**REPORT OF THE**

# STATE WATER COMMISSION

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

# DOCUMENT NO. 120

**COMMONWEALTH OF VIRGINIA**
**RICHMOND**
**2010**

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# REPORT OF THE STATE WATER COMMISSION

## EXECUTIVE SUMMARY

The State Water Commission is a 15-member legislative body established by statute that is charged with (i) studying all aspects of water supply and allocation problems in the Commonwealth, and (ii) coordinating the legislative recommendations of all state entities that have responsibilities with respect to water supply and allocation issues. The Commission devoted its time in 2009 reviewing of the Department of Environmental Quality's water supply planning efforts and receiving an update on the status of the Virginia Soil and Water Conservation Board's stormwater regulations.

**Background and Deliberations**

1. **Water Supply Planning**

During the period from 1999 through 2002, Virginia experienced severe drought conditions that threatened the state's and local government's ability to provide sufficient water supplies to Virginia's population. In 2002 and 2003, executive and legislative responses to this situation led to the establishment of a Drought Response Technical Advisory Committee (TAC), the passage of a statute mandating water supply planning, and the adoption of regulations to carry out the mandate.

It is the responsibility the Department of Environmental Quality (DEQ) to review all of the local and regional water supply plans and incorporate them into a State Water Resources Plan. According to Mr. David Paylor DEQ has developed a "water resources vision" that is reflected in the state plan. That vision is to "achieve the full economic and environmental potential of Virginia's water resources through sustainable water supply planning to meet current and future beneficial uses of water." The objective is to ensure that Virginia has a water management process that (i) recognizes that water is a finite resource; (ii) is based on the best available information; (iii) creates water planning partnerships that advocate for beneficial use, needs, and can "navigate" resource conflicts; (iv) represents a sustainable way to meet the multiple benefits asked of our water resources; and (v) is supported by the public to the greatest extent possible.

Mr. Scott Kudlas, Director of the Office of Surface and Groundwater Supply Planning at DEQ, provided the Commission with a description of the process involved in developing a state plan and some of the concerns that will have to be addressed in implementing the plan. He noted that the initial state water resources plan is expected to be completed in 2012 and is intended to be comprehensive in scope. It will reflect a shift in emphasis from the current strictly local water supply planning to regional interdependence. The state plan will evaluate all local/regional water plans, their alternatives, and water availability. Models will be developed that show the impacts of these local/regional plans, identify conflicts in proposed water usage, and provide optimal regional solutions. In the end, the goal is to be able to provide information that will enable local government, the legislature and the executive branch to make informed water resource policy decisions.

Mr. Kudlas cautioned the Commission that the state water resources plan has its limitations. The plan will not (i) resolve conflicts among water users, (ii) determine who receives a permit for the water use, and (iii) include all alternatives for which a withdrawal permit may be sought. Conversely, the extensiveness of the planning effort will yield a number of positive results. First, it will move the state to a more regional approach to water supply planning and use, rather than a locality-by-locality approach. Second, most local/regional plans will be very thorough in their approach to data gathering. Third, local drought planning will be greatly improved. Fourth, the plans will provide a much improved projection of water use demand. Fifth, there will be greater understanding among state and local officials of the constraints on local and regional water resources. Finally, the planning process will require localities and businesses to think about current and future demands on the use of water.

Questions have been raised as to the time frame for completing the local and state plans. According to Mr. Kudlas, since this is a significant change in state water policy, from local water independence to an emphasis on regional interdependence, time was needed to overcome initial local government resistance. In addition, such facts as (i) the limited number of local government staff to compile and analyze water supply data, (ii) the program being enacted during a time of budget uncertainty, and (iii) limited state funding and state staff to assist in the collection and analysis of data all were contributing factors in an elongated process.

Population-based deadlines have been established for submission of local water supply plans. Those localities having a population greater than 35,000 were to submit their plan by November 2, 2008. The deadline for localities with a population of 15,000-30,000 was November 2, 2009, and for localities with a population of less than 15,000, the deadline is November 2, 2010. For those localities who are engaged in developing a regional approach to meet water supply needs, a letter of intent had to be submitted by November 2, 2008, and the actual regional plan is to be submitted by November 2, 2011. Based on this schedule set by the Department for plan submission, eight plans will be reviewed in the period July through December 2009, 22 in 2010, and 29 in 2011.

Mr. Kudlas pointed out that unlike neighboring states, Virginia has not had a state policy to "promote and facilitate" the development of basic data to characterize our water resources so that the state can determine the availability of surface and groundwater statewide. The question of how much groundwater do we have remains unanswered. Our groundwater monitoring capability peaked in the 1980's and has been limited ever since due to a declining financial and staffing investment, and out-of-date-modeling tools, which have not been updated since the early 1990's. Without such monitoring data, the state faces the real possibility of significant drawdowns in groundwater to the point where a number of aquifers face the possibility of subsidence or the non-reversible collapse of an aquifer due to excessive extraction. Two additional obstacles to effective groundwater planning is the absence of any regulation of the amount of groundwater being withdrawn for domestic use, and a lack of sharing of well data between the Virginia Department of Health (VDH) and DEQ. In 1991, the responsibility for issuing well construction permits was transferred from DEQ to VDH. The VDH has not had the resources to compile or automate the well data contained in the permits. Because of this, DEQ has had to spend time trying to get copies of the permits from other sources. DEQ has entered all of the data obtained prior to 1991, which covered 38,000 wells. However, there are at least 2

million wells in Virginia for which data has been collected by the Health Department but is not accessible to DEQ. Again, this information is important to establish the extent of an aquifer and the level of risk of subsidence to an aquifer.

Although DEQ has somewhat better data on surface water withdrawals than groundwater, there are a number of factors that limit the agency's ability to develop an accurate picture of our surface water resources. First, Virginia's surface water monitoring capability has been in decline since the 1980s, when 30 monitoring gauges cooperatively managed by DEQ and the U.S. Geological survey were discontinued. Secondly, agricultural use can be difficult to measure because (i) agricultural withdrawals are generally under-reported by farmers, and (ii) currently, there are no agricultural water withdrawals under permit, which would have allowed DEQ to document the amount of water being withdrawn for agricultural purposes. Thirdly, there is a lack of certainty regarding the potential quantity of withdrawals from grandfathered uses (those who were exempted prior to 1989 from having to obtain a Virginia Water Protection Permit). While most of the 500 grandfathered water withdrawers are reporting their current withdrawal rates, only 25-30 percent of these have documented the capacity of the withdrawal pipes; even though a recent DEQ regulation requires them to report on the maximum capacity of their piping system. The absence of this capacity information will hamper the state's ability to effectively develop plans for use of Virginia's surface waters. As Mr. Kudlas noted, the significant gaps in information on both groundwater and surface water usage has forced water resource managers to be overly cautious in order to preserve the resource.

Having identified some of the current shortcomings in agency's surface and groundwater permitting monitoring capabilities, DEQ was requested to prepare a report detailing various alternatives for expanding the permitting and monitoring programs to address these limitations, and the funding that would be required by each alternative. Members of the Commission expressed doubt that at a time when Virginia is facing a significant budget deficit, general fund moneys could be allocated in amounts that would provide the needed infrastructure and staffing to more effectively manage our water resources. However, it important that a funding plan be in place when additional financial resources are available. The Department's report presented at a subsequent meeting identified current gaps in DEQ's surface and groundwater monitoring and permitting capabilities and offers three possible levels of program expansion needed to address these shortcomings. According to the report, several factors have historically limited the Commonwealth's ability to monitor, plan, and manage its water resources. First, water supply is largely a state and local responsibility. Because there are no federal mandates with respect to these efforts, there are no federal funds available for water supply monitoring, planning, and management. Thus, any state budget cuts have a greater impact in this area than those programs where federal funds may provide additional programmatic moneys. Second, unlike neighboring states, Virginia has no policy of dedicating funds to a systematic effort to develop basic data necessary for effectively characterizing Virginia's water resources. This policy and effort is particularly absent when it comes to the collection of groundwater and aquifer data. Finally, multiple agencies currently regulate different aspects of water resource management. This has "somewhat limited" comprehensive data development and intra-agency data sharing.

In the report the needs and costs have been divided into three levels of services: basic, expanded, and optimal. Each successive level of services builds on the prior service level. The

DEQ staff estimates that the tasks in the basic level of service would be completed over a 12-year time frame and would cost approximately $12.1 million. The expanded level of service, which includes other components in addition to those in the basic level, such as the hiring of three regional hydrogeologists who are essential to understanding the occurrence and availability of groundwater throughout Virginia, would cost approximately $20.5 million over the 12-year time period. The annual cost for the optimal level of service, which includes components in addition to those tasks in the basic and expanded levels of service is approximately $1.2 million more than the basic level and over a 12-year period, the total expenditure would be approximately $26.7 million. The report (See Appendix A) itemizes the cost of each task and service for FY 2011 and for the period FY 2012-FY 2022.

2. **Stormwater Regulations**

Because questions have been raised regarding the new stormwater regulations, the Commission invited Mr. Russ Baxter, Deputy Director of the Department of Conservation and Recreation, to discuss the amendments to the Virginia Stormwater Management Program regulations. The current standards have resulted in continuing declines in stream health, significant flooding, and channel erosion. The Environmental Protection Agency (EPA) will be reviewing the new regulations in light of its responsibility under the Clean Water Act to create new accountability measures for states that are not meeting Chesapeake Bay pollution reduction milestones. Mr. Baxter described the development of the regulations as a four-year process that involved over 50 public meetings, two technical advisory committees, a series of design charrettes with over 400 attendees, a BMP clearinghouse with Virginia Water Resources Center at Virginia Tech, and collaboration with the Center for Watershed Protection and the Chesapeake Stormwater Network to develop runoff reduction methodology. The Soil and Water Conservation Board adopted the revised regulations at a meeting on October 5. 2009. The regulations contemplate that localities, rather than the state, will be responsible for administering stormwater programs that address both water quality and water quantity issues. The localities are empowered to assess fees, which will be established at a level sufficient to support administration of local programs. The Board addressed numerous issues of significant concern to the public in its adoption of the revised regulations, such as: (i) separate standards for the Chesapeake Bay watershed and the Southern Rivers watershed; (ii) different standards for small sites and redevelopment sites; (iii) additional offsite compliance options; (iv) increased flexibilities in urban development areas; (v) acknowledgement of vested rights for projects; (vi) reduced inspection requirements; and (vii) adoption of a good pasture standard rather than the forest standard. Mr. Baxter noted that the EPA has been interested and involved throughout the process. He concluded his presentation by indicating that EPA is examining a range of possible sanctions if Virginia did not implement effective Bay clean-up measures, including the withdrawal of grant moneys or even possible revocation of program delegation.

