional policy guidance during the 2004 Session.

While the Commission looks favorably upon the water planning proposal, several members question whether it is necessary. One member, Mr. Louis Guy, did not endorse the measure. Mr. Guy believes that such new legislation is not needed, in light of the fact that the SWCB was statutorily mandated, in 1981, to develop river basin plans. He noted that for much of the past 25 years he has called attention to weaknesses in Virginia's water laws and policies and has urged the state to move forward in correcting such problems before they result in harm to our water resources. Characterizing the new proposal as "cosmetic," he recommended that the Governor make the development of a state water plan a top priority, and that the Commission "should not waste the General Assembly's time by seeking new legislation to duplicate a 20-year old law that has never been fully implemented."

Notwithstanding Mr. Guy's concerns, the Commission believes that the new proposal, unlike previous water planning proposals, provides local governments and users of the resource the opportunity to participate in the development of a statewide plan and focuses needed attention on the importance of developing a long-term plan for the management of Virginia's water resources. Therefore, the Commission recommends that:

Recommendation: That the General Assembly enact legislation that authorizes the establishment of a planning process to formulate a statewide water use plan and that such a plan be a joint effort state and local governments, and water resources user groups (Appendix D).

Respectfully submitted,

Senator Martin E. Williams, Chairman
Delegate Allen L. Louderback, Vice-chairman
Delegate Watkins M. Abbitt, Jr.
Delegate J. Paul Councill, Jr.
Delegate James H. Dillard, II
Delegate M. Kirkland Cox
Delegate Christopher B. Saxman
Delegate Leo C. Wardrup, Jr.
Delegate Thomas C. Wright, Jr.
Senator William T. Bolling
Senator Charles J. Colgan
Senator Charles R. Hawkins
Senator Thomas K. Norment, Jr.
G. Robert Aston, Jr.
Louis L. Guy

MEMBERS' COMMENTS

Dissent of

Louis L. Guy, Jr., P.E.

August 7, 2003

The description in the body of this report regarding Virginia's water resource issues in 2002 is accurate, but I cannot support the report's conclusions and recommendations. It is counterproductive to pretend that the enactment of redundant legislation is progress. Once again, Virginia's leaders have paid lip service to water issues during a drought crisis, and sidestepped any real commitment of funds or political capital to the needed solution.

The authority for DEQ to develop a water resources plan for the state still exists, in Commission sponsored legislation enacted 22 years ago. That process can and did incorporate local planning efforts and the wide range of stakeholders. But no state funds were provided then and none promised now. Despite acknowledging the vital importance of long term water data, over the past 15 years Virginia has actually cut back on its water data collection from 99 surface water gauging stations to only 65 stations. Actions speak louder than words. Where is the will to wrestle with the difficult environmental and equity issues? Adding to the planning process a review and veto power for the General Assembly can only be a giant step backward.

Instead of recommending redundant enabling legislation, the Water Commission should use its influence to find funds, for both DEQ and the Health Department,

to revive the water planning effort abandoned fifteen years ago. The warning Virginia received from the 2002 drought needs to be taken seriously. Each drought, at unpredictable intervals, finds us more vulnerable with more people concentrated in larger metropolitan areas. But nature's resources are not growing. The way to move forward is to put our money where our mouth is, with the ongoing development of more data on groundwater and instream flow needs and a substantive water planning effort at the state level. We cannot afford to spin our wheels on a new law aimed only at appearances.

MEMBERS' COMMENTS

I neither approve nor disapprove of the report. I consider it's "talking points" as a beginning.

Senator Charles R. Hawkins

I approve of the report with emphasis being placed on regional planning and solutions, with increased effort and studies in desalination for coastal areas.

Delegate Allen L. Louderback

APPENDICES

APPENDIX A

summary | pdf

HOUSE JOINT RESOLUTION NO. 202

Directing the State Water Commission to study the effectiveness of the Commonwealth's water policies.

