REPORT OF THE

STATE WATER COMMISSION

TO THE GOVERNOR AND
THE GENERAL ASSEMBLY OF VIRGINIA

HOUSE DOCUMENT NO. 4

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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 § 9-145.8). During its 2000 Session, the General Assembly directed the State Water Commission to conduct two studies. Under House Joint Resolution No. 149 the Commission was to study the desirability and feasibility of establishing an intergovernmental structure to facilitate the planning and coordination of water resources in the Roanoke River Basin (Appendix A). The second study, authorized by House Joint Resolution 161 (Appendix B), called upon the Commission to examine karst ground water monitoring and protection in the Shenandoah Valley. Both studies are to be completed in two years with their findings and recommendations to be presented to the Governor and General Assembly during the 2002 Session.

II. SUBCOMMITTEE DELIBERATIONS

The Commission devoted much of its deliberations during the two-year period, 2000-2002, to examining issues raised by the two joint resolutions. Since both studies involved an analysis of various aspects of water supply and water quality, the Commission began its work with a briefing on Virginia's water policies and laws. The staff's presentations, titled "Agency Authority Regarding Water Quality" and "An Overview of Statewide Policy concerning water resources" appear in Appendix C.

A. ESTABLISHING AN INTERGOVERNMENTAL STRUCTURE IN THE ROANOKE RIVER BASIN (HJR 149)

Delegate William Bennett, patron of HJR 149, was invited by the Commission to discuss why it was important to study the feasibility of establishing an intergovernmental structure to address water resources issues in the Roanoke River Basin. Delegate Bennett indicated there

was a need for an intergovernmental structure that would provide a forum for local governments and stakeholders to discuss their water-related concerns. As the resolution notes, it is important for each of the Basin's localities to cooperate in establishing a framework for coordinating the management of the region's water resources. According to Delegate Bennett, if a structure had been in place, it could have served as a vehicle to discuss such recent events as (i) the 1999 summer drought that had a significant impact on the water resources of the Roanoke River Basin and (ii) the discovery of increased levels of pollution, including the presence of PCBs in the Roanoke River and its tributaries. Delegate Bennett believes that an entity should be established to allow the wide variety of interests in the Basin, such as local governments, electric-generating plants' agricultural interests, and other users of the Basin's waters to coordinate the various uses and disseminate information as to matters affecting the waters. He suggested that a commission could be a forum for matters involving water quality and water quantity.

Delegate Bennett stated that there was ample precedent for adopting a basin-wide or watershed approach to resolving water resource issues. The acceptance of and support for such an approach is reflected in (i) current federal watershed protection policies, (ii) the recognition that management of water quantity on a watershed basis rather than an individual permit basis is a more effective and efficient way to achieve a water quality objective, (iii) the ongoing listing of impaired waters and the development of total maximum daily loads (TMDLs) to determine sources of pollution, and (iv) state legislation that is specifically directed toward watershed protection.

Anthony Moore, Director of Policy for the Department of Environmental Quality (DEQ), provided the Commission with a description of the Roanoke River Basin that included some of the characteristics of the Basin, the existing uses of the basin's water resources and current planning and monitoring programs being conducted in the Basin. The Basin covers a drainage area of approximately 9,680 square miles, of which approximately 6,300 square miles (or two-thirds) of the Basin are within Virginia. The portion of the Basin located within Virginia comprises about 16 percent of the Commonwealth's total land area. Within the Virginia portion of the Basin, approximately 62 percent is forested and 25 percent is devoted to agricultural enterprises. The Basin contains 9,504 stream miles and approximately 98,000 acres of lakes. In the Virginia portion of the Basin, there are more than 130 sources of surface water withdrawals, which include water withdrawn for public water supplies, industrial, electric power, agricultural, and other commercial uses. There are 194 Virginia Pollutant Discharge Elimination Systems (VPDES) permitted facilities, of which 110 are municipal facilities and 84 are industrial facilities.

In Virginia, the Department of Conservation and Recreation (DCR) has used the watershed approach. Jack Frye, Soil and Water Conservation Division Director with the DCR, stated that his agency, when dealing with water related issues, has concluded that a watershed approach is the most effective and efficient way to address concerns affecting rivers, streams, and other waters. The agency has established watershed roundtables that will provide a forum for stakeholders to participate in (i) defining critical watershed needs and (ii) targeting specific problems and seeking possible solutions to those problems. Ideally, according to Mr. Frye, these roundtable groups would consist of representatives from local and state government, soil and water conservation districts, agricultural interests, planning district commissions, federal

agencies, conservation organizations, business and industry, silvicultural interests, and other interested parties. It is hoped that by including a broad spectrum of interests and individuals, comprehensive watershed goals can be identified, programs and actions can be developed and implemented, and activities can be coordinated so as to attain the goals sought by those in the watershed. The resulting programs and policies should be more effective due to the consideration given and suggestions made by those affected parties. Mr. Frye noted that there are currently a number of groups within the Roanoke River Basin attempting to coordinate the various interests and activities of those within the Basin. These groups have discussed ways to protect drinking water supplies and in-stream living resources, support recreational uses and expand tourism opportunities, mitigate flooding hazards, and reduce sedimentation and siltation.

One model for coordinating water-related activities within a basin is the Rappahannock River Basin Commission. Created in 1998, this commission is composed of one member from each of the elected governing bodies of the jurisdictions located within the Basin, a representative of soil and water conservation districts, and those members of the Senate and House of Delegates whose districts include a portion of the Basin and who express their interest in being a commission member. The Commission's purpose is to provide guidance for the stewardship and enhancement of the water quality and natural resources of the Basin. It is "a forum in which local governments and citizens can discuss issues affecting the Basin's water quality and quantity and other natural resources "(Va Code § 62.1-69.27). The Commission has no regulatory powers. Mr. Eldon James, Executive Director of the Commission, informed the State Water Commission that the General Assembly created the Rappahannock River Basin Commission to help encourage greater communication and coordination among those parties having an interest in the Basin. It has provided a forum for stakeholders to address their concerns, and has also provided an avenue for local governments to discuss areas of common interest and to convey their concerns to the General Assembly.

Having listened to the testimony of those appearing before it, members of the State Water Commission indicated their belief that the issues raised in HJR 149 merited further consideration and established a subcommittee, chaired by Senator Hawkins, to examine the desirability of establishing an intergovernmental structure as a means of enhancing the planning and coordination of water resources within the Roanoke River Basin. The subcommittee met several times and discussed such issues as (i) what the structure of an intergovernmental commission should be, (ii) whether such a body should be modeled after the Rappahannock River Basin Commission, with its membership composed of representatives of local and state government and, (iii) what powers and duties the Commission should have. The members of the subcommittee believed that any effort to establish a basin-wide advisory body, if it is to be credible, will have to include the participation of the public and all interested parties in determining the role and structure of the advisory body. In order to solicit the views of the public, Senator Hawkins appointed 13 citizens to comprise an advisory panel and requested that the members of the advisory panel examine whether a basin-wide entity should be created to advise state officials on the management of the water resources in the Roanoke River Basin.

The advisory panel, chaired by Reverend Shelton Miles of Gladys, Virginia, held a series of meetings and public hearings during the summer of 2001. The panel viewed itself "as a

vehicle for the general public throughout the Roanoke River Basin to express both specific and general concerns."[1] The panel asked the public to respond to the following questions:

1. Should a permanent advisory commission be established to facilitate the planning and coordination of water resources in the Roanoke River Basin?

2. If so, what should be the purposes and powers of that commission?

3. How should the membership of the commission be constituted (i.e., how many members should serve on the commission, how should those members be selected, and what should be the qualifications for service on the commission?)

Six public hearings were held: four in Virginia (Brookneal, Roanoke, Kerr Dam, and Martinsville) and two in North Carolina (Williamston and Roanoke Rapids). The Brookneal and Roanoke hearings were sponsored jointly by the advisory panel and the State Water Commission subcommittee.[2] After considering the comments received at the public hearings and those submitted in writing, the advisory panel "strongly recommended" the immediate creation of the Roanoke River Basin Commission (RRBC). In its report to the State Water Commission, it proposed that the RRBC have the following purposes:

1. Provide guidance and make recommendations to local, state and federal legislative and administrative bodies, and to others as its deems necessary and appropriate, for the use, stewardship and enhancement of the water, and other natural resources, for all citizens within the Roanoke River Basin;

2. Provide a forum for discussion of issues affecting the basin's water quantity and water quality, and issues affecting other natural resources;

3. Promote communication, coordination and education among stakeholders within the Roanoke River Basin;

4. Identify problems and recommend appropriate solutions;

5. Undertake studies and prepare, publish, and disseminate information through reports, and in other forms, related to water quantity, water quality and other natural resources of the basin;

6. Establish advisory committees that are constituted to ensure a balance of recognized interests; and

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[1] Proposed Roanoke River Basin Commission, "Record of the Proceedings of the Citizen Advisory Subcommittee of the Virginia Water Commission, April 12-October 2001, p 1.

[2] A summary of the comments received during the public hearing appear in the "Record of the Proceedings of the Citizen Advisory Subcommittee of the Virginia Water Commission."

7. Conduct joint meetings, and otherwise communicate, with North Carolina legislative and administrative bodies to enhance communication between the two states throughout the basin.

The advisory panel recommended that the RRBC be composed of 14 members to be selected in the following manner: two members each to be appointed by the Central Virginia Planning District Commission, the West Piedmont Planning District Commission, the Southside Planning District Commission, and the Roanoke Alleghany Planning District; one member to be appointed by the New River Valley Planning District Commission; and the member of the U.S. House of Representatives whose district includes the largest portion of the Basin. In selecting their appointees, planning district commissioners are to "devise a process which will enable a person interested in serving on the RRBC to declare his or declare his or her candidacy."[3] The report also establishes eligibility criteria for appointment terms of office and term limits. In addition, each Virginia state senator and delegate whose district includes any portion of the Basin would serve as ex-officio members. This group of ex officio members, who are state legislators, would select one senator and one delegate to serve as voting members of the RRBC.

The report concludes by noting that the interests of all citizens within the Basin would be best served if the North Carolina legislature creates a commission similar to the one being proposed for Virginia and that the two commissions meet jointly and issue joint recommendations. However, recognizing that Virginia cannot compel North Carolina to create a commission, the advisory panel urged the Virginia General Assembly to "proceed immediately" with the creation of the RRBC, without a condition that North Carolina take similar action.

