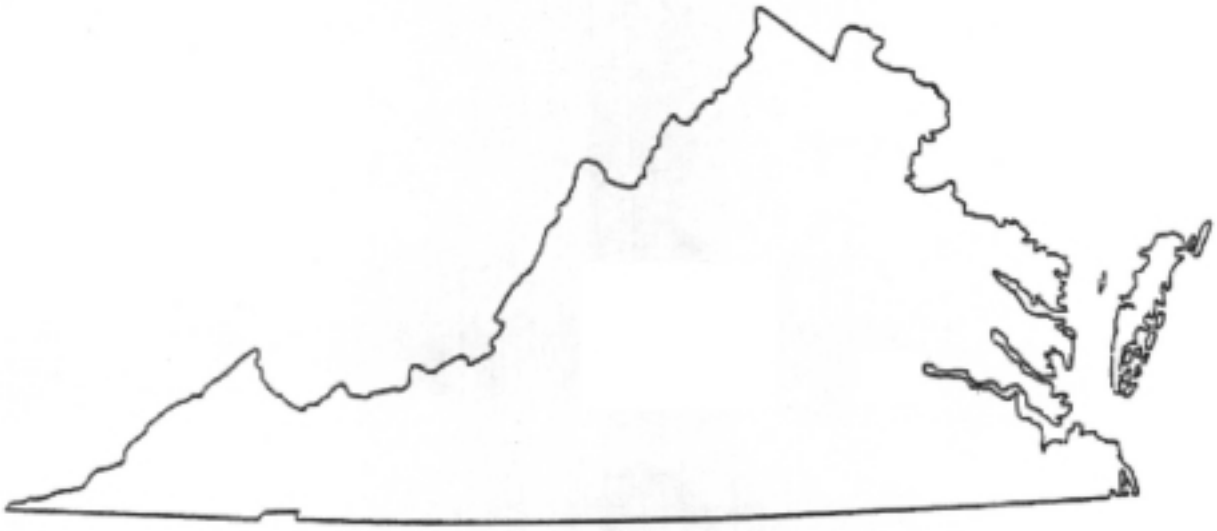
VIRGINIA SOURCE WATER ASSESSMENT PROGRAM



Virginia Department of Health

VDH VIRGINIA DEPARTMENT OF HEALTH

Protecting You and Your Environment

DATE: **October 15, 1999**

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I. Introduction

Section 1453 of the 1996 Amendments to the Safe Drinking Water Act (SDWA) requires each State to develop a Source Water Assessment Program (SWAP) that will:

- "delineate the boundaries of the assessment areas in such State from which one or more public water systems in the State receive supplies of drinking water, using all reasonably available hydrogeologic information on the sources of the supply of drinking water in the State and the water flow, recharge, and discharge and any other reliable information as the State deems necessary to adequately determine such areas; and

- identify for contaminants regulated under this title for which monitoring is required under this title (or any unregulated contaminants selected by the State, in its discretion, which the State, for the purposes of this subsection, has determined may present a threat to public health), to the extent practical, the origins within each delineated area of such contaminants to determine the susceptibility of the public water systems in the delineated area to such contaminants."

In addition, "The State shall make the results of the source water assessments conducted under this subsection available to the public."

The Virginia Department of Health (VDH) herein describes Virginia's strategic approach to conducting the assessments including Virginia's criteria for delineating the boundaries of the source water assessment areas, the significant potential sources of contamination to be inventoried in the delineated area and the methodology for completing susceptibility determinations for each source. Public participation in the development of the SWAP is described as well as how Virginia will make the results of assessments available to the public.

II. Description of Public Participation

VDH developed the SWAP by utilizing three (3) separate committees/teams:

- Waterworks Advisory Committee (WAC) – This was an existing committee (see Addendum B) that offered a wide array of technical and citizen involvement. The WAC had general oversight and input and their conceptual concurrence on the SWAP was obtained prior to submittal.

- Source Water Protection Team (Team) – The Team was made up of VDH representatives and members from the WAC (see Addendum C). Their function was to develop the details of the SWAP with guidance from the other two committees.