Agreed to by the House of Delegates, March 4, 2002
Agreed to by the Senate, February 28, 2002

WHEREAS, adequate and safe water supplies are essential to the public welfare and continued economic development; and

WHEREAS, historically, localities have retained control over utilization of resources within their borders, including water resources; and

WHEREAS, this often requires cooperation between multiple jurisdictions to deal with complex water resources issues that span more than the locality; and

WHEREAS, local governments often look to the state for assistance in conflict resolution in cases where environmental and legal impacts of water supply development go beyond political boundaries; and

WHEREAS, under the public trust doctrine and Article XI of the Constitution of Virginia, the Commonwealth is the steward of the natural resources of the State and it has the trust responsibilities to "conserve, develop and utilize" these resources; and

WHEREAS, Virginia statutes such as the Ground Water Management Act, the Surface Water Management Act, and the Virginia Water Protection Permit provide management tools that enable the Commonwealth to better allocate water and assign water rights; and

WHEREAS, Virginia has exercised what some have characterized as a passive approach to water supply planning which has resulted in an increase in the number of recent water allocation conflicts; and

WHEREAS, due in large measure to an absence of a comprehensive state water policy, these conflicts have been left to the courts to resolve; and

WHEREAS, in 1994 the State Water Commission, recognizing that the state had an essential role to play in water supply planning, water allocation, dispute resolution and water development, proposed options for the state's involvement in each of these areas; and

WHEREAS, in 1998 finding that the state's water supply planning function was inadequate, the State Water Commission recommended a $754,000 budget amendment to establish seven positions within the Department of Environmental Quality to perform water supply planning; and

WHEREAS, recent drought conditions, along with the increasing demand for water supplies, have highlighted the need within the Commonwealth to better manage and plan for current and future supply needs; now, therefore, be it

RESOLVED by the House of Delegates, the Senate concurring, That the State Water Commission be directed to study the effectiveness of the Commonwealth's water policies. In conducting the study the State Water Commission shall examine (i) Virginia's current water laws and policies, (ii) the adequacy of such laws and policies in providing adequate water supplies, (iii) the role the state should play in data

collection, water supply planning, water allocation, dispute resolution, and water development, and (iv) the role of the state in watershed planning to provide quality raw water, both surface and groundwater, for water supplies.

The Division of Legislative Services shall provide staff support for the study. Technical assistance shall be provided by the Department of Environmental Quality. All agencies of the Commonwealth shall provide assistance to the State Water Commission, upon request.

The State Water Commission shall complete its work by November 30, 2003, and shall submit its written findings and recommendations to the Governor and the 2004 Session of the General Assembly as provided in the procedures of the Division of Legislative Automated Systems for the processing of legislative documents.

Legislative Information System

Top 15 Withdrawers

OWNER NAME	SYSTEM	CATEGORY	TOTAL WITHDRAWAL (MGD)
VIRGINIA POWER	NO ANNA NUCLEAR POWER	NUCLEAR POWER	2048.20
VIRGINIA POWER	SURRY NUCLEAR POWER	NUCLEAR POWER	2026.65
VIRGINIA POWER	YORKTOWN FOSSIL POWER	FOSSIL POWER	894.42
VIRGINIA POWER	CHESTERFIELD POWER	FOSSIL POWER	841.93
VIRGINIA POWER	CHESAPEAKE ENERGY	FOSSIL POWER	457.81
POTOMAC ELECTRIC	POTOMAC RIVER GEN STA	FOSSIL POWER	384.24
APPALACHIAN POWER	GLEN LYN POWER PLANT	FOSSIL POWER	279.05
HONEYWELL	HOPEWELL PLANT	MANUFACTURING	125.54
VIRGINIA POWER	BREMO BLUFF POWER PLANT	FOSSIL POWER	114.73
RICHMOND, CITY OF	RICHMOND, CITY	PUBLIC WTR SUPPLY	88.16
NEWPORT NEWS, CITY OF	NEWPORT NEWS	PUBLIC WTR SUPPLY	76.33
FAIRFAX CO. WATER	POTOMAC RIVER	PUBLIC WTR SUPPLY	75.65
NORFOLK, CITY OF	NORFOLK	PUBLIC WTR SUPPLY	70.47
HOECHST CELANESE	CELCO PLANT	MANUFACTURING	61.88
FAIRFAX CO WATER	OCCOQUAN	PUBLIC WTR SUPPLY	58.69

Source: DEQ 2001 Status of Virginia's Water Resources (report to Governor Gilmore & General Assembly)