Mr. Russell Slayton, vice-chairman of the advisory committee, presented the report's findings and recommendations to the State Water Commission. Fourteen members representing diverse interests within the Roanoke River Basin comprised the advisory committee. He stated that the advisory committee believed that:

1. A Roanoke River Basin Commission would serve the interests of both southside Virginia and the Commonwealth;

2. Such a commission should have no regulatory power but simply be an advisory body that compiles and disseminates information and makes recommendations to regulatory authorities;

3. The type of membership on the Commission is of paramount importance. Unlike the Rappahannock River Basin Commission that was composed of local officials and members of the legislature, government officials should not dominate the membership of the Commission. It should be composed of 14 members, with the five planning district commissions in the Basin appointing two each, one member of the House of Delegates, one member from the Virginia Senate and the Virginia congressman who represents the largest portion of the Basin. The draft legislation being proposed by the advisory committee also contains a provision that provides for ex officio membership and the establishment of ad hoc committees.

[3] "Record of the Proceeding," p 2.

4. The establishment of a Virginia Roanoke River Basin Commission should not be conditioned or dependent upon the creation of a bi-state commission with North Carolina. This does not mean that North Carolina should not be involved but rather Virginia should go forward with its commission and encourage North Carolina to take similar action and establish its own commission. If North Carolina forms such a commission, the advisory committee recommends that the Virginia commission be mandated to meet with its North Carolina counterpart, but there should not be a joint commission established. There is concern that such a joint commission might not reflect the legitimate interests of Virginia, which may differ from North Carolina on a particular issue or policy.

Mr. Slayton requested that members of the State Water Commission not adopt the recommendations that resulted from a meeting held in Danville on December 17, 2001. That meeting was held for the purpose of discussing the formation of a bi-state commission for the Roanoke River Basin. Representatives of the Roanoke River Basin Association, the Upper Roanoke River Roundtable, the Western Virginia Impact, members of the citizens' advisory committee, state officials from Virginia and North Carolina, and Virginia and North Carolina legislators representing districts within the basin, attended the meeting. However, it was the consensus of the legislators attending the Danville meeting that, notwithstanding opposition to the establishment of a bi-state commission, such a body should be created. The legislators representing both states agreed that the provisions contained in legislation establishing such a bi-state commission would parallel the draft legislation recommended by the citizens' advisory group for a Virginia commission with respect to powers, duties, purpose, and establishment of standing and ad hoc committees.

The one significant difference between the Virginia commission and the bi-state commission would be membership. The Virginia commission as proposed by the citizens' advisory committee included 14 members, 10 of whom would be citizens appointed by the planning district commissions. The bi-state commission would be composed of 18 members, with each state having nine appointments. Of the nine North Carolina members, three would be appointed by the Speaker of the House of Representatives, three would be appointed by the President Pro-Tempore of the Senate, and three would be appointed by the Governor. The nine Virginia citizen members would be appointed as follows: one member each would be appointed by the six planning districts commission within the Basin; one member would be appointed by the Senate Committee on Privileges and Elections; one member would be appointed by the Speaker; and one member would be appointed by the Governor.

After discussing the differences between the two proposals, Senator Hawkins asked the State Water Commission to endorse the creation of both a Virginia Roanoke Basin Commission and a bi-state commission. Having reviewed the provisions of each measure, the State Water Commission recommends:

Recommendation: That the 2002 Session enact legislation establishing the Virginia Roanoke River Basin Commission and the Virginia-North Carolina Bi-State Roanoke River Basin, and that the State Water Commission endorses, in

concept, the provisions contained in legislation establishing each commission (Appendices D and E).

B. KARST GROUND WATER MONITORING AND PROTECTION IN THE SHENANDOAH VALLEY

House Joint Resolution 161, from the 2000 Session of the General Assembly, directed the State Water Commission to study karst ground water monitoring and protection in the Shenandoah Valley. The resolution instructs the Commission to study the need for, and possible structures of a regional ground water monitoring network in the Shenandoah Valley, and to make recommendations on: (i) whether such network should be an extension of an existing monitoring program that has been established by a state or local government entity; (ii) criteria for selecting monitoring points; (iii) parameters to be monitored; (iv) monitoring frequency; and (v) start-up costs and annual funding requirements. The resolution also directs the Commission, in the second year of the study, to monitor the implementation of its recommendations and to make further recommendations for refining or expanding the monitoring network. The resolution authorizes the Commission to appoint a technical advisory committee consisting of persons with expertise in geology, hydrology, or environmental engineering.

The Commission created a Karst Ground Water Study Subcommittee, chaired by Delegate Louderback to carry out the charge of HJR 161. The subcommittee found that not only no comprehensive policy or program for coordinating local ground water protection efforts exists, but there is no centralized monitoring of and data management system for the ground water resources of the Commonwealth.

The subcommittee appointed a technical advisory committee (TAC) to assist with the technical aspects of HJR 161. The TAC met five times in 2001 to address the five directives laid out in HJR 161. The TAC concluded that a regional ground water monitoring network in the Shenandoah Valley is needed. The TAC recommended establishing a regional ground water monitoring demonstration project, consisting of a database of existing historical data and an active monitoring component to collect and incorporate ground water and watershed data. It was recommended that the database be compatible with the geographic information systems (GIS) available to local governments, and accessible to the public. Three major objectives were identified for the regional ground water monitoring project:

1. Develop more sensitive risk assessment models for karst areas that encompass the basic hydrologic characteristics of the ground water basins;
2. Interface with latest technology such as regional GIS and national databases (USEPA, USGS) for seamless data exchange;
3. Provide map tools and limited Internet access for local officials, planning districts, waterworks, developers, regional health districts, schools, etc.

Three counties were chosen for the proposed demonstration project: Augusta, Rockingham, and Shenandoah. The TAC agreed that information that would be included in the regional ground water database would be the result of a cooperative effort among the three

counties, the Central Shenandoah and Northern Shenandoah Valley Planning District Commissions, local schools and universities, state and federal agencies, and watershed groups. The three counties and both planning district commissions employ planning staff and operate GIS compatible with the proposed demonstration project.

In the autumn of 2001, the Karst Ground Water Subcommittee and the TAC held public hearings in Shenandoah, Rockingham, and Augusta Counties. The hearings were held to present the Subcommittee's preliminary findings, the TAC's recommendation for a ground water monitoring demonstration project, and to solicit public input. The public was invited to comment, ask questions of the subcommittee and technical advisors, and to express their concerns about ground water and surface water issues in the Shenandoah Valley.

Terry Brown, Chair of the TAC, began each of the three public hearings with a summary of the findings of the study. She provided an outline of the Joint Subcommittee report on karst ground water monitoring and protection in the Shenandoah Valley (Appendix F). She stated that Virginia has no statewide or regional database to provide current information on karst ground water resources. Ms. Brown indicated that a mechanism is needed to protect private ground water supplies, as well as the overall public resource and that increased monitoring and analysis of ground water should be conducted to provide decision-makers and planners with sufficient information to determine the best course of action to take to protect ground water in the area.

In establishing the need for the proposed project, Ms. Brown reported that there are not enough monitoring stations in western Virginia to protect local drinking water supplies or to predict long-term trends in water quantity and quality. She stated that Virginia's existing Ground Water Management Act has been implemented exclusively in the Coastal Plain of Virginia, leaving private landowners and localities in central and western Virginia without the technical means to identify, monitor, and prevent ground water problems. Ms. Brown concluded that across much of the Commonwealth there is no meaningful ground water level data or stream flow data on the local to regional scale.

Ms. Brown then briefed those in attendance of the Karst Ground Water Subcommittee and the TAC's recommendation for creating a regional ground water monitoring demonstration project, which could serve as a model for statewide ground water monitoring. The project would gather and compile historical data, such as detailed geological maps of the areas and known sink hole locations, into a GIS. New geological data would then be added, such as fractures (cracks in the underground rocks that hold ground water). A ground water monitoring network would be combined with the surface water quality monitoring network to develop conceptual models. The models could be used to illustrate the interconnectedness of surface water and ground water. This information would be helpful in protecting ground water resources and planning for future development.

The importance of data collection partnerships between state and local government and the private sector was highlighted as the key to a coordinated data collection effort. Ms. Brown explained that even though a great deal of useful ground water information currently exists, it is stored in various formats and locations, and is accessible only through manual compilation at

considerable time and expense. She said that more ground water monitoring is needed, especially in karst areas, to get a complete picture of current resources and to be able to plan for the future.

After Ms. Brown's presentation at each of the three public hearings, the floor was open for public comments. Fourteen people spoke at the meeting in Shenandoah County on September 13, 2001. The second meeting was held on September 18, 2001, in Rockingham County where thirteen people spoke. The final public hearing was held in Augusta County on September 25, 2001, where three people voiced their concerns with ground water quality to the TAC. Appendix G contains summaries of the public comments heard at the three hearings.

At the January 8, 2002 meeting of the State Water Commission, Ms. Brown summarized the findings of the HJR 161 study. She briefed the Commission on the three pubic hearings held by the Karst Ground Water Subcommittee and TAC and explained that the majority of comments received were generated from people with on-site septage systems. Concerns were raised over water well contamination, lack of water supply, sink hole collapses, and the unknown risks posed from abandoned landfills, abandoned wells, and biosolids application. Also mentioned were concerns with the lack of identification and understanding of ground water aquifers and how they are recharged. Ms. Brown stated that all of the concerns voiced at the public hearings reinforced the subcommittee's and TAC's recommendation for a statewide ground water monitoring project. She indicated that the Shenandoah Valley provides an ideal work scenario for a model ground water monitoring project because of its karst bedrock and rapid ground water flow time. The proposed project would incorporate the five points laid out in HJR 161: (i) whether such network should be an extension of an existing monitoring program that has been established by a state or local government entity; (ii) criteria for selecting monitoring points; (iii) parameters to be monitored; (iv) monitoring frequency; and (v) start-up costs and annual funding requirements.