## Findings and Recommendations

Having received testimony regarding DEQ's limited ability to effectively manage Virginia's water resources, due in large measure to the lack of committed funding and reductions in staffing, the Commission considered five measures it believes would enhance the water supply planning process. As noted previously in this report, DEQ had established a TAC, composed of stakeholders to assist the agency in developing the water supply planning regulations. Because

the agency has moved into a new phase of taking the information from local and regional plans and integrating this data into a state plan which will then be implemented, it would be helpful to re-establish this forum for discussion of water supply-related issues. Such a divergent group representing water users; water providers; agricultural, conservation, and environmental organizations; state and federal officials; and university faculty could be invaluable in providing varying perspectives and expertise on a wide range of water planning and implementation issues. The areas that the TAC would be charged with assisting DEQ in examining would be: (i) procedures for incorporating local and regional water supply plans into the state water resources plan and minimizing potential conflicts among various submitted plans; (ii) the development of methodologies for calculating actual and anticipated future water demand; (iii) the funding necessary to ensure that the needed technical data for development of a statewide planning process is available; (iv) the effectiveness of the planning process in encouraging the aggregation of users into common planning areas based on watershed or geographic boundaries; (v) the impact of consumptive use and reuse on water resources; (vi) opportunities for use of alternative water sources, including water reuse and rainwater harvesting; (vii) environmental flows necessary for the protection of instream beneficial use of water for fish and wildlife habitat; and (viii) other policies and procedures that the Director of the Department of Environmental Quality determines may enhance the effectiveness of water supply and water resources planning in Virginia. Thus, the Commission recommends:

*Recommendation 1*: That legislation be introduced that establishes a technical advisory committee to assist DEQ in carrying out its water supply planning responsibilities (see Appendix B).

During its deliberations, the Commission received extensive testimony that there are significant gaps in water-related data that are crucial to DEQ's ability to effectively manage Virginia's groundwater and surface water resources. While we have more complete data for surface water than groundwater, the state's overall water monitoring capability peaked in the 1980's, and we have not kept pace with our growing need for data. This combined with the limited understanding of agricultural use because of under-reporting, and a lack of certainty regarding the amount of grandfathered water withdrawals necessitates the development of procedures to encourage greater compliance with the current water reporting statute. In 1989, a law was enacted that requires any water user who withdraws one million gallons in a single month for crop irrigation, or whose daily average during a single month exceeds 10,000 gallons per day (300,000 per month) to report the amount they withdraw, whether it is groundwater or surface water. If they meet this threshold, they are required to submit (i) the estimated average daily withdrawal, maximum daily withdrawal, and (ii) sources of water withdrawn for the previous year. However, the law as enacted contained no sanction for those not reporting their withdrawals. The Commission believes that the imposition of a civil penalty, with the appropriate due process protections would result in a higher compliance rate for these annual reports. Under the Commission-approved legislation, the State Water Control Board may impose a civil penalty of up to $1,000 for a person who fails to report the amount of water withdrawn, if such withdrawals meet the statutory threshold. However, before any penalty is assessed the Board would be required to notify those who have failed to submit the withdrawal report. The person then has 60 days after receiving the notice to submit the report. If after 60 days he has failed to submit the report, the Board can then proceed to institute an action. The

Board and the person have an additional option. They can agree, as in cases of permit violations, to a civil charge, which is a consent agreement between the withdrawer and the Board that he will pay a specific amount and submit his report in a manner and time that they both agree upon. The proceeds from the civil penalty will be deposited into a special fund, known as the Water Supply Plan Fund, to be used solely for administration of the water supply planning responsibilities of DEQ. The Commission recommends:

*Recommendation 2*: That legislation be introduced that imposes a civil penalty on those persons withdrawing surface and groundwater who are required by law to annually report the amount of water they withdraw (See Appendix C).

The Commission also is concerned with lack of coordination between DEQ and VDH in the collection of well data that is crucial to the state's ability to characterize our groundwater resource. There are approximately 2 million wells in the Commonwealth. Currently, there are unregulated withdrawals from domestic wells in residential subdivisions and wells located in the coastal plan counties that are not located in groundwater management areas. DEQ has not been able to access the well construction records of many of these private wells and what are termed "community wells" that serve 15 connections or 25 people at least 60 days a year. Without this information, groundwater planning has to be necessarily very conservative to avoid groundwater drawdowns that could result in the collapse of the aquifer from excessive water extractions or incidents of salt-water intrusions. To ensure that such information is shared between the two agencies, the Commission looked at the possibility of proposing legislation that would require them to enter a memorandum of agreement requiring the timely transmission of such information. There is precedent for such cooperation in the current law that requires the timely transmission and evaluation of water quality and fish advisory information between the two departments (§ 62.1-44.19:9). Given the opportunity to respond to such a proposal, officials from both agencies suggested that a statutory mandate would not be necessary. Instead, they presented to the Commission a formal Memorandum of Understanding (MOU), signed by representatives of each agency that in the words of the agreement "provides a coordinated interagency approach for the collection and sharing of waterworks and well construction data used in the development of local or regional water supply plans."(See Appendix D). The formal MOU offered by DEQ and VDH appears to have addressed the Commission's data-sharing concerns and represents a reasonable approach for obtaining the needed data.

Since water supply is a state and local responsibility and there are no federal mandates, funding is solely dependent on state general fund money. The DEQ report on the funding of water supply planning provides a detailed picture of the costs of monitoring and managing Virginia's water resources. The Commission recognizes that Virginia is facing a very large budget deficit so the prospects of any significant amount of general funds being allocated this for management of the state's water programs is not likely in the immediate future. However, the Commission does support a more modest proposal that involves raising the fee for groundwater permits. The fees for all water-related permits (e.g., waste discharge permits, water protection permits, Virginia Pollution Abatement permits, wetlands permits, and surface and groundwater withdrawal permits) were established by statute in 1992. That year, the permit fees for groundwater were broken into two categories: agricultural withdrawals and other withdrawals, with the fees based on the amount of gallons being withdrawn. The highest fee for agricultural

withdrawals was $600 for those withdrawing more than 300 million gallons per month. For all other types of groundwater withdraws the fee was $2,000. A year later, the distinction between agricultural and nonagricultural groundwater withdrawals permits was removed, and the permit fee for all groundwater withdrawals was $2,000. In 2002, the fee was raised to $6,000 where it remains today. By comparison the permit fee to withdraw surface water is $25,000-$30,000 . According to figures provided by DEQ, staffing costs for the current groundwater program are nearly $1.3 million. Of this total, approximately $889,890 is allocated for personnel costs and about $227,500 is for contracted program support, including a contract with U.S. Geological Survey to develop a hydrologic framework to help in determining where aquifers are located. Groundwater withdrawal permit fees pay for approximately 12.3 percent of the program's costs funds two out of the 12 persons staffing the groundwater permit program. The amount of fees generated from permits varies significantly year-to-year. In FY 2006, $210,000 in fees was collected, and in FY 2009, only $61,000 was generated from permit fees. The agency expects to average 14 permit renewals each year over the next biennium and at a rate of $6,000 per permit, a total of $84,000 per year is expected to be generated; although, this amount could be supplemented by the filing of a few new permit applications each year. A profile of the permit holders shows that 50 percent are local public water suppliers, 34 percent are issued for agricultural purposes, 13 percent are industrial withdrawers, one percent are commercial withdrawers and 2 percent are classified as "other." In light of the continued reduction in staffing levels at DEQ as a result of budget cuts, the Commission believes that an increase in the fees for groundwater permits would be helpful in maintaining a program support level necessary to administer the groundwater program. In addition, because the permit covers a ten-year period by prorating the one-time fee over the term of the permit would relieve the cost burden on permittees and allow DEQ to operate with a more consistent revenue stream. The Commission recommends:

*Recommendation 3*: That legislation be introduced increasing the fee for the permit to withdraw ground water from $6,000 to $12,000, and that the permit holder be given the option of paying a pro rata share annually over the 10-year term of the permit (See Appendix E).

Finally, several members of the Commission expressed concern that the State Water Resources Plan will not (i) resolve conflicts among users, (ii) determine who receives a permit for the water use, and (iii) include all alternatives for which a withdrawal permit may be sought. Mr. Paylor assured the members that development of the plan is important. It will identify future water resources, thereby allowing for future growth. By identifying competing interests for the same resource during this planning stage plan, DEQ will be able to identify the most efficient use of the resource and render a decision whether the resource has reached its utilization capacity, resulting in a reduction in the number of conflicts or overuse. As Mr. Paylor noted the development of a state plan will enable us to "paint a statewide picture" not only of growth but current and future uses, and better enable the resolve some of the use conflicts. While the Commission agrees with Mr. Paylor, several Commission members questions whether without a "linkage" with the permitting process the plan will simply become a paper exercise.

The Commission is persuaded that the plan should play some role in decision-making. One of the primary tools in managing Virginia's water resources is the Virginia Water Protection Permit (VWP). Under the current law, the State Board can issue a VWP permit if it determines

that the proposed activity is consistent with the Clean Water Act and the State Water Control Law. In determining whether it is consistent with state and federal law, the Board typically examines:

1. Whether the project complies with state water quality standards;
2. Whether the project protects beneficial uses. The Board in ensuring this protection can limit the volume of the withdrawal or other applicable measures; and
3. Whether the permit applicant has provided required information such as:
    a. proposed withdrawal volumes;
    b. consumptive use estimates;
    c. impacts of withdrawal on stream; and
    d. need for withdrawal.

However, the issuing of a VWP permit for withdrawing surface is not linked to the broader perspective of whether it "fits" into the state plan. What the Commission envisions is not only maintaining the Board's authority as part of its review of permit applications to determine whether the proposed activity is consistent with the State Water Control Law and the federal law but also allow the Board, if it so chooses, to consider whether the activity is consistent with the Commonwealth's water supply planning law and regulations. In its determination of consistency, the Board presumably would look to the words of the water supply law and assess:

- Does the project ensure that adequate and safe drinking water are available for citizens?
- Does the project encourage, promote, and protect all beneficial uses of the Virginia's water resources? and
- Does it encourage, promote, and develop incentives for alternative water sources, including desalinization?

Mr. Paylor raised several concerns regarding such a proposal. He indicated that the private sector was troubled with that language that the Board "may consider whether the proposed activity is in accordance with the state water resources plan" could form the basis for a denial of the permit, even if the application met all other criteria in the permitting process. He raised the additional question of "if a plan is developed, and a business wants to relocate to the area covered by a plan, does the business have to wait for five years to be incorporated into the revised plan?" While these are valid concerns, the Commission believes such issues can be addressed in the water supply planning process and that the Board, if it chooses to use this additional criteria when reviewing a permit application, would provide written guidance to those parties interested in commenting on any proposed project in terms of its consistency with the state water resources plan. Thus, the Commission recommends:

*Recommendation 4.* That legislation be introduced that authorizes the State Water Control Board to consider when reviewing an application for a VWP permit whether a proposed activity is in accordance with the state water resources plan developed consistent with the objectives of the comprehensive water supply planning process as described in subsection A of § 62.1-44.38:1 (See Appendix F).