APPENDIX B

APPENDIX C

WATER POLICY TECHNICAL ADVISORY GROUP
MEMBERSHIP LIST
Updated 12/16/02

Conservation Organizations

Nikki Rovner
Director, Government Relations
The Nature Conservancy
490 Westfield Road
Charlottesville, VA 22901
(434) 295-6106
Fax: (434) 979-0370
nrovner@tnc.org

(Ms. Michele Leslie
Deputy Director, Freshwater Initiative- replaced)

Ms. Patricia Jackson
James River Association
P.O. Box 909
Mechanicsville, VA 23111
(804) 730-2898
jra@i2020.net

Rev. Shelton Miles
P.O. Box 175
Long Island, VA 24569
(434) 283-1972
Fax:(434) 283-3229
riverblufffarm@lynchburg.net

Agriculture
Samuel E. Hamilton
Virginia Agribusiness Council
P.O. Box 718
Richmond, VA 23218
(804) 643-3555
Fax:(804) 643-3556
sam.agribusiness@att.net

Mr. Wilmer N. Stoneman, III
Virginia Farm Bureau Federation
P.O. Box 27552
Richmond, VA 23261
(804) 290-1024
Fax: (804) 290-1099
wilmer.stoneman@vafb.com

VA Section AWWA
Mr. Terrell J. Reid
Wiley & Wilson
2310 Langhorne Road
Lynchburg, VA 24503
(434) 947-1901
treid@wileywilson.com

Academic
Dr. William E. Cox
Dept. of Civil & Environmental Engineering
VPI-SU
Blacksburg, VA 24061
(540) 231-7152
Fax:(540) 231-7532
cox@vt.edu

Virginia Water Well Association
Mr. Robert Royall
Royall Pump and Well Co. Inc.
2958 Anderson Highway
Powhatan, VA 23139
(804) 598-8147

Planning District Commissions
Mr. Dan Kavanagh
Executive Director
Middle Peninsula PDC
Saluda Professional Ctr
Bowden St. P.O. Box 286
Saluda, VA 23149
(804) 758-2311
mppdc@inna.net

Army Corps of Engineers
Terry Brown
U.S. Army Corps of Engineers
P.O. Box 1890
Wilmington, NC 28402
(910) 251-4761
terry.m.brown@saw02.usace.army.mil

WATER POLICY TECHNICAL ADVISORY GROUP
MEMBERSHIP LIST

Ron Stirrat –alternate
ronald.p.stirrat@usace.army.mil

Mr. Jeffrey Irving
Chief, Civil Branch
Programs and Project Management
U.S. Army Corps of Engineers
Norfolk District
803 Front Street
Norfolk, VA 23510
(757) 441-7222
Fax: (757) 441-7036
Jeffrey.c.irving@usace.army.mil

State Water Control Board
Ms. Carol Wampler
4262 Byrd Lodge Road
Radford, VA 24141
(540)633-2547 or (540)633-2747
carolwampler@msn.com

VA Board of Health
Julie Beales, MD
3025 NorthLake Drive
Richmond, VA 23233
(804) 675-5000 ext. 5084
jbeales@hsc.vcu.edu

Local Governments
Tidewater
Brian Ramaley, P.E.
Director of Public Utilities
City of Newport News
P. O. Box 76
Newport News, VA 23607
757-926-1146
Fax: 757-926-1170
bramaley@nngov.com

Kristen Lentz, P.E. *(alternate)*
Director of Utilities
City of Norfolk
400 Granby Street
Norfolk, VA 23510
(757) 664-6701
Fax: (757) 664-6707
kristen.lentz@norfolk.gov

Valley
Frank Sanders, Jr., P.E.
Director of Utilities
City of Winchester
15 N. Cameron Street
Winchester, VA 22601
(540) 667-1815, ex 407
Fax: (540)662-3351
fsanders@winchester-utilities.com

Southside
Melinda Moran
Town Manager
Town of Clarksville
P.O. Box 1147
321 Virginia Avenue
Clarksville, VA 23927
434-374-8177
Fax: 434-374-9556
Clarksville@meckcom.net