Ms. Brown said that the report on the model ground water monitoring project from the TAC to the Subcommittee is still in draft form, and is being reviewed by the TAC. She believes that there is much support for a ground water monitoring demonstration project that can serve as a model for the state. One of the goals of the project is to create a database that will be transferable statewide and also nationwide. State agencies and the U.S. Geological Survey have offered the TAC technical assistance for the project.

Delegate Louderback concluded his subcommittee report by saying that the final report will be given to the Commission once it has gone through all of the reviews. He mentioned that it would be very beneficial to have the U.S. Geological Survey and the U.S. EPA involved in the project. Financial and technical support from the General Assembly, the U.S. EPA, and the U.S. Geological Survey would be essential to the initiation of the ground water monitoring project. In addition, agency, contractor, and university resources should be utilized for geologic mapping, ground water research, and resource management studies. The ground water monitoring project should be designed to support end-products that facilitate the development of planning tools (ideally GIS maps) and relevant technical information to the public, local decision-makers, designers, developers, and public water system managers. Such statewide groups as the Virginia Geographic Information Network and the Volunteer Water Quality

Monitoring Council may be able to provide assistance in the design and set-up of the data collection and management project. Delegate Louderback indicated that no action from the Commission was necessary at this time.

C. TECHNOLOGY FOR GATHERING WATER RESOURCES DATA

Mr. Daniel Shaffer, President of Terralogic, Inc., briefed the Commission on the use of geographic information technology to collect water resources data. Specifically, he discussed how the Commonwealth might establish a framework for conducting the mapping of ground water in order to better manage that resource. Such mapping would enable the Commonwealth to (i) protect the quality and availability of clean drinking water and (ii) identify and attempt to protect those parts of the Commonwealth from pollution land use practices where the ground water is most likely to be replenished. Such a geographic information system and related data would become property of the Commonwealth and would be helpful in analyzing natural resource issues.

The importance of protecting ground water is reflected in how dependent we are on this as a source of water supply. According to the U.S. Geological Survey, nationally, 99 percent of the rural population is dependent on ground water as their source of water supply, 37 percent of drinking water supply withdrawals are from ground water, and 37 percent of water used in irrigation is ground water. In Virginia, 50 percent of our water supply is ground water.

Currently, there is very little data on Virginia's ground water resources. One way to document the nature and extent of this resource, according to Mr. Shaffer, is through the use of technological mapping. Mr. Shaffer offered his assistance in developing a geographic information system that would include such information as rainfall data, land-use mapping, soils mapping, geological mapping, wetlands mapping, water well data, and field survey data collection. Mr. Shaffer indicated that finding funding for such a project has been difficult. He envisions such a project taking eight to 10 months to complete, but any such effort would begin with a project-planning phase involving the appropriate state agencies.

Mr. Terry Wagner, Director of Water Management programs, was asked to respond to Mr. Shaffer's proposal. He cautioned the Commission that there is the assumption in Mr. Shaffer's presentation that data exist that will enable us to map the round water resource. However, such information is not currently available. It would be possible to design a long-term research project that will profile the occurrence of ground water in the Commonwealth but no data currently exists describing (i) where ground water occurs, (ii) what geological impediments obstruct the movement of ground water, or (iii) the water quality of the resource. Thus, according to Mr. Wagner, before developing a geographic information system a vast amount of basic data has to be gathered on both ground water and surface water, which will be both difficult and expensive.

D. DEVELOPING A STATE WATER POLICY

Delegate Landis requested the Commission's support for the introduction of House Joint Resolution (HJR 202), authorizing the Commission to conduct a two-year study of the

effectiveness of the Commonwealth's water policies. He noted that while Virginia has some water management laws, it lacks a comprehensive water policy or long-term water supply strategy. The study would 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 Commonwealth should play in data collection, water supply planning, water allocation, dispute resolution, and water development; and (iv) the role of the Commonwealth in watershed planning to provide quality raw water, both surface and ground water, for water supplies. After a brief discussion, the Commission recommends that:

Recommendation: That the 2002 Session of the General Assembly pass a house joint resolution directing the State Water Commission to study the effectiveness of the Commonwealth's water policies (Appendix H).

APPENDICES

ENROLLED

HOUSE JOINT RESOLUTION NO. 149

Directing the State Water Commission to study the desirability and feasibility of establishing an intergovernmental structure to facilitate the planning and coordination of water resources in the Roanoke River Basin.

Agreed to by the House of Delegates, February 15, 2000
Agreed to by the Senate, March 8, 2000

WHEREAS, the Roanoke River is a resource of great value to the Commonwealth of Virginia and to each of the localities within the Roanoke River Basin; and

WHEREAS, cooperation between the local governments of the Basin is essential for the economic vitality and appropriate development of the region; and

WHEREAS, during the past year, the Roanoke River Basin has experienced severe drought conditions, and this fact, coupled with the use of surface water to generate electricity and the transfer of large quantities of surface water to other regions of the Commonwealth, suggests that some actions need to be implemented to ensure that adequate supplies of water resources are maintained in the region to meet both economic development and water conservation needs; and

WHEREAS, in 1998 the State Department of Health issued a citizen's health advisory against eating fish that might be contaminated with polychlorinated biphenyl (PCB) found in the sediment of the Roanoke River; and

WHEREAS, the Department of Environmental Quality had known about the existence of PCBs in the Roanoke River since 1993, but the public was unaware of their presence and the threat that they represent to public health and the environment until recently, thereby raising concerns over the need for greater citizen involvement and participation in water quality and water quantity issues; and

WHEREAS, since activities in one part of the Basin affect other parts of the Basin, it is in the best interest of the region and the Commonwealth to encourage and support Basin-wide regional cooperation; and

WHEREAS, there is a need for each of the Basin's localities to recognize the importance of cooperation in establishing a framework for coordinating the management of the region's water resources; now, therefore, be it

RESOLVED by the House of Delegates, the Senate concurring, That the State Water Commission be directed to study the desirability and feasibility of establishing an intergovernmental structure to facilitate the planning and coordination of water resources in the Roanoke River Basin.

GENERAL ASSEMBLY OF VIRGINIA -- 2000 SESSION

Appendix B

HOUSE JOINT RESOLUTION NO. 161

Directing the State Water Commission to study karst groundwater monitoring and protection in the Shenandoah Valley.

Agreed to by the House of Delegates, February 15, 2000
Agreed to by the Senate, March 2, 2000

WHEREAS, population growth in Virginia is leading to an increasing reliance on groundwater for drinking water supplies; and

WHEREAS, an understanding of interactions between surface water and groundwater is essential to proper management of the quality and quantity of Virginia's groundwater resources; and

WHEREAS, there is very little data available regarding such interactions in areas with karst topography, such as the Shenandoah Valley; and

WHEREAS, one way to ensure that such data are collected and made available to those charged with managing groundwater in the Shenandoah Valley would be to establish a regional groundwater monitoring network; and

WHEREAS, before such a network can be established, many questions must first be answered; and

WHEREAS, the establishment of such a network is vital to the continued growth and development of the Shenandoah Valley and is therefore of interest to all of the region's policy-makers; now, therefore, be it

RESOLVED by the House of Delegates, the Senate concurring, That the State Water Commission be directed to study karst groundwater monitoring and protection in the Shenandoah Valley. In the first year, the Commission shall study the need for and possible structures of a regional groundwater monitoring network in the Shenandoah Valley and make recommendations on:

1. Whether such network should be an extension of an existing monitoring program that has been established by a state or local government entity;
2. Criteria for selecting monitoring points;
3. Parameters to be monitored;
4. Monitoring frequency; and
5. Start-up costs and annual funding requirements.

In the second year of the study, the Commission shall monitor the implementation of its recommendations and shall make recommendations for refining or expanding the monitoring network, if appropriate.

The Commission may appoint a technical advisory committee consisting of persons with expertise in geology, hydrology or environmental engineering, as the Commission deems appropriate.

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

The Commission shall complete its work in time to submit an interim report to the Governor and the 2001 Session of the General Assembly and its final findings and recommendations to the Governor and the 2002 Session of the General Assembly as provided in the procedures of the Division of Legislative Automated Systems for the processing of legislative documents.

Overview of State Agency Authority Regarding Water Quality

I. State Agency Regulatory Authority Regarding Water Quality

A. The State Water Control Board and the Department of Environmental Quality.

1. *State Water Control Law.*

The State Water Control Board (SWCB) administers the State Water Control Law. The SWCB's general powers and duties (set forth in § 62.1-44.15) include the power/duty to (i) study/investigate problems concerned with water quality; (ii) coordinate efforts toward water conservation; (iii) establish water quality standards for state waters; (iv) issue, revoke or amend certificates for activities that negatively affect the quality of state waters, including activities affecting wetlands, (v) establish policies and programs for effective area-wide or basin-wide water quality control and management; and (vi) establish requirements for the treatment of sewage and other wastes.

2. *Virginia Pollution Discharge Elimination System permits (VPDES).*

The federal Clean Water Act established a permitting system known as the National Pollution Discharge Elimination System (NPDES) requiring permits for discharges from point sources of pollution. Virginia received authorization to run this program in 1975 through VPDES and permits issued under VPDES satisfy both state and federal law. The permits authorize and control the discharge of pollutants into state waters to protect water quality.

3. *Virginia Pollution Abatement (VPA) Permit.*

The VPA permit program, established under the State Water Control Law, is designed to regulate potential sources of pollutants, such as confined animal feeding operations, that are non-point source discharges to surface waters.

4. *Virginia Water Protection Permit ("401 certificates").*

Section 401 of the federal Clean Water Act requires any applicant for a federal license or permit for any activity which may result in a discharge to navigable waters to obtain a certification from the state that the discharge will not result in a violation of state water quality standards. The Virginia Water Protection Permit (VWPP) program satisfies the federal requirement and allows Virginia greater say in protecting water quality, instream flows and beneficial uses. VWPP are to be issued if the SWCB finds that the proposed activity is consistent with the provisions of the federal Clean Water Act and will protect instream beneficial uses. Legislation enacted by the General Assembly in 2000 extends the requirement of a VWPP to activities that negatively impact non-tidal wetlands. Conditions may be placed in a VWPP including the volume of water which may be withdrawn as a part of the permitted activity. In making decisions regarding the

issuance of VWPP and conditions that may be placed in the VWPP the Board is to give domestic and other existing beneficial uses the highest priority.