Respectfully submitted,

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# Appendix A

# Costs of Water Resource Planning

*A Report to the Virginia State Water Commission*

**Virginia Department of Environmental Quality**
**Office of Surface and Ground Water Supply Planning**
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**December 2009**

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## 1. Background

The Virginia Department of Environmental Quality (DEQ) Office of Surface and Ground Water Supply Planning consists of four programs dedicated to the characterization and management of the Commonwealth's finite surface and ground water resources. At the July and November 2009 meetings of the Virginia State Water Commission, DEQ staff provided information regarding DEQ's water resource programs, their implementation, emerging needs and potential approaches to meeting the emerging needs. As requested by the Commission, this report identifies current voids in DEQ's surface and ground water monitoring and permitting capabilities and presents three possible levels of program expansion needed to fill these voids.

## 2. Current Status of Water Resource Planning Capabilities

Water supply monitoring, planning and management are critical to continued economic development in the Commonwealth and the protection of the beneficial uses of water resources currently afforded Virginians. Several factors have historically limited the capability of the Commonwealth to effectively provide these services:

- Water supply is largely a state and local responsibility. There are no federal mandates to support this effort and funding is provided exclusively from Virginia's general fund. Consequently, state budget cuts have historically impacted water resource programs more than other programs with federal mandates and federal funding.
- Unlike neighboring states, Virginia has not had a stated policy or fiscal resources dedicated to the systematic and strategic effort to develop basic data to characterize water resources. Water resource data is critical to determine the location, quality, and quantity of available resources across the Commonwealth. The lack of a priority effort in the collection of ground water and aquifer data is particularly acute.
- Currently multiple agencies in Virginia regulate different aspects of water resource management. This approach has somewhat limited comprehensive data development and intra-agency data sharing. For example, since 1991 the Virginia Department of Health (VDH) has received all well construction reports (GW-2). VDH now uses a uniform well completion report form that includes all of the information they need but not all the information on the previous form that DEQ needs for ground water planning and management.

The need for improved ground water monitoring capabilities will increase with the proposed expansion of the Eastern Virginia Ground Water Management Area (GWMA) into the Northern Neck and Middle Peninsula. The State Water Control Board is currently in the process of revising regulations to incorporate these new areas in the existing Eastern Virginia GWMA because ground water levels in this portion of the coastal plain continue to decline. Figure 1 illustrates the lack of available data throughout the Northern Neck and Middle Peninsula. Groundwater data in these areas is particularly critical because existing wells have indicated water levels declining at a rate of approximately 1 to 2 feet per year in the Northern Neck. These declines are also being seen throughout most of the coastal aquifer system.

Many localities, businesses and individuals rely on ground water partially or exclusively. Virginia's groundwater monitoring capabilities peaked in the 1980s and funding levels have not kept pace with the increasing need for data on the availability and quantity of groundwater. Without quality data on ground water resources, localities cannot plan in an informed manner. Additionally, without sufficient data the potential impacts of proposed ground water withdrawals on existing water users cannot accurately be predicted. Specifically, DEQ uses both ground water elevation data and well construction data to characterize aquifer formations and their confining units, predict the behavior of the ground water system to new withdrawals and estimate available water.

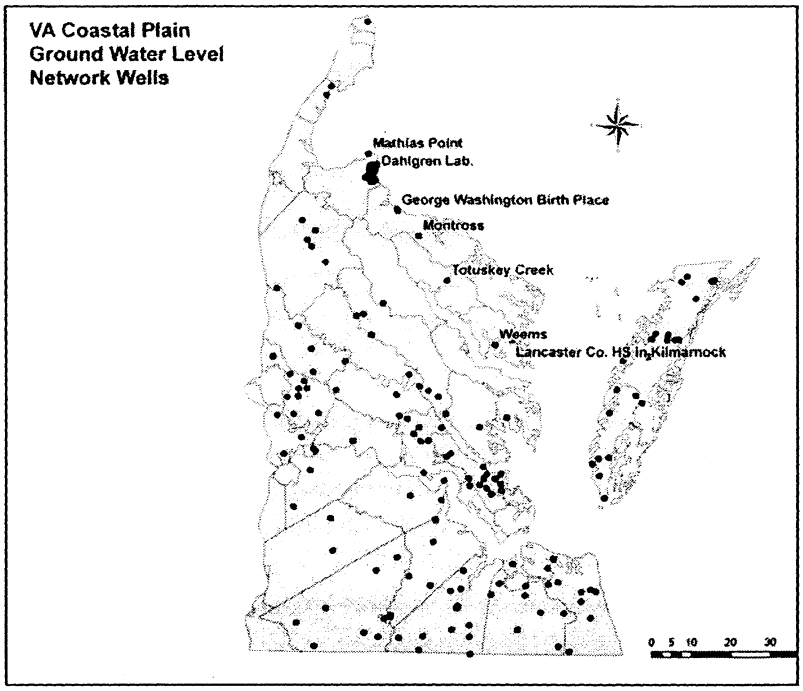


**Figure 1:** Current ground water monitoring network in the Virginia Coastal Plain

Demand for surface water resources for public and private use continues to increase in many Virginia localities. In Virginia, DEQ and the United States Geological Survey (USGS) cooperatively manage the network of stream monitoring gages. Since the 1980s, 30 stream monitoring gages have been discontinued. While the understanding of surface water availability is generally greater than that of ground water availability, certain areas of the state are under represented in the stream monitoring network. Without comprehensive surface water data, the state, localities and businesses are limited in their ability to effectively plan for and manage surface water availability.

### 3. Emerging Needs and Cost Analysis

In response to a request from the State Water Commission, DEQ staff has identified water resource program needs and estimated associated costs necessary to meet existing and emerging data demands and permitting requirements. The program needs and costs

have been divided into a continuum of three levels of service; Basic, Expanded and Optimal. Each successive level of service builds on the previous level of service. Below is a summary of the tasks and estimated costs associated with each level of service. A comprehensive list of costs for all three levels of service is also provided in Appendix A.

*3.1 Basic Level of Service*

Program needs and estimated costs for the Basic Level of Service are divided into five service areas; Start-up Costs and Staff, Expanded GWMA, Problems in Existing GWMA, Ground Water West of I-95, and Gaps in Surface Water Coverage (Table 1).

Start-up Costs and Staff: Included in this service area are the purchase of a drill rig, associated drilling and coring equipment, and 3 staff positions to operate the equipment. In-house State Observation Well (SOW) drilling capability allows the installation of higher quality observation wells at a substantial cost savings compared to contractual services from the private sector. Also included in this service area are 4 new ground water permit writers to address the current permit backlog (approximately 120 applications) and the anticipated permit demands following the expansion of the GWMA into the Northern Neck and Middle Peninsula. The one-time equipment cost is estimated to be $750,000. The annual salary and fringe benefits cost for the 7 staff positions is estimated to be $520,000.

Expanded GWMA: The regulatory process to expand the GWMA into the Northern Neck and Middle Peninsula is currently underway. This service area provides for the in-house completion of four new SOW stations in the proposed Northern Neck GWMA, seven new SOW stations in the proposed Middle Peninsula GWMA and eight geophysical cores. Each SOW station will house seven individual wells. These stations will begin to fill the current gaps in ground water data in this area of the Commonwealth. DEQ anticipates completing one SOW station per year. The approximate location of the proposed wells and cores are identified in Figure 2.

Problems in Existing GWMA: The Basic Level of Service provides for contracting the installation of 12 SOW stations at locations in the existing GMWAs where observed water levels have been lower than predicted by DEQ. These stations will allow DEQ to improve permitting tools and better predict the impact of proposed withdrawals. Each station will house five to seven wells each with a total of 67 wells distributed among the 12 stations. This service area also includes contracting the installation of a total of eight individual SOWs in New Kent County and James City County to investigate the Piney Point Aquifer. This service area also provides for contracting three geophysical cores to improve the understanding of the aquifer system near Franklin, Virginia. Until recently, Franklin was home to the largest ground water withdrawal in Virginia. All services in this service area will be contracted in order to supplement DEQ's proposed drilling capacity. DEQ anticipates contracting one SOW station per year and one individual SOW or geophysical core per year. The approximate location of the proposed wells and cores are identified in Figure 2.

| Start-Up Costs and Staff | Basic Level of Service |
|---|---|
| Equipment | $750,000 |
| GW Drilling Personnel 3 FTE* | $188,500 |
| GW Permit Writers 4 FTE* | $331,500 |
| **Total** | $1,270,000 |
| **Expanded GWMA** | **Basic Level of Service** |
| Northern Neck | |
| DEQ install four (4) State Monitoring Well Sites with seven (7) wells each (28) and one (1) geophysical core | $624,348 |
| Middle Peninsula | |
| DEQ install seven (7) State Monitoring Well Sites with seven (7) wells each (49) and seven (7) geophysical cores | $1,175,559 |
| **Total** | $1,799,907 |
| **Problems In Existing GWMA** | **Basic Level of Service** |
| Southeast Critical Cells | |
| Contract installation of seven (7) State Monitoring Well Sites with six (6) wells each | $490,000 |
| Fall Zone Critical Cells | |
| Contract installation of five (5) State Monitoring Well Sites with five (5) wells each | $250,000 |
| Piney Point Aquifer in James City County/New Kent | |
| Contract installation of eight (8) State Monitoring Well Sites with one (1) geophysical | $150,000 |
| Franklin Framework Problem | |
| Contract three (3) geophysical cores | $90,000 |
| **Total** | $980,000 |
| **Ground Water West of I-95** | **Basic Level of Service** |
| Contract three (3) State Monitoring wells; one in each county that does not currently have one | $45,000 |
| **Total** | $45,000 |
| **Gaps In Surface Water Coverage** | **Basic Level of Service** |
| Reactivate four (4) gages | $26,800 |
| **Total** | $26,800 |
| **Basic Level of Service Total Costs** | $4,121,707 |

*Staff costs are based annual costs. The remaining estimates are one-time costs.

**Table 1:** Service areas and approximate costs for the Basic Level of Service. It should be noted that the cost of DEQ installed wells includes staff salary costs.

Ground Water West of I-95: Currently 42 Virginia counties west of I-95 do not have a SOW (Figure 3). This service area provides for the contracting of one SOW in each of three counties for the purpose of drought monitoring and monitoring of high yield rock formations. These wells will be located in hard rock terrain. It is more cost effective to contract hard rock drilling work as opposed to purchasing additional equipment capable of drilling in hard rock. The location of the three wells will be determined by DEQ Ground Water Characterization staff based on the availability of sites and their relationship to the hydrogeologic framework.