- Source Water Assessment Technical and Citizens Committee (TAC) – The TAC was established to meet Section 1428(b) of the SDWA public participation requirements. The membership is shown in Addendum D. Some of the TAC's functions included advice and guidance on the Team's recommendations, responding to EPA's specific Key Issues listed in the guidance and final concurrence on the SWAP. The VDH published a notice in Volume 15 Issue 4 of the Virginia Register seeking participation on the TAC to develop the SWAP. Many state and federal agencies were directly solicited for participation as well as individuals that had expressed interest at the EPA SWAP workshop held in Raleigh, NC on May 29-30, 1997 and at a Chesapeake/Virginia joint AWWA workshop in Falls Church, VA on August 7, 1997. Special efforts were expended to include citizen, environmental group, and sensitive population representatives on the TAC.

The following is a list of dates that each committee/team met relative to the SWAP.

Team	TAC	WAC
January 27, 1998	February 25, 1998	November 19, 1998
February 23, 1998	April 30, 1998	January 21, 1999
April 22, 1998	June 9, 1998	
June 2, 1998	June 30, 1998	
July 7, 1998	September 18, 1998	
August 11, 1998	October 22, 1998	
September 3, 1998	November 5, 1998	
September 30, 1998	November 17, 1998	
October 1, 1998		
October 28, 1998		

Responses to questions from tables 1, 2, 3,4, 5, and 6 in the EPA final guidance document entitled *State Source Water Assessment And Protection Programs Guidance,* dated August 1997 are found in Appendix E.

III. SWAP Development Approach

A. Goals:

1. Assessments will be conducted for the protection and benefit of waterworks thereby protecting the public's health and for the support of monitoring flexibility.

2. Assessments will provide meaningful information to direct ongoing source water protection efforts and the overall drinking water program in the state.

3. Assessments will be available to the waterworks owner who will be encouraged to proceed with source water protection programs.

4. Assessments will be updated as new data becomes available.

5. Assessments will use relevant data from existing state, federal and other databases.

6. Assessments of all sources will be completed within 42 months of EPA approval of the SWAP.

B. Basis:

1. Section 1453 (a) (6) Use of Other Programs – "to avoid duplication and to encourage efficiency, the program under this section may make use of any of the following: vulnerability assessments, sanitary surveys, and monitoring programs."

2. Effort will be directed at maximizing the use of existing information. This information may include:

   - Data developed in completing the Groundwater Under Direct Influence of Surface Water (GUDIS) assessments

   - Data compiled to evaluate applications for waivers to Phase II/V monitoring

   - Data from sanitary surveys of waterworks conducted by VDH personnel and consultants

   - Results from chemical and bacteriological monitoring programs

   - Evaluation of a waterworks compliance with Virginia's comprehensive design and construction regulations.

3. Geographic Information Systems (GIS) mapping of source water assessment areas will be provided.

4. This will be considered an initial assessment. As new data becomes available, assessments may be modified.

5. The delineation and land use activity (LUA) inventory included herein is considered minimum criteria to be utilized in the assessment.

C. Product (Deliverables)

Products will indicate where intensified site-specific source water protection will be needed and will include:

- maps of source water assessment areas showing delineations and land use activities;
- susceptibility determinations necessary for tailoring monitoring for chemical contaminants; and
- information useful to future regulatory decisions (e.g. Ground Water Rule).

IV. Source Water Assessment Areas Delineation

A. Ground Water Sources

1. VDH through the TEAM, TAC, WAC and Public Participation has determined that a fixed radius delineation approach for groundwater sources is the approach of choice for Virginia. The advantages and disadvantages of the six methods suggested by EPA in the June 1987, *Guidelines for Delineation of Wellhead Protection Areas* were considered. The basis for choosing the fixed radius approach is:

   - Virginia's regulatory permitting systems for contaminant releases to the environment, which locates sources of potential pollutants. These sources of contaminant releases will be utilized in the source water assessments.

   - VDH's public water supply well construction and abandonment regulations.

   - VDH's sanitary surveillance program for drinking water supplies where VDH staff performs surveys every 12 to 18 months.

   - VDH's chemical and bacteriological monitoring requirements for public water supplies per the SDWA and a Virginia program for routine raw water bacteriological monitoring to detect changes in microbiological quality.

   - VDH's completion of the GUDIS assessments has already identified those sources experiencing microbiological contamination resulting from surface water influence.