B. Department of Conservation and Recreation (DCR).

1. *Stormwater Management* (§ 10.1-603.1 et seq.).

DCR has been given the responsibility for setting minimum technical criteria and administrative procedures for stormwater management programs which may be adopted by localities. The criteria to be developed by DCR are to include requirements that control non-point source pollution, control localized flooding and incorporate erosion and sediment control law regulations, and ensure long term maintenance of storm water management control devices and techniques. Localities that establish a local stormwater management program are responsible for the enforcement of the program. An affected locality can request DCR to review its storm water plans that have inter-jurisdictional impact. This program is complementary to one administered by DEQ. DEQ permits storm water discharges through the VPDES because of requirements of the federal Clean Water Act.

2. *Erosion and Sediment Control Law* (§ 10.1-560 et seq.).

The Soil and Water Conservation Board within DCR has been charged with the responsibility of developing a program and regulations for the "effective control of soil erosion, sediment deposition and non-agricultural runoff which must be met in any control program to prevent the unreasonable degradation of properties, stream channels, waters and other natural resources ..." against which the local programs will be judged. The Erosion and Sediment Control Law requires anyone undertaking a "land-disturbing activity" to submit a sediment and erosion control plan to the local authority administering the local erosion and sediment control program. The "local authority" is responsible for reviewing and approving the plans, inspecting projects during construction and taking measures to enforce the provisions of local ordinances when violations are found.

In areas where there is no soil and water conservation district the local county, city and towns must adopt and administer an erosion and sediment control program. In areas that are covered by a soil and water conservation district the local county, cities and towns may adopt and administer a erosion and sediment control program. Every soil and water conservation district is required to adopt and administer an erosion and sediment control program for any area within the district for which a county, city or town does not have an approved erosion and sediment control program.

C. Virginia Department of Health.

1. *Sewage* (§ 32.1-163 et seq.).

The Board of Health has authority over the safe and sanitary collection, conveyance, treatment and disposal of sewage, all sewage systems and treatment works as they affect the public health and welfare. In exercising this authority the Board of health is to exercise "due diligence" to protect the quality of both surface and ground water. This is applicable to onsite sewage systems (septic systems) as well as larger sewage treatment plants. The facilities are to be permitted by both the Board of Health and the State Water Control Board.

2. *Sewage sludge* (§ 32.1-164.5).

A Virginia Pollution Abatement permit from the Sate Water Control Board or a permit from the State Health Commissioner is required before one may land apply, market or distribute sewage sludge. The permit is to specify the location or locations and the terms and conditions of such land application, marketing or distribution.

The Board of Health, with the assistance of the Departments of Environmental Quality and Conservation and Recreation, is charged with the responsibility of developing regulations to ensure that (i) sewage sludge permitted for land application, marketing or distribution is properly treated or stabilized, (ii) land application, marketing and distribution of sewage sludge is performed in a manner that will protect public health and the environment, and (iii) the escape, flow or discharge of sewage sludge into state waters in a manner that would cause pollution of state waters will be prevented.

3. *Drinking water supplies and waterworks* (§ 32.1-167 et seq.).

The Board of Health has general supervision and control over all water supplies and waterworks in the Commonwealth insofar as the bacteriological, chemical, radiological and physical quality of waters furnished for drinking or domestic use may affect the public health and welfare. The Board has the power to require that all water supplies be pure water.

A permit from the Commissioner of Health is generally required before one may establish, construct or operate any waterworks or water supply. The permit may state the permitted capacity of the waterworks, the permitted source or sources of the water supply, the permitted manner of storage, purification and treatment for the water supply and such other conditions as the Commissioner may deem necessary to afford a supply of pure water.

The regulations of the Board governing waterworks, water supplies, and pure water are to include (i) minimum health and aesthetic standards for pure water, (ii) minimum standards for the quality of water which may be taken into a waterworks, (iii)

criteria for the siting, design, and construction of water supplies and waterworks, and (iv) requirements for inspections, examinations, and testing of raw or finished water.

4. *Private well construction* (§ 32.1-176.1 et seq.)

The Board of Health is authorized to adopt regulations regarding the location and construction of private wells so as to protect aquifers and ground water resources. Any person intending to construct a private well must receive a permit from the Department of Health before constructing the well. The Board is authorized to inspect the well after it has been constructed to ensure that the construction standards have been met.

D. Virginia Department of Agriculture and Consumer Services.

1. *Agricultural Stewardship Act* (§ 10.1-559.1 et seq.).

The Agricultural Stewardship Act creates a program to address water quality problems caused by agricultural activities. Any person may submit a complaint to the Commissioner of Agriculture that an agricultural operation is creating pollution. The complaint will be investigated by the local soil and water conservation district or the Commissioner. If the investigation confirms that the operation is creating or will create pollution, the owner or operator must formulate a plan within 60 days containing measures which will prevent or cease the pollution. The owner or operator must implement the plan within a period of time specified by the Commissioner, which shall not exceed 18 months. The Act provides for ongoing monitoring of the plan and the issuance of corrective orders if the owner or operator fails to complete implementation of the plan.

2. *The Virginia Pesticide Control Act* (§ 3.1-249.27 et seq.).

The Pesticide Control Board, established by the Virginia Pesticide Control Act, is to consult with DEQ regarding compliance with the applicable waste management regulations for the safe and proper disposal of pesticide concentrates, used pesticide containers, and unused pesticides. The Board is also charged with informing the citizens of Virginia as to the desirability and availability of nonchemical and less toxic alternatives to chemical pesticides and the benefits of the safe and proper use of pest control products, while promoting the use of integrated pest management techniques and encouraging the development of nonchemical and less toxic alternatives to chemical pesticides. The Board is authorized to adopt regulations that restrict or prohibit the sale or use and disposal of any pesticide or pesticide container or residuals which have unreasonable adverse effects on the environment or are toxic.

E. Department of Forestry.

Silvicultural Activities Affecting Water Quality (§ 10.1-1181.1 et seq.).

The State Forester has been given the authority to take a number of actions to protect waters from "pollution" from silvicultural activities. If he determines that an owner or operator of a silviculture operation is conducting or allowing the conduct of any silvicultural activity in a manner which is causing or is likely to cause pollution, he may advise the owner or operator of corrective measures needed to prevent or cease the pollution. He may also issue special orders to the operator requiring the cessation of activities and the implementation of corrective measures. This can be done either with or without a hearing depending on the severity of the problem or potential problem encountered. Special orders are enforceable through injunctions. Violations of special orders may be penalized through civil penalties of up to $5,000.

II. State Agency Authority Regarding Water Quantity.

State Water Control Board

1. *Surface Water Management Areas* (§ 62.1-242 et seq.).

The Surface Water Management Area legislation was enacted to protect instream values (such as fish and wildlife habitat) from excessive withdrawals for offstream uses (such as domestic, agricultural, and industrial uses). If the SWCB deems the level or supply of surface water to be potentially adverse to public health, safety and welfare, it can designate a surface water management area.

Once an area is designated as a surface water management area permits including "flow requirement[s] appropriate for the protection of beneficial uses" are required to be obtained for water withdrawals. However, not all withdrawals in a surface water management area require permits. Exceptions to the permitting requirement include nonconsumptive uses, withdrawals from permitted waste water treatment systems and withdrawals that are less than 300,000 gallons per month. In making permitting decisions, the Board is to consider (i) the number of persons using a stream; (ii) the nature and size of the stream; (iii) the types of businesses or activities to which the various uses are related; (iv) the importance and necessity of the uses claimed by permit applicants and the extent of any injury or detriment caused or expected to be caused to instream or offstream water uses; and (v) the effects on beneficial uses.

2. *Ground Water Management Areas* (§ 62.1-254 et seq.).

The SWCB may designate areas as Ground Water Management Areas (GWMAs) if it finds that (i) ground water levels in the area are declining or are expected to decline excessively; (ii) the wells of two or more ground water users within the area are interfering or may reasonably be expected to interfere substantially with one another; (iii)

the available ground water supply has been or may be overdrawn; or (iv) the ground water in the area has been or may become polluted. Such pollution includes any alteration of the physical, chemical or biological properties of ground water which has a harmful or detrimental effect on the quality or quantity of such waters. Once an area is declared a ground water management area, a withdrawal permit is required for certain withdrawals. Two areas have been designated in the Code as ground water management areas: the Eastern Shore and Eastern Virginia.

III. State Programs Designed to Encourage Improved Water Quality.

A. Water Quality Improvement Fund (§ 10.1-2128 et seq.).

The Water Quality Improvement Fund, which consists of ten percent of the annual general fund revenue collections that are in excess of the official estimates in the general appropriation act, is used to provide grants to local governments, soil and water conservation districts, institutions of higher education and individuals for point and nonpoint source pollution prevention, reduction and control programs. Moneys in the Fund are to be allocated by the Secretary of Natural Resources, in consultation with the State Forester and the Directors of DEQ, DCR and the Chesapeake Bay Local Assistance Department, and with the advice and guidance of the Board of Conservation and Recreation, the Soil and Water Conservation Board, the State Water Control Board, and the Chesapeake Bay Local Assistance Board. DEQ has been designated as the lead state agency for determining the appropriateness of any grant related to point source pollution to be made from the Fund to restore, protect and improve the quality of state waters. DCR has been designated as the lead state agency for determining the appropriateness of any grant related to nonpoint source pollution to be made from the Fund.

B. Watershed Planning and Permitting. (§§ 10.1-1193 through 10.1-1197).

DEQ has been directed to coordinate the watershed-level activities conducted by state and local agencies and authorities and to foster the development of watershed planning by localities. DEQ is to be assisted in this task by the Watershed Planning and Permitting Coordination Task Force.

C. Soil and Water Conservation Districts (§ 10.1-506 et seq.).

Closely associated with DCR, Soil and Water Conservation Districts provide assistance on natural resources management. DCR, through the districts, provides farmers with financial assistance through the Virginia Agricultural Best Management Practices Cost Share Program. The funds are given to farmers for the implementation of practices that protect water quality. Farmers who are engaged in agricultural best management practices pursuant to a soil conservation plan approved by the local Soil and Water Conservation District are also allowed a tax credit in an amount equaling twenty-five percent of the first $70,000 expended for the plan by the individual.