Gaps in Surface Water Coverage: As discussed above, 30 surface water monitoring gages have been discontinued in Virginia since the late 1980s. This service area provides for the reactivation of four of these discontinued gages in areas where surface water data is particularly critical. The proposed reactivated gages are Georges Creek near Gretna, Fountains Creek near Brink, Christians Creek near Fishersville, and Bush Mill Stream near Heathsville.

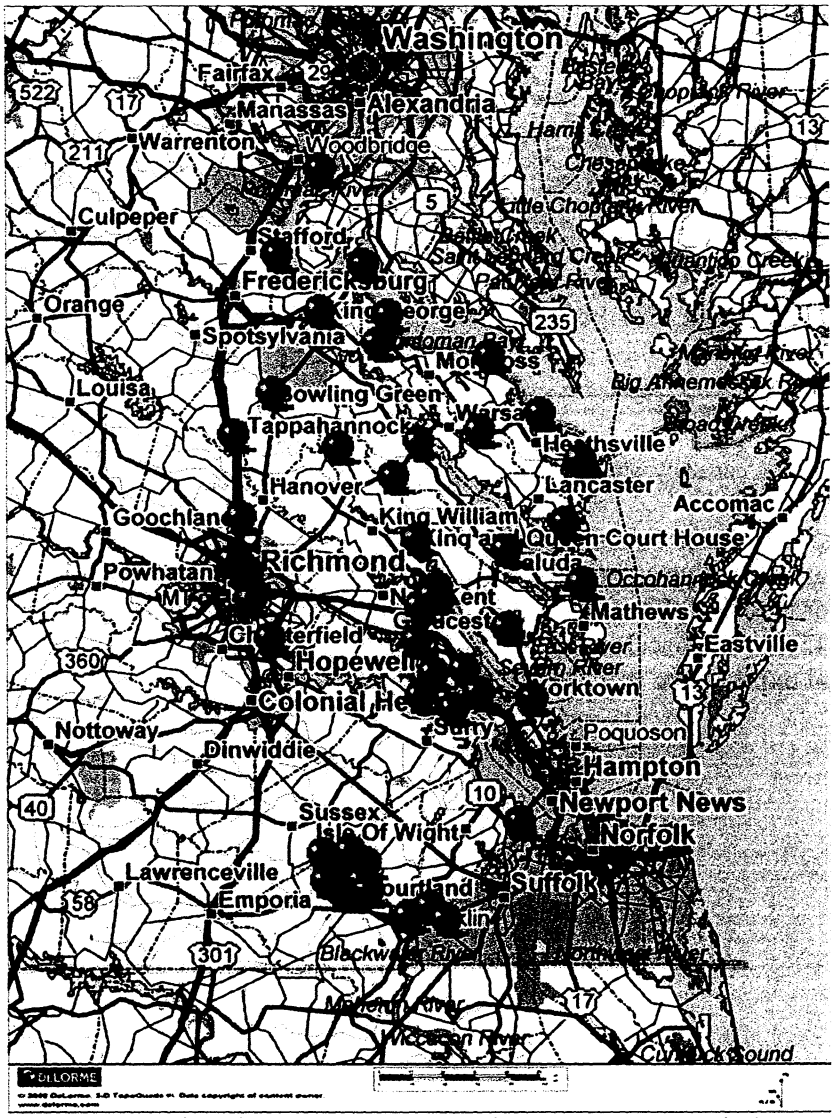


**Figure 2:** Location of proposed state observation wells and geophysical cores. Locations identified in red are included in the Basic Level of Service. Locations identified in blue are included in the Expanded Level of Service. These locations represent well sites that have been identified by DEQ staff.

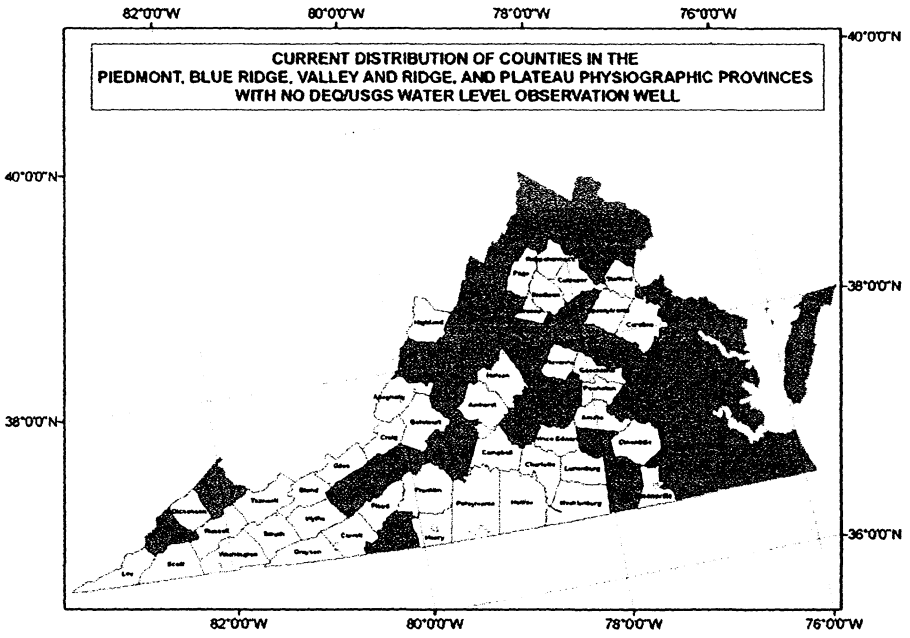


**Figure 3:** Location of 42 Counties currently without a state observation well.

Annual Estimated Costs: DEQ staff estimates that the tasks in the Basic Level of Service would be completed over a 10-15 year time frame with resource levels outlined in Table 1. The estimated cost for the Basic Level of Service is approximately $1,726,000 for fiscal year 2011 and $945,000 for fiscal year 2012 and beyond (Table 2). Assuming a 12 year time frame, the total expenditure would be approximately $12.1 million.

| Service Area | Task Description | Details | FY 2011 | FY 2012 – FY 2022 |
|---|---|---|---|---|
| Start-Up Costs and Staff | Procure drilling/coring equipment | -- | $750,000 | -- |
| Expanded GWMA | Annual equipment maintenance | Equipment, vehicle and mechanical repair and maintenance | $9,000 | $9,000 |
| Expanded GWMA | Annual supplies and materials to install 1 SOW station (DEQ installed) | Casing, drilling additives, screens, parts | $25,000 | $25,000 |
| Expanded GWMA | Annual continuous charges to install 1 SOW station (DEQ installed) | Building rental, electricity, on-site trailer | $12,000 | $12,000 |
| Start-Up Costs and Staff/ Expanded GWMA | Salary and Fringe, 3 drilling program positions | Fund three positions; Env. Specialist II, Driller, Asst. Driller | $188,500 | $188,500 |
| Start-Up Costs and Staff/ Expanded GWMA | Salary and Fringe, 4 ground water permit writer positions | Fund four Env. Specialist II positions | $331,500 | $331,500 |
| Start-Up Costs and Staff/ Expanded GWMA | Staff Support | Rent, computers, telephone, furniture for 7 proposed positions | $174,122 | $174,122 |
| Start-Up Costs and Staff/ Expanded GWMA | Annual operational costs | Fuel, lodging, equipment | -- | $30,000 |
| Start-Up Costs and Staff/ Expanded GWMA | Annual cost increases | Fuel, materials, etc. | -- | $10,000 |
| Problems in Existing GWMA | Contractual drilling services, east of I-95 | Installation of 1 SOW station and 1 SOW or core | $90,000 | $90,000 |
| Ground Water West of I-95 | Contractual drilling services, west of I-95 | Installation of 3 hard rock individual SOWs | $45,000 | -- |
| Expanded GWMA, Problems in Existing GWMA, Ground Water West of I-95 | Real Time telemetry equipment | Install water level telemetry equipment on 15 SOW wells | $75,000 | $75,000 |
| Gaps in Surface Water Coverage | Surface water gages | Reactivate 4 surface water gages | $26,000 | -- |
| | | **TOTAL** | **$1,726,122** | **$945,122** |

**Table 2:** Estimated annual costs for the Basic Level of Service

*3.2 Expanded Level of Service*

The Expanded Level of Service includes all of the components in the Basic Level of Service and additional components in the following service areas; Staff, Expanded GWMA, Problems in Existing GWMA, Ground Water West of I-95, and Gaps in Surface Water Coverage (Table 3).

Staff: The Expanded Level of Service provides for three Regional Hydrogeologist positions. Each position will be distributed to one of DEQ's regional offices. At this staffing level, three of DEQ's six regional offices will house a Hydrogeologist position. These positions will begin the process of compiling existing ground water data, determining additional data needs, coordinating projects to collect additional data, and provide guidance on groundwater availability in support of water supply planning. These positions are critical in the long term process of understanding the occurrence and availability of groundwater throughout the Commonwealth. The Staff service area also

provides two Surface Water Hydrologist Technician positions to maintain and annually develop flow data for the reactivated and new stream gages.

Expanded GWMA: This service area provides seven additional geophysical cores in the Northern Neck GWMA, four additional SOW stations in the Middle Peninsula GWMA and four additional geophysical cores in the Middle Peninsula GWMA. The proposed geophysical cores are necessary to determine the vertical distributions of the aquifers at the identified locations. These additional resources will be completed with the DEQ drill rig and will provide the basis for improved groundwater modeling and assignment of water withdrawals to the proper aquifers. This will significantly improve data coverage as compared to the Basic Level of Service.

| **Staff** | **Expanded Level of Service** |
|---|---|
| GW Hydrogeologists 3 FTE | $208,633 |
| SW Personnel 2 FTE | $148,867 |
| **Total** | $357,500 |
| **Expanded GWMA** | **Expanded Level of Service** |
| Northern Neck | |
| DEQ completion of seven (7) additional geophysical cores | $1,175,559 |
| Middle Peninsula | |
| DEQ installation of four (4) additional State Monitoring Well Sites with seven (7) wells each (28) and four (4) geophysical cores | $671,748 |
| **Total** | $1,847,307 |
| **Problems in Existing GWMA** | **Expanded Level of Service** |
| Southeast Critical Cells | |
| 1 new site with six (6) wells per year for 5 years | $350,000 |
| Fall Zone Critical Cells | |
| 1 new site with six (6) wells per year for 5 years | $250,000 |
| Carrolton Framework Problem | |
| One (1) geophysical core | $30,000 |
| **Total** | $630,000 |
| **Ground Water West of I-95** | **Expanded Level of Service** |
| Thirty-nine (39) State Monitoring wells; one in each county that does not currently have one | $585,000 |
| **Total** | $585,000 |
| **Gaps in Surface Water Coverage** | **Expanded Level of Service** |
| Install five (5) new gages | $62,000 |
| **Total** | $62,000 |
| **Expanded Level Costs** | $3,481,807 |

*Staff costs are based annual costs. The remaining estimates are one-time costs.