   - VDH's completion of vulnerability assessments for synthetic organic chemicals under the Safe Drinking Water Act Phase II/V Rule Waiver Program based on 1000 foot fixed radius assessment zones.

   - VDH's contract with the United States Geological Survey (USGS) to perform a statewide aquifer study which may identify areas where a more detailed delineation may be beneficial.

   - VDH's contract with the Virginia Department of Conservation and Recreation (DCR) to perform detailed studies in Karst areas where detailed delineation may be beneficial.

   - The costs of the other delineation methods exceed the incremental improvement of data quality expected for the other methods.

   - Neither the waterworks owners or VDH have adequate staff and financial resources to complete more complex delineations in the allotted time frame.

   - The reality that future assessments will be required due to new EPA Regulations.

2. Assessment Areas

- Zone 1– 1000 foot fixed radius – inventory land use activities (LUA) listed in Tables 1 and 2 including PSC sites as described for Zone 2 and potential conduits to groundwater listed in Table 3 (see Appendix F).

- Zone 2 – 1 mile fixed radius – identify potential sources of contamination (PSC) sites shown on GIS layers available from other regulatory authorities or other sources (Virginia Pollutant Discharge Elimination System (VPDES) discharges, tire piles, landfills, superfund sites, etc.).

B. Surface Water Sources

1. VDH through the TEAM, TAC, WAC and Public Participation has determined that a 5-mile fixed distance delineation approach for surface water sources is the approach of choice for Virginia. The advantages and disadvantages of time of travel versus fixed distance were considered. The basis for choosing the fixed distance approach is:

- The 5-mile distance is a recognizable figure utilized by VDH and the Virginia Department of Environmental Quality (DEQ). It is based on Section 15.2-2109 of the Code of Virginia, which specifies that local governments may prevent water pollution within 5-miles of a water supply intake.

- VDH's completion of vulnerability assessments for synthetic organic chemicals under the Safe Drinking Water Act Phase II/V Rule Waiver Program based on 5-mile assessment zones for non-tidal sources. The results of these vulnerability assessments will be utilized in the source water assessments.

- Virginia's regulatory permitting system for contaminant releases to the environment, which locates sources of potential pollutants. These sources of contaminant releases will be utilized in the source water assessments.

- VDH's public water supply construction and operations regulations. These regulations offer a substantial barrier to contaminants of public health consequent reaching the consumer.

- VDH's mandatory filtration requirement reduces threats to public health from microbiological organisms. These requirements offer a substantial barrier to these organisms reaching the consumer.

- VDH's sanitary surveillance program for drinking water supplies where VDH staff performs surveys every 6 months ensuring that filtration plants are operated properly. This surveillance program further strengthens the barriers to contamination. Changes in land use activities will be noted and utilized in refining assessments.

- VDH's chemical and bacteriological monitoring requirements for public water supplies. These requirements provide continuous monitoring of water quality changes and monitoring data will be utilized in the assessments.

- The possibility that future assessments will be required due to new EPA Regulations.

2. Assessment Area

   a. Non-Tidal Source Intakes or Pumped Storage Project Intakes

      - Distance upgradient from intake (limited only by topographic boundaries) (see Appendix G).

      - Zone 1: Watershed bounded by a 5-mile radius – inventory land use activities listed in Tables 1 and 2 including PSC sites as described for Zone 2.

      - Zone 2: Watershed >5 mile radius – identify PSC sites shown on GIS layers available from other regulatory authorities or other sources (VPDES discharges, tire piles, landfills, Superfund sites, etc.).

   b. Tidal Source Intakes

      - Distance upgradient and downgradient from intake (limited only by topographic boundaries).

      - Zone 1: Watershed bounded by a 5-mile radius – inventory land use activities listed in Tables 1 and 2 including PSC sites as described for Zone 2.

      - Zone 2: Watershed >5 mile radius – identify PSC sites shown on GIS layers available from other regulatory authorities or other sources (VPDES discharges, tire piles, landfills, Superfund sites, etc.).

   c. Impoundment Intakes

      - Distance from intake (limited only by topographic boundaries) (see Appendix G).

      - Zone 1: Watershed bounded by a 5-mile radius – inventory land use activities listed in Tables 1 and 2 including PSC sites as described for Zone 2.