D. Virginia Resources Authority.

Virginia has created two water-related revolving loan funds, the "Virginia Water Facilities Revolving Fund" (§§ 62.1-224 through 62.1-232) and the "Virginia Water Supply Revolving Fund" (§§ 62.1-233 through 62.1-241). The Virginia Resources Authority administers and manages the Funds. The SWCB has been given the authority to direct the distribution of moneys from Virginia Water Facilities Revolving Fund, which aids with the costs incurred by local governments in the development and construction of sewage and waste water collection, treatment and disposal facilities. The Board of Health has been given the authority to direct the distribution of moneys from the Virginia Water Supply Revolving Fund, which aids in the development and construction of water supply facilities including intake facilities, storage facilities and treatment and filtration facilities.

Overview of state-wide policy concerning water resources

Presentation by Dennis Walter

I. Background/Framework

A. Virginia Constitution - Article XI, § 1

- "To the end that the people have . . . pure water, and the use and enjoyment for recreation of adequate public lands, waters, and other natural resources, it shall be the policy of the Commonwealth to conserve, develop, and utilize its natural resources . . .. Further, it shall be 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.

B. General Statement of Virginia's water policy

- focused more on water quality issues than on issues regarding water quantity issues.

II. Water Law in Virginia

A. Concepts embodied in state policy as set forth in Virginia Constitution

1. Common Law Riparian Doctrine

- property rights issues with respect to those owning property adjoining/abutting water source (river, stream, lake, ground water)

a. **Surface water**

- relates to use of water by those who own property abutting water bodies such as streams, rivers and lakes
- general rule: property owner can:
  (i) make any reasonable use of water from the body of water
  (ii) in connection with riparian estate/property
- riparian property owner must take into consideration the rights held by other riparian owners
- right is common to all riparian owners (e.g. downstream owners/users cannot prevent upstream owners from withdrawing water from river)

b. **Ground water**

- underground stream - same rules as for surface water
- other ground water ("percolating"):
  - older view - absolute ownership by property owner
  - current view - use of water by property owner must be reasonable (not that amount used is reasonable, but that use of water is reasonable)

c. **Public supply of water**

- localities have no inherent right to water located within their jurisdictions
- localities are bound by riparian rights generally, but:
  (i) other property owners must demonstrate they have suffered damages in order to prevent further diversion/withdrawal;
  (ii) riparian owner only entitled to "natural flow" of river, stream, water course - if flow is above natural flow, diversions that do not bring flow below natural flow will not be stopped

2. Virginia Constitution

- Courts in Virginia have interpreted Art. XI, § 1 as a statement of policy, not a mandate to executive agencies to act in particular way
- statutory provisions contain specific mandates as to how agencies are to act to implement existing policy

3. Local governments statutory authority

- Virginia is a Dillon Rule state - localities must find express authorization from General Assembly for most activities
- Title 15.2 of the Code of Virginia - contains authority for local governments to take certain actions with respect to water, water supplies. Local governments may:
  a. establish/acquire water supplies, supply systems
  b. raise/spend funds for water supplies, supply systems
  c. set rates and fees
  d. build dams
  e. establish water conservation measures
  f. Virginia Water and Waste Authorities Act (§ 15.2-5100 et seq.)
     - can create authorities - either within its jurisdictional boundaries or with other localities
     - once created- authorities have similar powers with respect to water supply, supply systems as local governments

4. Public Trust Doctrine
   - general concept - Commonwealth is steward of natural resources of the state and is to act as trustee of resources for benefit of citizens
   - interrelation with riparian doctrine - both co-existence and conflict
   - individual's expectations, "rights" to water - subject to public trust doctrine

B. Specific tools/mechanisms to implement/forward state water policy

1. State Water Control Law (§62.1-44.2 et seq.)
   - furthers state policy of non-degradation of state waters
   - purpose set forth in statute:
     a. protect water quality and restore impaired waters
     b. prevent pollution and reduce existing pollution
     c. promote/encourage reclamation and reuse of wastewater
     d. promote conservation, water resource management and distribution and encourage reduction in water consumption
   - requirement of permit prior to engaging in listed activities that negatively impact state waters, including:
     a. discharge of sewage, wastes or harmful substances
     b. alteration of physical, chemical or biological properties of state waters
     c. wetlands:
        (i) current prohibition - excavation in a wetland
        (ii) 10/1/2001 - extending to draining, filling, dumping, permanent flooding, impounding, or significantly altering wetland
   - focus on water quality

2. Virginia Water Quality Improvement Act of 1997 (§ 10.1-2117 et seq.)
   - focused on water quality - addressing issue of point and nonpoint source pollution

3. Surface Water Management Areas (§ 62.1-242 et seq.)
   - focused on water quantity issues
   - if State Water Control Board (SWCB) deems level or supply of surface water to be potentially adverse to public health, safety and welfare, can designate a surface water management area (e.g. for areas with historically low stream flows)
   - once area designated a surface water management area - withdrawal permit required for certain withdrawals (agency oversight and approval)

4. Ground Water Management Act of 1992 (§ 62.1-254 et seq.)
   - focused on water quantity
   - SWCB can declare an area a ground water management area when ground water levels in area are declining/are expected to decline excessively or ground water polluted
   - if area declared a ground water management area - requirement of permit for withdrawals
   - two areas have been designated ground water management areas - Eastern Shore and Eastern Virginia (designated by statute)

Appendix D

022181436

SENATE BILL NO. 460

Offered January 9, 2002

Prefiled January 9, 2002

A BILL to amend the Code of Virginia by adding in Title 62.1 a chapter numbered 5.4, consisting of sections numbered 62.1-69.34 through 62.1-69.41, relating to the establishment of the Roanoke River Basin Bi-State Commission.

Patrons—Hawkins and Ruff

Referred to Committee on Rules

Be it enacted by the General Assembly of Virginia:

1. That the Code of Virginia is amended by adding in Title 62.1 a chapter numbered 5.4, consisting of sections numbered 62.1-69.34 through 62.1-69.41, as follows:

A BILL to amend the Code of Virginia by adding in Title 62.1 a chapter numbered 5.4, consisting of sections numbered 62.1-69.34 through 62.1-69.41, relating to the establishment of the Roanoke River Basin Bi-State Commission.

Be it enacted by the General Assembly of Virginia:

1. That the Code of Virginia is amended by adding in Title 62.1 a chapter numbered 5.4, consisting of sections numbered 62.1-69.34 through 62.1-69.41, as follows:

CHAPTER 5.4.

ROANOKE RIVER BASIN BI-STATE COMMISSION.

§ 62.1-69.34. Definitions.

As used in this chapter, unless the context requires a different meaning:

"Basin" means the Roanoke River Basin.

"Roanoke River Basin" means that land area designated as the Roanoke River Basin by the North Carolina Department of Environment and Natural Resources and the State Water Control Boar pursuant to § 62.1-44.38 of the Code of Virginia

§ 62.1-69.35. Roanoke River Basin Bi-State Commission established; purpose.

The Roanoke River Basin Bi-State Commission is hereby established as a bi-state commission composed of members from North Carolina and Virginia and hereinafter referred to as the Commission. The Commission shall:

1. Provide guidance, conduct joint meetings, and make recommendations to local, state and federal legislative and administrative bodies, and to others as it deems necessary and appropriate, for the use, stewardship and enhancement of the water and other natural resources;

2. Provide a forum for discussion of issues affecting the Basin's water quantity, water quality, and other natural resources;

3. Promote communication, coordination and education among stakeholders within the Basin;

4. Identify Basin -related problems and recommend appropriate solutions; and

5. Undertake studies and prepare, publish and disseminate information through reports, and in other forms, related to water quantity, water quality and other natural resources of the Basin.

§ 62.1-69.36. Roanoke River Basin Commission powers.

A. The Commission shall have no regulatory powers.

B. To carry out its purposes, the Commission shall have the power to:

1. Enter into contracts and execute all instruments necessary or appropriate;

2. Perform any lawful acts necessary or appropriate;

3. Establish a nonprofit corporation as an instrumentality to assist in the details of administering its affairs and in raising funds;

4. Seek, apply for, accept and expend gifts, grants and donations, services and other aids from public or private sources. Other than those from planning district commissions and those appropriated by the General Assemblies of Virginia and North Carolina, funds may be accepted l the Commission only after an affirmative vote by the Commission or by following such othe.

procedure as may be established by the Commission for the conduct of its business;

5. Establish standing and ad hoc advisory committees, which shall be constituted so as to ensure a balance of recognized interests. The purpose of each advisory committee shall be determined by the Commission; and

6. Develop rules and procedures for the conduct of its business or necessary to carry out its purposes, including, but not limited to, selecting a chairman and vice-chairman, rotating chairmanships, calling meetings and establishing voting procedures. Rules and procedures developed pursuant to this subdivision shall be effective upon an affirmative vote by a majority of the Commission members.

§ 62.1-69.37. Membership; terms of office; eligibility for appointment.

A. The Commission shall be composed of eighteen voting members with each state making nine appointments. The North Carolina citizen members shall be appointed in the following manner: three members shall be appointed by the Governor; three members shall be appointed by the Speaker of the House of Representatives; and three members shall be appointed by the President Pro Tempore of the Senate. The Virginia citizen members shall be appointed in the following manner: one member shall be appointed by the Governor; one member shall be appointed by the Senate Committee on Privileges and Elections; one member shall be appointed by the Speaker of the House of Delegates; and one member each shall be appointed by the Central Virginia Planning District Commission, the West Piedmont Planning District Commission, the Southside Planning District Commission, the Piedmont Planning District Commission, the Roanoke Valley Alleghany Planning District Commission, and the New River Valley Planning District Commission.

B. Each of the eighteen appointees shall:

1. Reside within the Basin's watershed;

2. Have demonstrated an interest in, experience with, or expertise in water-related Basin issues; and

3. Represent one of the following: holders of local, state or federal water permits; Basin interest groups; public officials or governmental entities; agricultural organizations or associations; forestry organizations or associations; soil and water conservation districts; and recreational use organizations or associations.

C. The terms of office for each appointed citizen member shall be two years. No member shall serve more than three consecutive terms. To be eligible for reappointment, a member shall have attended at least one-half of all meetings of the Commission during his current term of service. Appointments to fill vacancies shall be made for the unexpired terms. Vacancies shall be filled in the same manner as the original selection.