**Table 3:** Service areas and approximate costs for the Expanded Level of Service. These are in addition to all services and costs associated with the Basic Service Area. It should be noted that the cost of DEQ installed wells includes staff salary costs.

Problems in Existing GWMA: In order to further refine DEQ's ability to predict groundwater levels in certain critical areas in the existing GWMA, this service area provides for a total of 10 additional SOW stations with 6 wells each. These stations will be distributed in two regions where water levels in the field have been lower than predicted by DEQ. One SOW station will be contracted in each of the regions annually for five years. This service area also provides for one geophysical core to address a data gap in the Carrolton area near Smithfield. DEQ believes that there is some physical abnormality existing in these locations that is driving these unanticipated conditions. These cores are the means to help us determine if this is the case.

Ground Water West of I-95: Currently 42 Virginia counties west of I-95 do not have a SOW. This service area provides for the contracting of one SOW in each of 39 counties not covered in the Basic Level of Service. The additional SOWs will be utilized for drought monitoring and monitoring of high yield rock formations. The location of these wells will be determined by DEQ Ground Water Characterization staff based on site availability and location of the highest yielding rock types.

Gaps in Surface Water Coverage: This service area provides for the installation of five new gages in areas where surface water data is particularly critical and has historically been lacking. The proposed new gages are the Appomattox River near Matoaca, Polecat Creek in Caroline County, Cat Point Creek near Montross, Dragon Run along the Middlesex County and King and Queen County border and Great Creek in Brunswick County.

Annual Estimated Costs: DEQ staff estimates that the tasks in the Expanded Level of Service, including those in the Basic Level of Service, would be completed over a 10-15 year time frame with resource levels outlined in Table 3. The estimated cost for the Expanded Level of Service is approximately $2,405,300 for fiscal year 2011 and $1,646,500 for fiscal year 2012 and beyond (Table 4). The annual cost for the Expanded Level of Service is approximately $680,000 more than the annual cost for the Basic Level of Service. Assuming a 12 year time frame, the total expenditure for the Expanded Level of Service would be approximately $20.5 million.

| Service Area | Task Description | Details | FY 2011 | FY 2012 – FY 2022 |
|---|---|---|---|---|
| Start-Up Costs and Staff | Procure drilling/coring equipment | -- | $750,000 | -- |
| Expanded GWMA | Annual equipment maintenance | Equipment, vehicle and mechanical repair and maintenance | $18,000 | $18,000 |
| Expanded GWMA | Annual supplies and materials to install 1 SOW station (DEQ installed) | Casing, drilling additives, screens, parts | $50,000 | $50,000 |
| Expanded GWMA | Annual continuous charges to install 2 SOW stations (DEQ installed) | Building rental, electricity, on-site trailer | $24,000 | $24,000 |
| Start-Up Costs and Staff/ Expanded GWMA | Salary and Fringe, 3 drilling program positions | Fund 3 positions; Env. Specialist II, Driller, Asst. Driller | $188,500 | $188,500 |
| Start-Up Costs and Staff/ Expanded GWMA | Salary and Fringe, 4 ground water permit writer positions | Fund 4 Env. Specialist II positions | $331,500 | $331,500 |
| Start-Up Costs and Staff/ Expanded GWMA | Salary and Fringe, 3 hydrogeologist positions | Fund 3 Env. Specialist II positions | $208,633 | $208,633 |
| Start-Up Costs and Staff/ Expanded GWMA | Salary and Fringe, 2 surface water positions | Fund 2 hydrologist positions | $148,867 | $148,867 |
| Start-Up Costs and Staff/ Expanded GWMA | Staff Support | Rent, computers, telephone, furniture for 12 proposed positions | $298,000 | $298,000 |
| Start-Up Costs and Staff/ Expanded GWMA | Annual operational costs | Fuel, lodging, equipment | -- | $60,000 |
| Start-Up Costs and Staff/ Expanded GWMA | Annual cost increases | Fuel, materials, etc. | -- | $20,000 |
| Problems in Existing GWMA | Contractual drilling services, east of I-95 | Installation of 2 SOW stations and 1 individual SOW or core | $134,000 | $134,000 |
| Ground Water West of I-95 | Contractual drilling services, west of I-95 | Installation of 3-4 hard rock individual SOWs | $52,500 | $52,500 |
| Expanded GWMA, Problems in Existing GWMA, Ground Water West of I-95 | Real Time telemetry equipment | Install water level telemetry equipment on 23 SOW wells | $112,500 | $112,500 |
| Gaps in Surface Water Coverage | Surface water gages | Reactivate 4 surface water gages, install 5 new gages | $88,8000 | -- |
| | | **TOTAL** | **$2,405,300** | **$1,646,500** |

**Table 4:** Estimated annual costs for the Expanded Level of Service. These costs include all costs associated with the Basic Level of Service.

### *3.3 Optimal Level of Service*

The Optimal Level of Service includes all of the components in the Basic Level of Service, the Expanded Level of Service and additional components in the following service areas; Staff, Expanded GWMA, Problems in Existing GWMA, Ground Water West of I-95, and Gaps in Surface Water Coverage (Table 5).

Staff: The Expanded Level of Service provides for an additional three Regional Hydrogeologist positions. At this staffing level, all six of DEQ's regional offices will house a Hydrogeologist position. These positions will begin the process of compiling existing ground water data, determining additional data needs, coordinating projects to collect additional data, and provide guidance on groundwater availability in support of water supply planning. These positions are critical in the long term process of understanding the occurrence and availability of groundwater throughout the Commonwealth.

Expanded GWMA: This service area provides seven additional geophysical cores in the Northern Neck GWMA, four additional SOW stations in the Middle Peninsula GWMA and four additional geophysical cores in the Middle Peninsula GWMA. Ongoing collection of cores provides detailed information on the geographic and vertical location of aquifers at each site. These additional resources will be completed with the DEQ drill rig and will provide improved groundwater data coverage as compared to the Expanded Level of Service.

Problems in Existing GWMA: In order to further refine DEQ's ability to predict groundwater levels in certain critical areas in the existing GWMA, this service area provides for a total of 10 additional SOW stations with 6 wells each. These stations will be distributed in two regions where water levels have been lower than predicted by DEQ's models. One SOW station will be contracted in each of the regions annually for five years.

Ground Water West of I-95: This service area provides for the contracted installation of four to five SOWs per year in hydrogeologically significant areas. The additional SOWs will be utilized for drought monitoring and monitoring of high yield rock formations.

Gaps in Surface Water Coverage: This service area provides for the installation of 10 new stream gages in areas where surface water data is particularly critical and has historically been lacking. DEQ staff will install one stream gage per year for 10 years. DEQ staff will determine the location of these additional surface water gages.

| Staff | Optimal Level of Service |
|---|---|
| GW Hydrogeologists 3 FTE | $197,200 |
| Total | $197,200 |
| **Expanded GWMA** | **Optimal Level of Service** |
| Northern Neck | |
| DEQ completion of seven (7) additional geophysical cores | $1,175,559 |
| Middle Peninsula | |
| DEQ installation of four (4) additional State Monitoring Well Sites with seven (7) wells each (28) and four (4) geophysical cores | $671,748 |
| Total | $1,847,307 |
| **Problems in Existing GWMA** | **Optimal Level of Service** |
| Southeast Critical Cells | |
| 1 new site with six (6) wells per year for 5 years | $350,000 |
| Fall Zone Critical Cells | |
| 1 new site with six (6) wells per year for 5 years | $250,000 |
| Total | $600,000 |
| **Ground Water West of I-95** | **Optimal Level of Service** |
| Contracted installation of 4-5 SOWs per year in hydrogeologically significant areas | $630,000 |
| Total | $630,000 |
| **Gaps in Surface Water Coverage** | **Optimal Level of Service** |
| Install ten (10) new gages, 1 per year | $88,000 |
| Total | $88,000 |
| **Expanded Level Costs** | $3,362,507 |

*Staff costs are based annual costs. The remaining estimates are one-time costs.

**Table 5:** Service areas and approximate costs for the Optimal Level of Service. These are in addition to all services and costs associated with the Basic Level of Service and the Expanded Level of Service.

Annual Estimated Costs: DEQ staff estimates that the tasks in the Optimal Level of Service, including those in the Basic and Expanded Levels of Service, would be completed over a 10-15 year time frame with resources outlined in Table 5. The estimated cost for the Expanded Level of Service is approximately $2,878,500 for fiscal year 2011 and $2,172,100 for fiscal year 2012 and beyond (Table 6). The annual cost for the Optimal Level of Service is approximately $1.2 million more than the annual cost for the Basic Level of Service. Assuming a 12 year time frame, the total expenditure for the Expanded Level of Service would be approximately $26.7 million.

| Service Area | Task Description | Details | FY 2011 | FY 2012 – FY 2022 |
|---|---|---|---|---|
| Start-Up Costs and Staff | Procure drilling/coring equipment | -- | $750,000 | -- |
| Expanded GWMA | Annual equipment maintenance | Equipment, vehicle and mechanical repair and maintenance | $27,000 | $27,000 |
| Expanded GWMA | Annual supplies and materials to install 1 SOW station (DEQ installed) | Casing, drilling additives, screens, parts | $75,000 | $75,000 |
| Expanded GWMA | Annual continuous charges to install 2 SOW stations (DEQ installed) | Building rental, electricity, on-site trailer | $36,000 | $36,000 |
| Start-Up Costs and Staff/ Expanded GWMA | Salary and Fringe, 3 drilling program positions | Fund 3 positions; Env. Specialist II, Driller, Asst. Driller | $188,500 | $188,500 |
| Start-Up Costs and Staff/ Expanded GWMA | Salary and Fringe, 4 ground water permit writer positions | Fund 4 Env. Specialist II positions | $331,500 | $331,500 |
| Start-Up Costs and Staff/ Expanded GWMA | Salary and Fringe, 6 hydrogeologist positions | Fund 6 Env. Specialist II positions | $405,833 | $405,833 |
| Start-Up Costs and Staff/ Expanded GWMA | Salary and Fringe, 2 surface water positions | Fund 2 hydrologist positions | $148,867 | $148,867 |
| Start-Up Costs and Staff/ Expanded GWMA | Staff Support | Rent, computers, telephone, furniture for 15 proposed positions | $373,000 | $373,000 |
| Start-Up Costs and Staff/ Expanded GWMA | Annual operational costs | Fuel, lodging, equipment | -- | $90,000 |
| Start-Up Costs and Staff/ Expanded GWMA | Annual cost increases | Fuel, materials, etc. | -- | $30,000 |
| Problems in Existing GWMA | Contractual drilling services, east of I-95 | Installation of 3 SOW stations and 1 individual SOW or core | $184,000 | $184,000 |
| Ground Water West of I-95 | Contractual drilling services, west of I-95 | Installation of 6-7 hard rock individual SOWs | $105,000 | $105,000 |
| Expanded GWMA, Problems in Existing GWMA, Ground Water West of I-95 | Real Time telemetry equipment | Install water level telemetry equipment on 33 SOW wells | $165,000 | $165,000 |
| Gaps in Surface Water Coverage | Surface water gages | Reactivate 4 surface water gages (2011), install 5 new gages (2011), 1 additional new gage per year | $88,8000 | $12,400 |
| | | **TOTAL** | **$2,878,500** | **$2,172,100** |

**Table 6:** Estimated annual costs for the Optimal Level of Service. These costs include all costs associated with the Basic Level of Service and the Expanded Level of Service.