- Zone 2: Watershed >5 mile radius – identify PSC sites shown on GIS layers available from other regulatory authorities or other sources (VPDES discharges, tire piles, landfills, Superfund sites, etc.).

C. GUDIS Source Assessment Area

1. No identified flowing surface source

- Zone 1 – 1000 foot fixed radius inventory land use activities listed in Tables 1 and 2 including PSC sites as described for Zone 2 and potential conduits to groundwater listed in Table 3.

- Zone 2 – 1 mile fixed radius – identify PSC sites shown on GIS layers available from other regulatory authorities or other sources (VPDES discharges, tire piles, landfills, superfund sites, etc.). VDH may choose to extend the delineation for more distant upstream sources where appropriate.

2. Identified flowing surface source

- Zone 1 – 1000 foot fixed radius inventory land use activities listed in Tables 1 and 2 including PSC sites as described for Zone 2 and potential conduits to groundwater listed in Table 3.

- In addition, utilize the surface water Non-Tidal Source assessment area (IV.B.2.a) considering the well as the intake structure.

D. Conjunctive Delineation

VDH through its TEAM, TAC, WAC and Public Participation has evaluated the factors regarding the interaction of groundwater and surface water relative to public water supply sources in Virginia. Conjunctive delineation concerns are adequately addressed by the proposed groundwater and surface water assessment strategies.

V. Land Use Activity Inventory

VDH will assure that an inventory of Land Use Activities (LUA) of concern and potential conduits to groundwater (where applicable) that are present within the source water assessment area (Zone 1) is completed. The inventory shall include only those items listed in Appendix F Tables 1, 2, and 3. (Any further reference to LUAs regarding groundwater includes the potential conduits to groundwater listed in Table 3). PSC sites will be identified for Zone 1 and Zone 2. The inventory will include the name and address of the landowner.

VI. Susceptibility Determinations

A. Susceptibilty Determination Process

VDH will determine the susceptibility of a waterworks source to possible contamination using a three-step process. The first step is a sensitivity determination, which is an evaluation of the hydrogeological and physical characteristics of the source water and its assessment area. The second step is an inventory of Land Use Activities (LUA) of concern and potential conduits to groundwater (where applicable). The third step is assigning susceptibility using the criteria in Chart A below.

Chart A

Type of Source Water	Sensitive Source	LUA present in assessment area	Susceptibility
Groundwater	No	No	Very Low
Groundwater	No	Yes	Low
Groundwater	Yes	No	Moderate
Groundwater	Yes	Yes	High
Surface water	Yes	No	Moderate
Surface water	Yes	Yes	High

The final product of the process establishes one of four possible susceptibility determinations (very low, low, moderate, and high) for each source water. The details of the process are:

1. Sensitivity Determination

   a. Groundwater – VDH will classify a groundwater source as sensitive if it is constructed within a groundwater area that tends to promote contaminant migration (or provide little protection to migration of contaminants). VDH will use the *Groundwater Map of Virginia* prepared by the Virginia Water Control Board Ground Water Program, 1985; as the reference for determining the predominant groundwater areas in Virginia. These sensitive groundwater areas include:

Cumberland Plateau
Ordovician Shale
Carbonate
West Toe
Blue Ridge
Piedmont
Triassic Basin
Fall Zone
Coastal Plain-Quaternary Aquifer

VDH will not define as sensitive a properly constructed source, as verified by VDH, located within one of the sensitive groundwater areas if it has been determined by the U.S. Geological Survey (as part of the Virginia Aquifer Susceptibility study) to be developed in a confined or non-sensitive aquifer. The fundamental premise of the Virginia Aquifer Susceptibility study is to use ground-water-age determinations from various environmental tracers and isotopes as a guide for the classification of areas and aquifers in terms of susceptibility of groundwater to near-surface contamination.

VDH will define a GUDIS source as sensitive.