D. Members of the North Carolina House of Representatives and Senate and the Virginia House of Delegates and Senate and federal legislators whose districts include any portion of the Basin may serve as nonvoting ex-officio members of the Commission. Their terms of office shall be coincident with their terms of public office.

E. Members of the Commission representing each state may meet separately to discuss basin-related issues affecting their state.

§ 62.1-69.38. Standing and ad hoc committees.

To facilitate communication among stakeholders in the Roanoke River Basin, and to maximize participation by all interested parties, the Commission shall establish both standing and ad hoc committees. The members of the Commission shall make the appointments to those committees. The standing committees shall include, but not be limited to, the following:

1. Permit holders. The Commission shall identify those entities that hold permits issued by a federal, state or local regulatory agency pertaining to the water of the Basin. The entities so identified may appoint a representative to this committee in accordance with guidelines adopted by the Commission;

2. Roanoke River Basin interest groups. The Commission shall identify those interest groups that shall be entitled to appoint a representative to this committee in accordance with the guidelines adopted by the Commission;

3. Public officials and government entities. This committee shall be composed of both U.S.

Senators from Virginia and North Carolina or their designees and any member of the U.S. House of Representatives, or his designee, whose district includes any portion of the Basin. Each county, c and town located completely or partially within the Basin and any other governenmental entities th Commission deems appropriate shall be entitled to appoint one member to this committee in accordance with the guidelines adopted by the Commission; and

4. Agriculture, forestry and soil and water conservation districts. The Commission shall identify persons who represent agricultural and forestry interests throughout the Basin and representatives from the soil and water conservation districts within the Basin and the Commission shall make any appointments from these groups in accordance with guidelines adopted by the Commission.

§ 62.1-69.39. Staffing and support.

The North Carolina Department of Environment and Natural Resources and the Virginia Department of Environmental Quality shall provide staff support to the Commission. Additional staff may be hired or contracted for by the Commission through funds raised by or provided to it. The Commission is authorized to determine the duties of such staff and fix staff compensation within available resources.

All agencies of the Commonwealth of Virginia and the State of North Carolina shall cooperate with the Commission and, upon request, shall assist the Commission in fulfilling its responsibilities. The Virginia Secretary of Natural Resources and the North Carolina Secretary of the Department of Environment and Natural Resources or their designees shall act as the chief liaison between the state agencies and the Commission.

§ 62.1-69.40. Funding.

A. The Commission shall annually adopt a budget, which shall include the Commission's estimated expenses. The funding of the Commission shall be the shared responsibility of North Carolina and Virginia. Each state's contribution shall be set through the normal state appropriations processes. The Virginia planning district commissions within the Basin shall share Virginia's portion of the expenses, which can be in the form of in-kind contributions.

B. The Commission shall designate a fiscal agent.

C. The accounts and records of the Commission showing the receipt and disbursement of fun from whatever source derived shall be in such form as the Virginia Auditor of Public Accounts and the North Carolina State Auditor prescribe

, provided that such accounts shall correspond as nearly as possible to the accounts and records for such matters maintained by similar enterprises. The accounts and records of the Commission shall be subject to an annual audit by the Virginia Auditor of Public Accounts and the North Carolina State Auditor or their legal representatives, and the costs of such audit services shall be borne by the Commission. The results of the audits shall be delivered to the appropriate legislative oversight committees.

§ 62.1-69.41. Compensation and expenses of Commission members.

A. The North Carolina members of the Commission shall receive per diem, subsistence, and travel expenses as follows:

1. Ex-officio legislative members who are members of the General Assembly at the rate established in North Carolina G.S. 138-6;

2. Commission members who are officials or employees of the State or of local government agencies at the rate established in North Carolina G.S. 138-6; and

3. All other members at the rate established in North Carolina G.S. 138-5.

B. The Virginia members of the Commission shall receive compensation and expenses as follows:

1. Ex-officio legislative members who are members of the General Assembly at the rate established in § 30-19.12 of the Code of Virginia; and

2. All other members of the Commission at the rate established in § 2.2-2813.

§ 62.1-69.42. Annual report required.

The Commission shall make an annual report to the Governors and General Assemblies of North Carolina and Virginia, which report shall include any recommendations.

2. That the provisions of this act shall become effective January 1, 2003, or upon enactment by the State of North Carolina of a similar act, whichever occurs last.

Appendix E

022163436

SENATE BILL NO. 553

Offered January 9, 2002

Prefiled January 9, 2002

A BILL to amend the Code of Virginia by adding in Title 62.1 a chapter numbered 5.4, consisting of sections numbered 62.1-69.34 through 62.1-69.40, relating to the establishment of the Roanoke River Basin Commission.

Patrons—Hawkins; Delegates: Byron, Hogan, Hurt and Marshall, D.W.

Referred to Committee on Rules

Be it enacted by the General Assembly of Virginia:

1. That the Code of Virginia is amended by adding in Title 62.1 a chapter numbered 5.4, consisting of sections numbered 62.1-69.34 through 62.1-69.40, as follows:

CHAPTER 5.4.

ROANOKE RIVER BASIN COMMISSION.

§ 62.1-69.34. Definitions.

As used in this chapter, unless the context requires a different meaning:

"Basin" means the Roanoke River Basin.

"Roanoke River Basin" means that land area designated as the Roanoke River Basin by the State Water Control Board pursuant to § 62.1-44.38.

§ 62.1-69.35. Roanoke River Basin Commission established; purpose.

The Roanoke River Basin Commission is hereby established and hereinafter referred to as the Commission. The Commission shall:

1. Provide guidance and make recommendations to local, state and federal legislative and administrative bodies, and to others as it deems necessary and appropriate, for the use, stewardship and enhancement of the water and other natural resources;

2. Provide a forum for discussion of issues affecting the Basin's water quantity, water quality, and other natural resources;

3. Promote communication, coordination and education among stakeholders within the Basin;

4. Identify Basin-related problems and recommend appropriate solutions;

5. Undertake studies and prepare, publish and disseminate information through reports, and in other forms, related to water quantity, water quality and other natural resources of the Basin; and

6. Conduct joint meetings and otherwise communicate with North Carolina legislative and administrative bodies to enhance communication between the two states throughout the entire Basin.

§ 62.1-69.36. Roanoke River Basin Commission powers.

A. The Commission shall have no regulatory powers.

B. To carry out its purposes, the Commission shall have the power to:

1. Enter into contracts and execute all instruments necessary or appropriate;

2. Perform any lawful acts necessary or appropriate;

3. Establish a nonprofit corporation as an instrumentality to assist in the details of administering its affairs and in raising funds;

4. Seek, apply for, accept and expend gifts, grants and donations, services and other aids from public or private sources. Other than those from planning district commissions and those appropriated by the General Assembly, funds may be accepted by the Commission only after an affirmative vote by the Commission or by following such other procedure as may be established by the Commission for the conduct of its business;

5. Establish standing and ad hoc advisory committees, which shall be constituted so as to ensure a balance of recognized interests. The purpose of each advisory committee shall be determined by the Commission; and

6. Develop rules and procedures for the conduct of its business or necessary to carry out its purposes, including, but not limited to, selecting a chairman and vice-chairman, rotating chairmanships, calling meetings and establishing voting procedures. Rules and procedures developed pursuant to this subdivision shall be effective upon an affirmative vote by a majority of the

Commission members.

§ 62.1-69.37. Membership; terms of office; eligibility for appointment.

A. The Commission shall be composed of fourteen voting members appointed in the following manner: two members each shall be appointed by the Central Virginia Planning District Commission, the West Piedmont Planning District Commission, the Southside Planning District Commission, the Piedmont Planning District Commission, and the Roanoke Valley Alleghany Planning District Commission; one member shall be appointed by the New River Valley Planning District Commission; the member of the U. S. House of Representatives whose district includes the largest portion of the Basin, or his staff designee; one state senator and one state delegate whose district includes any portion of the Basin shall be selected as voting members of the Commission by the state senators and state delegates whose districts are within any portion of the Basin.

The following persons may also serve on the commission as nonvoting ex-officio members: the state senators and delegates who have selected the voting state senator and state delegate; and one or more persons who represent the interests of North Carolina who shall be appointed by the Commission.

B. Each appointee of a planning district commission shall reside within the Basin's watershed. For those planning district commissions making two appointments to the Commission, the planning district commission shall appoint not more than one person who at the time of the appointment is serving as an elected member of a local governing body, is an employee of a local governing body, or is serving as a member of the board of directors of a planning district commission or is an employee of the planning district commission. Each planning district commission appointee shall have interest, experience, or expertise in water-related basin issues.

C. The terms of office for each member appointed by a planning district commission and for the nonvoting ex-officio members representing North Carolina shall be two years; however, the initial appointment of the New River Planning District Commission shall be for a term of one year, and for planning district commissions making two appointments, one initial appointment shall be for a term of one year and one shall be for a term of two years. The terms of office of the other members shall be coincident with their terms of public office. No planning district commission appointee shall serve more than three successive terms. Appointments to fill vacancies shall be made for the unexpired terms. Vacancies shall be filled in the same manner as the original selection. To be eligible for reappointment, a member appointed by a planning district commission shall have attended at least one-half of all meetings of the Commission during his current term of service.

§ 62.1-69.38. Standing and ad hoc committees.

To facilitate communication among stakeholders in the Roanoke River Basin, and to maximize participation by all interested parties, the Commission shall establish both standing and ad hoc committees. The number of members of each committee shall make the appointments to those committees. The standing committees shall include, but not be limited to, the following:

1. Permit holders. The Commission shall identify those entities that hold permits issued by a federal, state or local regulatory agency pertaining to the water of the Basin. The entities so identified may appoint a representative to this committee in accordance with guidelines adopted by the Commission;

2. Roanoke River Basin interest groups. The Commission shall identify those interest groups that shall be entitled to appoint a representative to this committee in accordance to the guidelines adopted by the Commission;

3. Public officials and government entities. This committee shall be composed of both U.S. Senators from Virginia or the their designees and any member of the U.S. House of Representatives, or his designee, whose district includes any portion of the Basin. Each county, city and town located completely or partially within the Basin and any other governmental entities the Commission deems appropriate in accordance with the guidelines adopted by the Commission. The Commission shall identify other governmental entities that shall be entitled to appoint a member to this committee.