### *3.4 Estimated Total Costs*

The estimated total costs of each level of service over a projected 12 year horizon are summarized in Table 7.

| | Basic Level of Service | Expanded Level of Service | Optimal Level of Service |
|---|---|---|---|
| **Total Cost (million $)** | $12.1 | $20.5 | $26.7 |

**Table 7:** Estimated total program costs over a project 12 year time frame.

## 4. Summary of Water Resource Planning Needs

Improved surface and ground water monitoring capacity is necessary for effective management of the Commonwealth's water resources. As requested by the State Water Commission, DEQ staff has identified three levels of expanded service in the water resource program and estimated costs necessary to meet existing and emerging data demands and permitting requirements. Each level of service builds upon the previous level of service. The overarching purpose of these proposals is to improve surface and groundwater data availability and in turn improve the Commonwealth's ability to estimate water availability and predict impacts from proposed withdrawals.

# Appendix A: Tasks and estimated costs for the Basic, Expanded and Optimal Level of Service

| Start-Up Costs | Basic Level of Service | | Expanded Level of Service | | | Optimal Level of Service | | |
|---|---|---|---|---|---|---|---|---|
| | In House | Contract Out | Expanded Description | In House | Contract Out | Optimal Description | In House | Contract Out |
| Equipment (1 time cost) | $750,000 | $0 | | $750,000 | $0 | | $750,000 | $0 |
| GW Drilling Personnel 3 FTE | $188,500 | $0 | | $188,500 | $0 | | $188,500 | $0 |
| GW Permit Writers 4 FTE | $331,500 | $0 | | $331,500 | $0 | | $331,500 | $0 |
| | | $0 | GW Hydrogeologists 3 FTE | $208,633 | $0 | 3 add'l GW Hydrogeologists | $405,833 | $0 |
| | | $0 | SW Personnel 2 FTE | $148,867 | $0 | | $148,867 | $0 |
| Total | $1,270,000 | $0 | | $1,627,500 | $0 | | $1,824,700 | $0 |
| **Expanded GWMA*** | **Basic Level of Service** | | **Expanded Level of Service** | | | **Optimal Level of Service** | | |
| | In House | Contract Out | Expanded Description | In House | Contract Out | Optimal Description | In House | Contract Out |
| Northern Neck | | | | | | | | |
| Four (4) State Monitoring Well Sites with seven (7) wells each (28) and one (1) geophysical core | $624,348 | | Basic + seven (7) additional geophysical cores | $1,799,907 | | Expanded + seven (7) additional geophysical cores | $2,975,466 | |
| Middle Peninsula | | | | | | | | |
| Seven (7) State Monitoring Well Sites with seven (7) wells each (49) and seven (7) geophysical cores | $1,175,559 | | Basic + four (4) additional State Monitoring Well Sites with seven (7) wells each (28) and four (4) geophysical | $1,847,307 | | Expanded + four (4) additional State Monitoring Well Sites with seven (7) wells each (28) and four (4) geophysical cores | $2,519,055 | |
| Total | $1,799,907 | $0 | | $3,647,214 | $0 | | $5,494,521 | $0 |
| **Address Known Problems in Existing GWMA*** | **Basic Level of Service** | | **Expanded Level of Service** | | | **Optimal Level of Service** | | |
| | In House | Contract Out | Expanded Description | In House | Contract Out | Optimal Description | In House | Contract Out |
| Southeast Critical Cells | | | | | | | | |
| Seven (7) State Monitoring Well Sites with six (6) wells each | $0 | $490,000 | Basic + 1 new site with six (6) wells per year for 5 years | | $840,000 | Expanded + 1 new site with six (6) wells per year for 5 years | | $1,190,000 |
| Fall Zone Critical Cells | | | | | | | | |
| Five (5) State Monitoring Well Sites with five (5) wells each | $0 | $250,000 | Basic + 1 new site with six (6) wells per year for 5 years | | $500,000 | Expanded + 1 new site with six (6) wells per year for 5 years | | $750,000 |
| Piney Point Aquifer in James City County/New Kent | | | | | | | | |
| Eight (8) State Monitoring Well Sites with one (1) geophysical core | $0 | $150,000 | | | $150,000 | | | $150,000 |
| Franklin Framework Problem | | | | | | | | |
| Three (3) geophysical cores | $0 | $90,000 | | | $90,000 | | | $90,000 |
| Carrollton Framework Problem | | | | | | | | |
| One (1) geophysical core | $0 | | | | $30,000 | | | $30,000 |
| Total | $0 | $980,000 | | | $1,610,000 | | | $2,210,000 |
| **Virginia Hard Rock West of I-95*** | **Basic Level of Service** | | **Expanded Level of Service** | | | **Optimal Level of Service** | | |
| | In House | Contract Out | Expanded Description | In House | Contract Out | Optimal Description | In House | Contract Out |
| Three (3) State Monitoring wells; one in each county that does not currently have one | $0 | $45,000 | Basic + thirty-nine (39) State Monitoring wells; one in each county that does not | $0 | $630,000 | Basic + Expanded + 4-5 hydrogeologically significant wells per year for 10 years | $0 | $1,260,000 |
| Total | $0 | $45,000 | | $0 | $630,000 | | $0 | $1,260,000 |
| **Gaps in Surface Water Coverage*** | **Basic Level of Service** | | **Expanded Level of Service** | | | **Optimal Level of Service** | | |
| | In House | Contract Out | Expanded Description | In House | Contract Out | Optimal Description | In House | Contract Out |
| Reactivate four (4) gages | $26,800 | $0 | asic + Install five (5) new gage | $88,800 | $0 | Basic + Expanded + 1 gage per year over 10 years | $212,000 | $0 |
| Total | $26,800 | $0 | | $88,800 | $0 | | $212,000 | $0 |
| **Total Costs** | **Basic Level of Service** | | **Expanded Level of Service** | | | **Optimal Level of Service** | | |
| | In House | Contract Out | Expanded Description | In House | Contract Out | Optimal Description | In House | Contract Out |
| **Basic Totals** | $3,096,707 | $1,025,000 | | | | | | |
| **Expanded Totals** | | | | $5,363,514 | $2,240,000 | | | |
| **Optimal Totals** | | | | | | | $7,531,221 | $3,470,000 |

## Appendix A: Locations of proposed State Observation Wells and Geophysical Cores

| Location | Level of Service | GWMA |
|---|---|---|
| Surpirse Hill; 7 Wells | Basic | Expanded |
| Haynesville, 7 wells | Basic | Expanded |
| Oak Grove, 7 Wells | Basic | Expanded |
| King George C.H.; 7 Wells, 1 Core | Basic | Expanded |
| Mason Neck State Park; 1 Core | Expanded | Expanded |
| Aquia Creek; 1 Core | Expanded | Expanded |
| Mathias Point Neck; 1 Core | Expanded | Expanded |
| Colonial Beach; 1 Core | Expanded | Expanded |
| Coels point; 1 Core | Expanded | Expanded |
| Lewisetta; 1 Core | Expanded | Expanded |
| Kilmarnock, 1 Core | Expanded | Expanded |
| Tappahannock; 1 Core | Basic | Expanded |
| Ark; 7 Wells, 1 Core | Basic | Expanded |
| Deltaville; 7 Wells, 1 Core | Basic | Expanded |
| Urbanna; 7 Wells, 1 Core | Basic | Expanded |
| Bowling Green; 7 Wells, 1 Core | Basic | Expanded |
| King and Queen C.H.; 7 Wells, 1 Core | Basic | Expanded |
| West Point; 7 Wells, 1 Core | Basic | Expanded |
| Millers Tavern; 7 Wells, 1 Core | Expanded | Expanded |
| Newtown; 7 Wells, 1 Core | Expanded | Expanded |
| Carmel Church; 7 Wells, 1 Core | Expanded | Expanded |
| Glouchester Point; 7 Wells, 1 Core | Expanded | Expanded |
| Darden Mill Pond; 6 Wells | Basic | Current |
| Vicks Island; 6 Wells | Basic | Current |
| Careys Bridge; 6 Wells | Basic | Current |
| St. Marks Church; 6 Wells | Basic | Current |
| Assamoosick Swamp; 6 Wells | Basic | Current |
| Peters Bridge; 6 Wells | Basic | Current |
| St. Lukes Church; 6 Wells | Basic | Current |
| Piney point Aquifer; 8 Wells | Basic | Current |
| New Kent James/City County; 8 Wells | Basic | Current |
| Roundabout; 5 Wells | Basic | Current |
| Annabelle Lee; 5 Wells | Basic | Current |
| Fairgrounds; 5 Wells | Basic | Current |
| Lakeside; 5 Wells | Basic | Current |
| Lewistown; 5 Wells | Basic | Current |
| Camptown; 5 Wells | Basic | Current |
| Carrsville; 1 Core | Basic | Current |
| Holland; 1 Core | Basic | Current |
| Carrolton; 1 Core | Expanded | Current |

# Appendix B

# 2010 SESSION

**INTRODUCED**

10100150D

## SENATE BILL NO. 569

Offered January 13, 2010
Prefiled January 13, 2010

*A BILL to amend the Code of Virginia by adding a section numbered 62.1-44.38:2, relating to establishing the State Water Supply Plan Advisory Committee.*

Patrons—Ticer and Miller, J.C.; Delegates: Abbitt, Bulova, Morgan and O'Bannon

Referred to Committee on Agriculture, Conservation and Natural Resources

**Be it enacted by the General Assembly of Virginia:**

**1. That the Code of Virginia is amended by adding a section numbered 62.1-44.38:2 as follows:**

*§ 62.1-44.38:2. State Water Supply Plan Advisory Committee established.*

*A. The State Water Supply Plan Advisory Committee (the "Committee") is hereby established as an advisory committee to assist the Department of Environmental Quality in developing and implementing the state water resources plan. The Committee shall be appointed by the Director of the Department of Environmental Quality and shall be composed of nonlegislative citizen members representing industrial and municipal water users; public and private water providers; agricultural, conservation, and environmental organizations; state and federal agencies; and university faculty with expertise in water resources-related issues. The Committee shall meet at least twice each calendar year.*