Richmond Area
Arthur D. Petrini
Public Utilities Director
Henrico County
P.O. Box 27032
Richmond, VA 23273-7032
(804) 501-4280
Fax: (804) 501-7395
pet12@co.henrico.va.us

Southwest
Mr. Gerard Higgins, General Manager
Blacksburg, Christiansburg, VPI Water Authority
3515 Peppers Ferry Road
Radford, VA 24141-5613
(540) 639-2575
h2o4u@usit.net

WATER POLICY TECHNICAL ADVISORY GROUP
MEMBERSHIP LIST

Local Governments (cont'd)
Northern
Charlie C. Crowder, Jr.
General Manager
Fairfax Country Water Authority
8570 Executive Park Avenue
P.O. Box 1500
Merriefield, VA 22116-0815\
Ccrowder@fwca.org
(703) 698-1759
Fax: (703) 289-6011

VA Manufacturers Association
Mr. Thomas G. Botkins, Jr.
Environmental Manager
MeadWestvaco
104 E. Riverside Street
Covington, VA 24426-0950
(540) 969-5547
Fax: (540) 969-5554
tgbotki@meadwestvaco.com

Mr. Tom Roberts *(alternate)*
Smurfit-Stone Container Corp
PO Box 100
West Point, VA 23181-0100
(804) 843-5484
Fax:(804) 843-5757
tjroberts@smurfit.com

Power Generation
Mr. Mike Thacker
Hydro-Support Manager
Appalachian Electric Power
P.O. Box 2021
Roanoke, VA 24022-2121
(800) 956-4237
Cmthacker@aep.com

U.S.G.S.
Mr. Ward Staubitz
US Geological Survey
1730 E. Parham Road
Richmond, VA 23228
(804) 261-2639
Fax: (804) 261-2659
Dc_va@usgs.gov

APPENDIX D

03 - 6287211 01/09/03 10:40 AM Marty G. Farber

SENATE BILL NO. _____ HOUSE BILL NO. _____

A BILL to amend the Code of Virginia by adding a section numbered 62.1-44.38.1, relating to development of state, regional and local water supply plans.

Be it enacted by the General Assembly of Virginia:

1. That the Code of Virginia is amended by adding a section numbered 62.1-44.38.1 as follows:

§ 62.1-44.38:1. Comprehensive water supply planning process; state, regional and local water supply plans.

A. The Board, with the advice and guidance from the Commissioner of Health, local governments, public service authorities, and other interested parties, shall establish a comprehensive water supply planning process for the development of local, regional and state water supply plans consistent with the provisions of this chapter. This process shall be designed to (i) ensure that adequate and safe drinking water is available to all citizens of the Commonwealth and (ii) encourage, promote, and protect all other beneficial uses of the Commonwealth's water resources.

B. Local or regional water supply plans shall be prepared and submitted to the Department of Environmental Quality in accordance with criteria and guidelines developed by the Board. Such criteria and guidelines shall take into account existing local and regional water supply planning efforts and requirements imposed under other state or federal laws.

2. That the State Water Control Board shall promulgate regulations necessary to carry out the provisions of this act, including criteria for the development of local and regional water supply plans. Such regulations shall not become effective prior to July 1, 2004. Draft criteria for the development of local and regional water supply plans shall be prepared and submitted to the Governor, the Senate Committee on Agriculture,

Conservation and Natural Resources, the House Committee on Agriculture, Chesapeake and Natural Resources, and the State Water Commission by December 1, 2003.

3. That the State Water Control Board shall prepare and submit to the Governor, the Senate Committee on Agriculture, Conservation and Natural Resources, the House Committee on Agriculture, Chesapeake and Natural Resources, and the State Water Commission, by December 1, 2003, a preliminary state water resources plan in accordance with § 62.1-44.38, which includes information from existing local and regional water supply plans. Such plan shall not be adopted by the Board prior to July 1, 2004. The Department of Health and all other state agencies shall assist in the preparation of the state water resources plan, and water supply systems shall provide available information, including existing water supply plans, as needed to develop the preliminary state plan.

4. That the Water Policy Technical Advisory Committee shall work with the Department of Environmental Quality and the Virginia Department of Health on the development of the plan required by this act and shall advise these agencies on any further changes needed to the Commonwealth's water resources policies and programs.

#