4. Agriculture, forestry and soil and water conservation districts. The Commission shall identify persons who represent agricultural and forestry interests throughout the Basin and representatives from the soil and water conservation districts within the Basin and the Commission shall make any appointments from those groups in accordance with guidelines adopted by the Commission.

§ 62.1-69.39. Staffing and support.

The planning district commissions found wholly or partially in the Basin shall provide staff support for the Commission as they determine appropriate. Additional staff may be hired or contracted for by the Commission through funds raised by or provided to it. The Commission is authorized to determine the duties of such staff and fix staff compensation within available resources.

All agencies of the Commonwealth shall cooperate with the Commission and, upon request, shall assist the Commission in fulfilling its responsibilities. The Secretary of Natural Resources or his designee shall act as the chief liaison between the state agencies and the Commission.

§ 62.1-69.40. Funding.

A. The Commission shall annually adopt a budget, which shall include the Commission's estimated expenses. The funding of the Commission shall be a shared responsibility of the state and planning district commissions. The Commonwealth's contribution shall be set through the normal state appropriations process. The Commission's planning district commission representatives shall determine a process for distribution of costs among the planning district commission representatives.

B. The Commission shall annually designate a fiscal agent.

C. The accounts and records of the Commission showing the receipt and disbursement of funds from whatever source derived shall be in such form as the Auditor of Public Accounts prescribes, provided that such accounts shall correspond as nearly as possible to the accounts and records for such matters maintained by similar enterprises. The Commission's fiscal year shall be the same as the Commonwealth's. The accounts and records of the Commission shall be subject to an annual audit by the Auditor of Public Accounts or his legal representative, and the costs of such audit services shall be borne by the Commission. The results of the audits shall be delivered to the executive director of each planning district commission represented on the Commission, the members of the House of Delegates and the Senate who serve on the Commission, the chairmen of the House Committee on Appropriations and the Senate Committee on Finance, and the Secretary of Natural Resources.

Official Use By Clerks

Passed By The Senate		**Passed By The House of Delegates**	
with amendment	☐	with amendment	☐
substitute	☐	substitute	☐
substitute w/amdt	☐	substitute w/amdt	☐
Date: _____		Date: _____	
_____		_____	
Clerk of the Senate		Clerk of the House of Delegates	

House Joint Resolution No. 161
Joint subcommittee report on karst groundwater monitoring and protection in the Shenandoah Valley

September 2001 outline

I. Introduction & Purpose
- A. Impetus behind this legislation
  1. Population growth = greater dependence on groundwater for drinking water supplies; agricultural and industrial water supplies also at risk.
  2. Rapidly changing land uses = increased risks to water quality and quantity;
  3. Important surface water/groundwater interactions are relatively un-studied and poorly documented;
  4. Lack of accessible background quality and quantity data limit pollution prevention and drought/risk assessment in karst areas;
  5. There is a definite need for regional groundwater-monitoring network, however, the necessary organizational framework does not currently exist within state agencies.
  6. Local governments and citizens need adequate groundwater information in order to protect the sources of present and future water supplies.

- B. American water law in Virginia (J. Richardson)

- C. Conflicting agency roles in groundwater issues
  1. Legislative authority exists, but infrastructure and financial obstacles limit statewide implementation;
  2. Extreme monitoring bias exists across state (monitoring density "E of I-95" much greater than that "W of I-95");
  3. Current policies place onus for groundwater management & protection completely on individual landowners and local governments;
  4. Groundwater Management Act is regulatory (DEQ) and limited to coastal areas.

- D. Terms & definitions

II. Basics of karst hydrology
- A. Relevance of geology, geologic structure, & topography to aquifer vulnerability

- B. Groundwater velocities, flow patterns, and travel distances: conceptual models of Great Valley and Elkton karst aquifers

- C. Surface water – groundwater interactions: conceptual models for recharge and discharge

D. Examples of water quality and quantity issues in the Shenandoah Valley
   1. Well interference and septic system density in rural subdivisions;
   2. Groundwater "mining" by large water supply systems, mines, and quarries;
   3. Sinkhole collapses due to storm water/surface drainage alterations, well drilling, etc.;
   4. Groundwater impacts from highways, railroads, urban areas, agriculture, industry, waste management, etc.;
   5. Recharge mechanisms, status of groundwater levels, and spring discharges relative to climate and stream base flows are undocumented;
   6. Watershed models for TMDL implementation models developed without adequate groundwater information;
   7. Emergency preparedness & response plans for water supply protection needed.
   8. Risks posed by old dumps and abandoned wells should be assessed...

III. Predicting sustainability: essential components of a groundwater-monitoring network
   A. Integrated stream flow and spring flow gauges
   B. Well logs, groundwater level monitoring
   C. Background and dedicated groundwater quality monitoring stations
   D. Quality Assurance/Quality Control (QA/QC) standards and training program
   E. Universal database and information management network (Geographic Information System)
   F. Program coordinator(s)
   G. Sustainable sources of state and federal funding
   H. Public education and County/community support
   I. Cooperative partnerships with water suppliers and agencies

IV. Design and demonstration of a regional groundwater monitoring network
   A. Examples and limitations of local groundwater mapping and monitoring projects
      1. Albemarle/Louisa/Fluvanna Counties
      2. Augusta, Rockingham, and Shenandoah Counties
      3. Warren County
      4. Frederick County
      5. Town of Stanley

   B. Existing barriers to groundwater data collection and compilation
      1. Data collection decentralized and scattered amongst agencies and groups;
      2. Information in inconsistent formats (from county to county, and agency to agency);
      3. Agency regulatory focus makes groundwater data low priority;
      4. Dedicated staffing, funding, training, and equipment are limited to non-existent.

C. Potential sources of data and information
   1. County health departments
   2. Well drillers
   3. Public water supply wells and springs (2800+ sources in VDH SDWIS data base)
   4. Industrial and large commercial wells
   5. DEQ regional offices
   6. Watershed groups and trained volunteer monitors
   7. CREP program (DCR, NRCS)
   8. USGS, DMME-DMR, VDOT
   9. Schools and universities

D. Strategic selection of monitoring sites for the purpose of water supply risk assessment
   1. Focus on impaired sub-watersheds, growth areas, and ecologically sensitive areas;
   2. Target land uses listed under II.D.;
   3. Construction and sampling points of wells, spring boxes, gauges, etc. must meet QA/QC objectives;
   4. Identify and monitor key catchment areas, such as headwaters areas, wetlands, national forests, and parklands.

E. Standard Operating Plan
   1. Identify monitoring parameters and analytical methods
   2. Determine sampling frequencies
   3. Select data management and analyses techniques
   4. Develop detailed budget tracking process
   5. Schedule planning and training sessions
   6. Set implementation and reporting schedule

V. Information system management and planning products
   A. Goals of proposed system
      1. Interface with latest technology such as regional Geographic Information
         Systems and national databases (USEPA, USGS) for "seamless data exchange";
      2. Provide map tools for local officials, citizens, waterworks, developers, regional health district epidemiology assessments, etc., plus Web access;
      3. Immediately accessible at regional and local levels (planning districts. counties, towns, universities);
      4. Flexibility for regional database management.

   B. Projected outline and costs of a regional groundwater monitoring demonstration for the Shenandoah Valley (est. $500,000)
      1. Coordination and roles;

2. Levels of activity and associated operational costs;
3. Educational component;
4. Possible sources of match funding and technical assistance;
    a. Source water assessment funds (SDWA);
    b. National Science Foundation grants (and other sources through universities);
    c. Chesapeake Bay and Nonpoint Source Management funds;
    d. Dedicated state funding;
    e. Private foundations and industry;
    f. Municipalities.

VI. Specific recommendations of the joint karst subcommittee and *ad hoc* technical advisory group

Summary of Comments from the Three Public Hearings of the Karst Groundwater Monitoring Subcommittee

(Taken from the December 3, 2001 draft report: Subcommittee Report on Karst Groundwater Monitoring and Protection in the Shenandoah Valley)

A. Shenandoah County

The first public meeting was held in Woodstock, Virginia, at the Shenandoah County Government Center on September 13, 2001. Approximately 50 people were in attendance, including several county officials and the Chairman of the Board of Supervisors.

1) George Sylvester, chairman of the County's Water Committee opened the discussion with an overview of the groundwater related problems that his volunteer Source Water Assessment Team had discovered in their door-to-door inventory of land use activities in the county. Mr. Sylvester pointed out that old dump sites pre-dating the advent of landfills and green boxes were common on private and public property. Many of these old dumps are located in sinkholes, and would appear to pose the greatest threats to groundwater resources. Mr. Sylvester called for the appropriation of dedicated funds to assist localities in the monitoring and remediation of these sites. Often, no public record of these old dumps exists.

Mr. Sylvester also noted that there is no database the large number of rural and suburban septic systems that appear to be failing or malfunctioning. The possibly significant contribution of failing septic systems to groundwater contamination in karst areas is attributed to: 1) the fact that periodic maintenance of septic systems is not required; 2) septic systems are essentially invisible to their owners, and in karst areas, failing systems are not readily apparent on the surface; and 3) the Virginia Department of Health septic system performance standards are not protective of groundwater resources in karst areas.

2) Toms Brook residents spoke out in favor of increased dye tracing to delineate the recharge areas of public water sources near major facilities such as industries and truck stops along Interstate 81.

3) Rob Arner with Holmans Creek Watershed Project reported that their group had been collecting bacteriological data on wells and springs in the watershed since 1994. The group found that 43% exceeded the health and safety criteria for bacteria in drinking water. Mr. Arner strongly recommended that the sources of these bacterial levels be determined and mitigated through assistance to landowners and low-income residents of the watershed.

4) Mr. Burress of Mt. Jackson expressed the need for dye tracing studies in the county, and especially along the I-81 corridor. In the implementation of groundwater monitoring and the provision of answers to pollution problems, Mr. Burress offered "good science, good information, and willing volunteers" from the Friends of the North Fork. The Friends have conducted a volunteer groundwater and surface water monitoring program in Shenandoah County for over 9 years, primarily funded through grants and annual appropriations from the County Board of Supervisors.