*Members of the Committee shall receive no compensation for their service and shall not be entitled to reimbursement for expenses incurred in the performance of their duties.*

*B. The Committee shall examine: (i) procedures for incorporating local and regional water supply plans into the state water resources plan and minimizing potential conflicts among various submitted plans; (ii) the development of methodologies for calculating actual and anticipated future water demand; (iii) the funding necessary to ensure that the needed technical data for development of a statewide planning process is available; (iv) the effectiveness of the planning process in encouraging the aggregation of users into common planning areas based on watershed or geographic boundaries; (v) the impact of consumptive use and reuse on water resources; (vi) opportunities for use of alternative water sources, including water reuse and rainwater harvesting; (vii) environmental flows necessary for the protection of instream beneficial use of water for fish and wildlife habitat; and (viii) other policies and procedures that the Director of the Department of Environmental Quality determines may enhance the effectiveness of water supply and water resources planning in Virginia.*

# Appendix C

10100199D

# HOUSE BILL NO. 696

Offered January 13, 2010

Prefiled January 12, 2010

*A BILL to amend and reenact § 62.1-44.38 of the Code of Virginia, relating to requiring the reporting of water withdrawals from surface waters and groundwater; penalty.*

Patrons—Bulova, Morgan and Abbitt; Senator: Ticer

Referred to Committee on Agriculture, Chesapeake and Natural Resources

**Be it enacted by the General Assembly of Virginia:**

**1. That § 62.1-44.38 of the Code of Virginia is amended and reenacted as follows:**

§ 62.1-44.38. Plans and programs; registration of certain data by water users; advisory committees; committee membership for federal, state, and local agencies; fund established; water supply planning assistance.

A. The Board shall prepare plans and programs for the management of the water resources of this Commonwealth in such a manner as to encourage, promote and secure the maximum beneficial use and control thereof. These plans and programs shall be prepared for each major river basin of this Commonwealth, and appropriate subbasins therein, including specifically the Potomac-Shenandoah River Basin, the Rappahannock River Basin, the York River Basin, the James River Basin, the Chowan River Basin, the Roanoke River Basin, the New River Basin, the Tennessee-Big Sandy River Basin, and for those areas in the Tidewater and elsewhere in the Commonwealth not within these major river basins. Reports for each basin shall be published by the Board.

B. In preparing river basin plan and program reports enumerated in subsection A ~~of this section~~, the Board shall (i) estimate current water withdrawals and use for agriculture, industry, domestic use, and other significant categories of water users; (ii) project water withdrawals and use by agriculture, industry, domestic water use, and other significant categories of water users; (iii) estimate, for each major river and stream, the minimum instream flows necessary during drought conditions to maintain water quality and avoid permanent damage to aquatic life in streams, bays, and estuaries; (iv) evaluate, to the extent practicable, the ability of existing subsurface and surface waters to meet current and future water uses, including minimum instream flows, during drought conditions; (v) evaluate, in cooperation with the Virginia Department of Health and local water supply managers, the current and future capability of public water systems to provide adequate quantity and quality of water; (vi) identify water management problems and alternative water management plans to address such problems; and (vii) evaluate hydrologic, environmental, economic, social, legal, jurisdictional, and other aspects of each alternative management strategy identified.

C. The Board ~~may~~ *shall*, by regulation, require each water user withdrawing surface or subsurface water or both during each year to register, by a date to be established by the Board, water withdrawal and use data for the previous year including the estimated average daily withdrawal, maximum daily withdrawal, sources of water withdrawn, and volume of wastewater discharge, provided that the withdrawal exceeds one million gallons in any single month for use for crop irrigation, or that the daily average during any single month exceeds 10,000 gallons per day for all other users. *If the Board finds that a person required to register and report water withdrawal data under this subsection and the regulations adopted pursuant to this subsection has failed to submit the required report, it shall notify such person of the reporting requirement. The person shall have 60 days after the notice to submit the report. If, after 60 days the person has failed to submit the report, the Department may assess a civil penalty by the Board not to exceed $1,000. Each day of violation may constitute a separate offense. With the consent of any person in violation of this subsection, the Board may provide, in an order issued by the Board against the person, for the payment of civil charges and the performance of injunctive relief. All civil penalties and charges collected shall be deposited in the Water Supply Plan Fund established in subsection D.*

D. *There is hereby established a special, nonreverting fund in the state treasury to be known as the Water Supply Plan Fund (the Fund). The Fund shall consist of the civil penalties assessed by the Board pursuant to subsection C. No part of the Fund, either principal or interest, shall revert to the general fund. The Fund shall be administered by the Director and shall be used solely for administration of the water supply planning responsibilities of the Department of Environmental Quality.*

*E.* The Board shall establish advisory committees to assist it in the formulation of such plans or programs and in formulating recommendations called for in subsection ~~E of this section~~ *F*. In this connection, the Board may include committee membership for branches or agencies of the federal

government, branches or agencies of the Commonwealth, branches or agencies of the government of any state in a river basin located within that state and Virginia, the political subdivisions of the Commonwealth, and all persons and corporations interested in or directly affected by any proposed or existing plan or program.

~~E~~*F*. The Board shall prepare plans or programs and shall include in reports prepared under subsection A ~~of this section~~ recommended actions to be considered by the General Assembly, the agencies of the Commonwealth and local political subdivisions, the agencies of the federal government, or any other persons that the Board may deem necessary or desirable for the accomplishment of plans or programs prepared under subsection B ~~of this section~~.

~~F~~*G*. In addition to the preparation of plans called for in subsection A ~~of this section~~, the Board, upon written request of a political subdivision of the Commonwealth, shall provide water supply planning assistance to such political subdivision, to include assistance in preparing drought management strategies, water conservation programs, evaluation of alternative water sources, state enabling legislation to facilitate a specific situation, applications for federal grants or permits, or other such planning activities to facilitate intergovernmental cooperation and coordination.

# Appendix D

DEQ
VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

VDH VIRGINIA DEPARTMENT OF HEALTH
*Protecting You and Your Environment*

# MEMORANDUM OF UNDERSTANDING

## VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY AND VIRGINIA DEPARTMENT OF HEALTH

## INFORMATION SHARING FOR WATER SUPPLY PLANNING

This Memorandum of Understanding (MOU) describes the coordinated responsibilities between the Virginia Department of Environmental Quality (DEQ) and the Virginia Department of Health (VDH) to assist in the implementation of DEQ's Local and Regional Water Supply and Water Resource Characterization Program. Pursuant to 9VAC25-780 *et. seq.*, DEQ must establish a planning process and criteria for all local governments to use in the development of local or regional water supply plans. Water supply data utilized for plan development by the local governments and in developing tools for evaluating water withdrawal and water availability may be available from information collected by the VDH.

This MOU provides a coordinated interagency approach for the collection and sharing of waterworks and well construction data used in the development of local and regional water supply plans within the Commonwealth. It states the intentions of the signatory agencies to coordinate their efforts to carry out their duties and does not modify the statutory authorities or duties of either signatory agency. This MOU is not a contract enforceable in any judicial or administrative forum and does not create any rights or duties of any party that is not a signatory.

## I. Applicable Laws and Regulations

This MOU establishes guidelines for collaboration between VDH and DEQ staff in meeting the regulatory requirements of the State Water Control Board Water Supply Planning Regulations, 9VAC25-780 *et. seq.*, and providing access to records of the well location and construction details necessary for water supply planning.

This coordination addresses the agency requirements associated with well system capacity and withdrawal permitting as they relate to water supply planning.

## II. Coordination

A. Cooperative Process: VDH and DEQ staff to coordinate local and regional data requests.

The VDH Office of Drinking Water (ODW), VDH Office of Environmental Health Services (OEHS) and DEQ Water Division (WD) will work cooperatively to ensure

public water supply information (as required under the Virginia Waterworks Regulations and the Private Well Regulations) is available to municipalities (through DEQ) as they work to meet the requirements of the water supply planning regulations. VDH ODW Field Offices and OEHS will provide access to records for water supply planning to DEQ upon request. VDH will provide DEQ a listing of the ODW Field Directors by Field Office and Environmental Health Managers by Health Department, as well as contact staff in both ODW and OEHS.

B. Provide copies of new GW-2 forms submitted to VDH and well site approval letters for new community and non-community water systems (any GW-2 forms submitted for private wells are also requested).
VDH will continue to provide copies of the GW-2 forms submitted to VDH to a single DEQ point of contact. These will be provided at least quarterly.

C. OEHS will provide data from water well completion reports for private wells that have been entered into the VDH database (VENIS).
VDH OEHS will provide an electronic report, formatted in an excel spreadsheet, to the DEQ point of contact via email on a monthly schedule.

D. Provide copies of the 12VAC5-590-1280:7 Appendix G Reports and Engineering Description Sheets for Public Water Supplies.
VDH will provide DEQ access to existing Waterworks Operation Permits and Engineering Description Sheets located in the appropriate ODW Field Offices around the Commonwealth. For newly approved public waterworks, VDH will provide DEQ point of contact with the Waterworks Operation Permit and the Engineering Description Sheet.

## III. Signatures

Until otherwise modified or terminated, the undersigned, representing their respective agencies, agree that, while this is a non-binding MOU, the above described procedures will be used cooperatively by VDH and DEQ in the development of local and regional water supply plans.

Signed: _____ Date: 1/11/2010
David K. Paylor
Director, Virginia Department of Environmental Quality

Signed: _____ Date: 1/8/10
Karen Remley, MD, MBA, FAAP
Commissioner, Virginia Department of Health

# Appendix E

10100266D

# HOUSE BILL NO. 1137

Offered January 13, 2010

Prefiled January 13, 2010

*A BILL to amend and reenact § 62.1-44.15:6 of the Code of Virginia, relating to ground water withdrawal permit fee.*

Patrons—Morgan and Abbitt; Senator: Ticer

Referred to Committee on Agriculture, Chesapeake and Natural Resources

**Be it enacted by the General Assembly of Virginia:**

**1. That § 62.1-44.15:6 of the Code of Virginia is amended and reenacted as follows:**

§ 62.1-44.15:6. Permit fee regulations.

A. The Board shall promulgate regulations establishing a fee assessment and collection system to recover a portion of the State Water Control Board's, the Department of Game and Inland Fisheries' and the Department of Conservation and Recreation's direct and indirect costs associated with the processing of an application to issue, reissue, amend or modify any permit or certificate, which the Board has authority to issue under this chapter and Chapters 24 (§ 62.1-242 et seq.) and 25 (§ 62.1-254 et seq.) of this title, from the applicant for such permit or certificate for the purpose of more efficiently and expeditiously processing permits. The fees shall be exempt from statewide indirect costs charged and collected by the Department of Accounts. The Board shall have no authority to charge such fees where the authority to issue such permits has been delegated to another agency that imposes permit fees.