5) Richard Coffman of Strasburg complained that county health departments do not enforce the abandoned wells standards that require unused wells to be properly sealed in order to prevent the accelerated migration of surface contaminants to groundwater. According to Mr. Coffman, an abandoned well on a construction site near his property was ignored by both the developer and local health department staff. He reported his frustration with agency responses in his attempts address the proper abandonment of the well.

6) Jane Cain of Woodstock introduced herself as a representative of the Virginia Water Well Association, the leading trade association of water well drillers. Ms. Cain reported on the group's interest in groundwater protection and willingness to provide technical assistance on monitoring and water well construction and maintenance. Ms. Cain also represents groundwater interests for the DEQ's newly formed Virginia Water Monitoring Council. Ms. Cain offered to help incorporate groundwater monitoring protocols into the state's coordinated water monitoring network, although she admitted that groundwater monitoring was a low priority of the VWMC.

7) Mr. Gary Burner, a member of the Karst Groundwater Subcommittee's technical advisory committee and owner of an established water well drilling company in the Shenandoah Valley, spoke about priorities for long-range groundwater resource protection. Mr. Burner believes that local governments should identify the most productive aquifers and important future well production sites, and designate those areas as high priority protection zones by any means possible.

8) Ms. Marilyn Boyce reported on the special project that she coordinated for the Holmans Creek Watershed Project. Ms. Boyce obtained nonpoint source management grant funding to conduct on-site septic system pump-outs and replacement in the rural watershed. In all, the group completed 69 voluntary pump-outs, and 31 of the homes required repairs or replacements. Many of the participants were families or elderly residents of limited income that were using cesspools, straight pipes, and outhouses. Because many of the failing lots had size restrictions or difficult karst terrain, there was not enough money available for landowners to repair or replace all of the failing septic systems documented during the project. Ms. Boyce complained that VDH alternative on-site system standards are not flexible enough to allow all existing lots to comply with regulations, and recommended that more regulatory flexibility and more realistic performance standards are needed.

9) The Hon. Bev Fleming, Chairman of the Shenandoah County Board of Supervisors, recalled how County government has supported local groundwater protection and monitoring for many years and will pass a resolution in support of the regional Groundwater Monitoring Study when needed.

10) Dennis Fowler, LFSWCD, has noticed and is alarmed by sustained low water levels in the Shenandoah River and its tributaries. He wondered what impact increasing groundwater withdrawals have on surface water flow, especially in times of drought. Mr. Fowler supports data collection to provide answers to these questions.

11) Delegate Louderback, Chairman of the Karst Groundwater Subcommittee reiterated that the Subcommittee wants to encourage the development of new and stronger partnerships in the groundwater monitoring and protection effort. The use of groundwater information in conflicts between neighbors is not intended.

13) An emergency responder from the Strasburg area expressed concern over accidents that result in the release of chemicals to the environment. He fears that local emergency response crews do not have the proper equipment, training, or maps to adequately deal with spills, or to prevent chemicals or petroleum from reaching groundwater. In addition, he pointed out that local emergency response plans are not up-to-date, and that local emergency planning committees are inactive due to funding and staffing limits.

14) Jack Epstein, with the USGS, reminded the Subcommittee that the success of any resource protection effort, and especially one that relies on science and dedicated funding, depends upon a sustained public education and outreach program.

B. Rockingham County

Approximately 42 people were present at the second public meeting held on Sept. 18, 2001, in Harrisonburg, including two members of the county's planning staff and U.S. Senator Miller. The majority of those in attendance consisted of a group of citizens opposed to a proposed truck stop near the village of Mauzy.

Several citizens asked specific questions about the proposed groundwater monitoring project. They inquired as to how they could get involved with the project, how many wells would be monitored, what criteria would be used to choose those wells, and who would pay for the water quality testing?

Members of the TAC addressed the questions to the best of their knowledge, however those details, what wells to monitor and what parameters to test, had not yet been determined. The citizens were assured that there would be ample opportunity for participation, both as volunteers with cooperating watershed groups or student organizations and as sources of potential groundwater and surface water monitoring sites.

1) Mr. Janney, a retired agricultural engineer from the Harrisonburg area, gave an extended presentation on the design and operation of irrigation systems for agricultural purposes. Delegate Louderback requested Mr. Janney submit a written summary of his comments to the Subcommittee.

2) Watt Bradshaw from the Mauzy area reported on his efforts to see groundwater protection provisions incorporated into DEQ and DCR permits and approvals for a proposed truck stop near his home. Mr. Bradshaw complained that loopholes like DEQ's dry ditch discharge for treated sewage effluent in karst areas, and DEQ/DCR's minimum 5-acre site size exemption for storm water management are not adequate for groundwater protection. He challenged state government to ensure that the provisions of the Clean Water Act are being enforced with respect to groundwater and nonpoint source pollution.

Senator Miller responded that, in his opinion, no additional legislation was necessary, but that a re-evaluation of existing regulations might be warranted in some cases. Delegate Louderback reported that he is currently serving on another legislative committee targeted at reducing agency conflicts and streamlining operations between DEQ and VDH.

3) Several other Mauzy residents expressed concern about what they called "an emergency situation" with regard to the safety of their private wells. The truck stop developer was proceeding rapidly through the state and local permitting process, however citizens were stalled by the DEQ's insistence that it was not authorized to regulate storm water management on sites less than 5 acres in size. The group did not have much confidence in the County's ability to control such development, and called on the state to address the 5-acre size exemption for storm water management at development sites, as well as similar loopholes that threaten groundwater.

Terry Wagner stated that local governments are not solely responsible for groundwater protection, and that the state does have the authority to protect groundwater resources through the State Anti-degradation Policy and the Groundwater Management Act. Mr. Wagner pointed out that local government land use decisions often have the most potential to impact groundwater, therefore, the Legislature gave local governments the authority to utilize land use zoning to protect groundwater resources in 1988. He suggested that the group appeal to Burton Tuxford, Manager of DEQ's Stormwater Management Program.

4) The Mauzy citizens' group again asked how many sites will be monitored in the proposed project. Mr. Wagner stated that he thought only 1 site per county should be monitored. J osh Rubenstein and Wil Orndorff explained that the number and types of monitoring sites would depend on the land uses targeted by the project. Terri Brown suggested that several sites per county would be monitored for specific land use studies, and that other wells could be offered for general ambient monitoring purposes. The actual number of sites monitored would depend on the funding received, the condition and location of wells volunteered for the study, access obtained from key landowners, and the participation level of watershed groups, counties, industries, and universities.

5) Some of the Mauzy group members reported that they had spent a great deal of time on their battle against the truck stop, and asked how groundwater protection can be achieved by citizens who are not as organized as them, or who may not have the time, or the energy to protest such developments.

Steve Baedke stated that the report to the Governor and General Assembly would be written to highlight steps that the government should take to better protect people and their groundwater supplies, as well as to alert citizens to those concerns that cannot easily be resolved by government actions.

6) Jim Lawrence of Frederick County requested coordination between the proposed monitoring project and ongoing groundwater studies in other counties. He urged the Subcommittee to utilize Lord Fairfax Community College's new GIS program in the database development process, and reminded the Subcommittee to incorporate education, public outreach, and to involve local decision-makers early in the project.

7) Dave Mattichak asked the Subcommittee if karst areas could be considered more vulnerable to contamination in the regulation of land use activities with the potential to affect groundwater resources. Terry Wagner said that it was true that DEQ does not differentiate between groundwater settings or aquifers in its regulation of permitted activities across the state.

8) Gary Burner cautioned water resource managers to avoid locating any water supply sources near transportation corridors due to the risk of spills, leaks, and accidental releases of petroleum and other substances.

9) Mr. Janney stated that the development of cooperative relationships between neighbors in the watershed is the best way to avoid water use and water quality conflicts.

10) Jane Cain of the VA Water Well Drillers Association spoke of the continual need for technical education and offered the assistance of the WWDA as well as the Shenandoah Valley Pure Water 2000 Forum.

11) Hadley Jenner suggested that the Karst Groundwater Subcommittee interface with the Shenandoah Water Supply Planning Authority, since both groups appear to be addressing long-term water use and management concerns. Terry Wagner replied that he was serving as the "groundwater advisor" for the Shenandoah Water Supply Planning Authority, but that the group was addressing "significantly different issues" than those the Karst Groundwater Study Subcommittee had been focused on.

C. Augusta County

Thirteen people attended the third of the public meetings on Sept. 25, 2001, in Verona. With such a small group in attendance, the meeting functioned as an open discussion group, with technical advisory committee members addressing each other and responding to questions from the audience.

1) Mark Hollberg asked about the scale of monitoring, and how many different land uses and watersheds would be targeted by the project.

Tom Gathright responded that he would like to see project leaders look at different types of karst terrain and different land use activities relative to karst hydrologic settings. Mr. Gathright spent many years mapping the geology of the area for DMME DMR, and believes that reasonable distinctions can be made between the numerous water bearing strata in the Shenandoah Valley. There is no official identification system or characterization strategy for most of western Virginia's aquifers, and without even so much as a name, it is difficult to discuss and describe a given groundwater unit. The prolific Elkton Aquifer is an exception, primarily because it is depended upon by large industrial users, such as Coors and Merck, that have invested large sums into the investigation and documentation of its properties.

Other TAC members suggested that the scale and even the level of detail of monitoring would vary, based on the type of monitoring site (dedicated well, public water supply well, domestic well, undeveloped spring, developed spring, etc.) and purpose of sample collection. In order to

involve all interested parties and to gather the maximum amount of data for minimal costs, the Subcommittee proposes a tiered system of data collection that will involve various levels of quality control, expense, and detail.

2) Ms. Paula Rau of Stuarts Draft communicated her concerns with groundwater contamination of her spring in an area that is undergoing rapid residential development. She had also encountered the familiar set of frustrating loopholes in her efforts to find answers to her problems. Ms. Rau offered her spring as a monitoring point for the proposed groundwater study.

3) Ed Wallingford, Manager of VDOT's Hazardous Materials Program reported VDOT's concern for groundwater quality. He stated that his agency actively supports the development of better maps and identification/characterization of karst aquifers.

2002 SESSION

ENROLLED

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.