B1. Permit fees charged an applicant for a Virginia Pollutant Discharge Elimination System permit or a Virginia Pollution Abatement permit shall reflect the average time and complexity of processing a permit in each of the various categories of permits and permit actions. However, notwithstanding any other provision of law, in no instance shall the Board charge a fee for a permit pertaining to a farming operation engaged in production for market or for a permit pertaining to maintenance dredging for federal navigation channels or other Corps of Engineers sponsored dredging projects or for the regularly scheduled renewal of an individual permit for an existing facility. Fees shall be charged for a major modification or reissuance of a permit initiated by the permittee that occurs between permit issuance and the stated expiration date. No fees shall be charged for a modification or amendment made at the Board's initiative. In no instance shall the Board exceed the following amounts for the processing of each type of permit/certificate category:

| Type of Permit/Certificate Category | Maximum Amount |
|---|---|
| 1. Virginia Pollutant Discharge Elimination System | |
| Major Industrial | $24,000 |
| Major Municipal | $21,300 |
| Minor Industrial with nonstandard limits | $10,300 |
| Minor Industrial with standard limits | $ 6,600 |
| Minor Municipal greater than 100,000 gallons per day | $7,500 |
| Minor Municipal 10,001-100,000 gallons per day | $6,000 |
| Minor Municipal 1,000-10,000 gallons per day | $5,400 |
| Minor Municipal less than 1,000 gallons per day | $2,000 |
| General-industrial stormwater management | $ 500 |
| General-stormwater management-phase I land clearing | $ 500 |
| General-stormwater management-phase II land clearing | $ 300 |
| General-other | $ 600 |
| 2. Virginia Pollution Abatement | |
| Industrial/Wastewater 10 or more | $15,000 |

| | |
|---|---|
| inches per year | |
| Industrial/Wastewater less than 10 inches per year | $10,500 |
| Industrial/Sludge | $ 7,500 |
| Municipal/Wastewater | $13,500 |
| Municipal/Sludge | $ 7,500 |
| General Permit | $ 600 |
| Other | $ 750 |

The fee for the major modification of a permit or certificate that occurs between the permit issuance and expiration dates shall be 50 percent of the maximum amount established by this subsection. No fees shall be charged for minor modifications or minor amendments to such permits. For the purpose of this subdivision, "minor modifications" or "minor amendments" means specific types of changes defined by the Board that are made to keep the permit current with routine changes to the facility or its operation that do not require extensive review. A minor permit modification or amendment does not substantially alter permit conditions, increase the size of the operation, or reduce the capacity of the facility to protect human health or the environment.

B2. Each permitted facility shall pay a permit maintenance fee to the Board by October 1 of each year, not to exceed the following amounts:

| Type of Permit/Certificate Category | Maximum Amount |
|---|---|
| 1. Virginia Pollutant Discharge Elimination System | |
| Major Industrial | $4,800 |
| Major Municipal greater than 10 million gallons per day | $4,750 |
| Major Municipal 2-10 million gallons per day | $4,350 |
| Major Municipal less than 2 million gallons per day | $3,850 |
| Minor Industrial with nonstandard limits | $2,040 |
| Minor Industrial with standard limits | $1,320 |
| Minor Industrial water treatment system | $1,200 |
| Minor Municipal greater than 100,000 gallons per day | $1,500 |
| Minor Municipal 10,001-100,000 gallons per day | $1,200 |
| Minor Municipal 1,000-10,000 gallons per day | $1,080 |
| Minor Municipal less than 1,000 gallons per day | $ 400 |
| 2. Virginia Pollution Abatement | |
| Industrial/Wastewater 10 or more inches per year | $3,000 |
| Industrial/Wastewater less than 10 inches per year | $2,100 |
| Industrial/Sludge | $3,000 |
| Municipal/Wastewater | $2,700 |
| Municipal/Sludge | $1,500 |

An additional permit maintenance fee of $1,000 shall be collected from facilities in a toxics management program and an additional permit maintenance fee shall be collected from facilities that have more than five process wastewater discharge outfalls. Permit maintenance fees shall be collected annually and shall be remitted by October 1 of each year. For a local government or public service authority with permits for multiple facilities in a single jurisdiction, the permit maintenance fees for permits held as of April 1, 2004, shall not exceed $20,000 per year. No permit maintenance fee shall be assessed for facilities operating under a general permit or for permits pertaining to a farming operation engaged in production for market.

B3. Permit application fees charged for Virginia Water Protection Permits, ground water withdrawal permits, and surface water withdrawal permits shall reflect the average time and complexity of processing a permit in each of the various categories of permits and permit actions and the size of the

proposed impact. Only one permit fee shall be assessed for a water protection permit involving elements of more than one category of permit fees under this section. The fee shall be assessed based upon the primary purpose of the proposed activity. In no instance shall the Board charge a fee for a permit pertaining to maintenance dredging for federal navigation channels or other U.S. Army Corps of Engineers-sponsored dredging projects, and in no instance shall the Board exceed the following amounts for the processing of each type of permit/certificate category:

| Type of Permit | Maximum Amount |
|---|---|
| 1. Virginia Water Protection | |
| Individual-wetland impacts | $2,400 plus $220 per 1/10 acre of impact over two acres, not to exceed $60,000 |
| Individual-minimum | $25,000 |
| instream flow | $35,000 |
| Individual-reservoir | $7,500 |
| Individual-nonmetallic mineral mining | $0 |
| General-less than 1/10 acre impact | $600 |
| General-1/10 to 1/2 acre impact | $1,200 |
| General-greater than 1/2 to one acre impact | $120 per 1/10 acre of impact |
| General-greater than one acre to two acres of impact | $~~6,000~~*12,000* |
| 2. Ground Water Withdrawal | $12,000 |
| 3. Surface Water Withdrawal | |

No fees shall be charged for minor modifications or minor amendments to such permits. For the purpose of this subdivision, "minor modifications" or "minor amendments" means specific types of changes defined by the Board that are made to keep the permit current with routine changes to the facility or its operation that do not require extensive review. A minor permit modification or amendment does not substantially alter permit conditions, increase the size of the operation, or reduce the capacity of the facility to protect human health or the environment.

*B4. The Board may establish a schedule for annualizing the ground water withdrawal permit fee.*

C. When promulgating regulations establishing permit fees, the Board shall take into account the permit fees charged in neighboring states and the importance of not placing existing or prospective industries in the Commonwealth at a competitive disadvantage.

D. Beginning January 1, 1998, and January 1 of every even-numbered year thereafter, the Board shall make a report on the implementation of the water permit program to the Senate Committee on Agriculture, Conservation and Natural Resources, the Senate Committee on Finance, the House Committee on Appropriations, the House Committee on Agriculture, Chesapeake and Natural Resources and the House Committee on Finance. The report shall include the following: (i) the total costs, both direct and indirect, including the costs of overhead, water quality planning, water quality assessment, operations coordination, and surface water and ground water investigations, (ii) the total fees collected by permit category, (iii) the amount of general funds allocated to the Board, (iv) the amount of federal funds received, (v) the Board's use of the fees, the general funds, and the federal funds, (vi) the number of permit applications received by category, (vii) the number of permits issued by category, (viii) the progress in eliminating permit backlogs, (ix) the timeliness of permit processing, and (x) the direct and indirect costs to neighboring states of administering their water permit programs, including what activities each state categorizes as direct and indirect costs, and the fees charged to the permit holders and applicants.

E. Fees collected pursuant to this section shall not supplant or reduce in any way the general fund appropriation to the Board.

F. Permit fee schedules shall apply to permit programs in existence on July 1, 1992, any additional permits that may be required by the federal government and administered by the Board, or any new permit required pursuant to any law of the Commonwealth.

G. The Board is authorized to promulgate regulations establishing a schedule of reduced permit fees for facilities that have established a record of compliance with the terms and requirements of their permits and shall establish criteria by regulation to provide for reductions in the annual fee amount

assessed for facilities accepted into the Department's programs to recognize excellent environmental performance.

# Appendix F

# 2010 SESSION

INTRODUCED

10100063D

## HOUSE BILL NO. 697

Offered January 13, 2010
Prefiled January 12, 2010

*A BILL to amend and reenact § 62.1-44.15:20 of the Code of Virginia, relating to the issuance of a Virginia Water Protection Permit.*

Patrons—Bulova, Morgan and Abbitt; Senator: Ticer

Referred to Committee on Agriculture, Chesapeake and Natural Resources

**Be it enacted by the General Assembly of Virginia:**

**1. That § 62.1-44.15:20 of the Code of Virginia is amended and reenacted as follows:**

§ 62.1-44.15:20. Virginia Water Protection Permit.

A. Except in compliance with an individual or general Virginia Water Protection Permit issued in accordance with this article, it shall be unlawful to:

1. Excavate in a wetland;

2. On or after October 1, 2001, conduct the following in a wetland:

a. New activities to cause draining that significantly alters or degrades existing wetland acreage or functions;

b. Filling or dumping;

c. Permanent flooding or impounding; or

d. New activities that cause significant alteration or degradation of existing wetland acreage or functions; or

3. Alter the physical, chemical, or biological properties of state waters and make them detrimental to the public health, animal or aquatic life, or to the uses of such waters for domestic or industrial consumption, or for recreation, or for other uses unless authorized by a certificate issued by the Board~~;~~.

B. The Board shall, after providing an opportunity for public comment, issue a Virginia Water Protection Permit if it has determined that the proposed activity is consistent with the provisions of the Clean Water Act and the State Water Control Law and will protect instream beneficial uses. *The Board may, as part of its determination, consider whether the proposed activity is in accordance with the state water resources plan developed consistent with the objectives of the comprehensive water supply planning process as described in subsection A of § 62.1-44.38:1.*

C. Prior to the issuance of a Virginia Water Protection Permit, the Board shall consult with and give full consideration to the written recommendations of the following agencies: the Department of Game and Inland Fisheries, the Department of Conservation and Recreation, the Virginia Marine Resources Commission, the Department of Health, the Department of Agriculture and Consumer Services, and any other interested and affected agencies. Such consultation shall include the need for balancing instream uses with offstream uses. Agencies may submit written comments on proposed permits within 45 days after notification by the Board. If written comments are not submitted by an agency within this time period, the Board shall assume that the agency has no comments on the proposed permit.

D. Issuance of a Virginia Water Protection Permit shall constitute the certification required under § 401 of the Clean Water Act.

E. No locality may impose wetlands permit requirements duplicating state or federal wetlands permit requirements.

F. The Board shall assess compensation implementation, inventory permitted wetland impacts, and work to prevent unpermitted impacts to wetlands.