VDH will define as not sensitive a groundwater source which is not located in a sensitive groundwater area, if all of the following five criteria are met:

i. No known contamination of the source (as defined in Section VI-C) has been detected in the last 5 years.
ii. The well is a Class IIB (or better) well which has been constructed in accordance with the *Virginia Waterworks Regulations*.
iii. A driller's well log or the U.S. Geological Survey clearly indicates that an aquitard is present and there is no evidence to suggest it does not extend over the entire assessment area.
iv. The most recent sanitary survey confirms that the source substantially adhere to the construction standards of the *Virginia Waterworks Regulations*.
v. No known Potential Conduits to Groundwater as shown in Table 3 which penetrates the aquitard.

If the required information needed to confirm the items does not exist or is questionable then the source will be classified as sensitive.

b. Surface Water - Surface water is by nature exposed to an inconsistent array of contaminants at varying concentrations due to changing hydrologic, hydraulic and atmospheric conditions. Because all surface water sources are open to the atmosphere, they are considered sensitive.

2. Land Use Activity Inventory

VDH will use the inventory of LUAs in zone 1 in the susceptibility determination for each surface source. VDH will use the inventory of LUAs in Zone 1 and the major PSCs in Zone 2 in the susceptibility determination for each groundwater source.

3. Susceptibility Determination

VDH will use Chart A to determine the susceptibility of a source after the sensitivity determination and land use activity inventory are completed. Groundwater sources will have one of the following susceptibility determinations: Very Low, Low, Moderate or

High. Surface water sources will have one of the following susceptibility determinations: Moderate or High.
Any known contamination of the source (as defined in Section VI-C) will result in a susceptibility determination of high.

The susceptibility determination may be revised based on additional data that becomes available.

Very Low

A ground water source is not sensitive to contamination and has no known LUAs of concern within it's delineated assessment area. The results of the source water assessment will be made available to the public in accordance with Section VIII requirements.

Low

A groundwater source is not sensitive to contamination, however known LUAs of concern exist within its delineated assessment area. The LUAs will be ranked as to relative health risk (see ranking procedures) and the results of the source water assessment and the ranking will be made available to the public in accordance with Section VIII requirements.

Moderate

A ground water source is determined to be sensitive and has no known LUAs of concern within its delineated assessment area or a surface water source has no known LUAs of concern within its delineated assessment area. The results of the assessment will be made available to the public in accordance with Section VIII requirements.

High

A ground water source is determined to be sensitive and has known LUAs of concern within its delineated assessment area or a surface water source has known LUAs of concern within its delineation area. The LUAs identified must be ranked as to relative health risk (see ranking procedures). The results of the assessment and the rankings will be made available to the public in accordance with Section VIII requirements.

B. Ranking Land Use Activities Within Individual Assessment Areas

1. VDH will provide a ranking of LUAs so that waterworks and the public have a basis for determining the highest health priority for providing source water protection activities within individual assessment areas. The ranking will indicate the highest risk LUAs at the beginning of the list. For groundwater sources each Potential Conduit to Groundwater found in Table 3 will be listed. Tables 1 and 2 provide a ranking as to the relative health risk associated with each LUA. The relative health risk rankings were chosen as a collective decision by the Team and affirmed by the TAC. They are an

amalgam of the perceived risk of release of a contaminant from a LUA, chance of transport of the contaminant from the LUA to the source water, impact on the treatment process (for surface water sources) and relative public health risk of the contaminant itself. Contaminants that could produce 'acute' PMCL violations were regarded as 'high' risk, while contaminants that could produce 'non-acute' PMCL violations were regarded as 'moderate' risk. Risk factors were reduced if the chance of release and/or chance of transport and/or impact on the treatment process (for surface water sources) were considered to be low.

2. VDH (or other assessor) when possible will identify Best Management Practices (BMP) in use for each LUA. BMPs are protective measures that are the most practical and effective means of protecting source waters from pollution. Although BMP use at an identified LUA will not remove the LUA from the ranking, the information detailing each BMP at a specific LUA will be documented in the final source water assessment report for the waterworks. In addition, information regarding inappropriate operation and housekeeping, etc. at the LUA will be included in the report. The waterworks owner could then utilize this information in setting priorities for source water protection activities.

C. Additional Reporting

In addition, VDH will list any known contamination of the source within the last 5 years (regardless if the source of this contamination has or has not been identified) in the following order:

1. Acute health risk contamination of groundwater drinking water sources by microbial contamination. (i.e. a geometric mean > 3 in 20 or more total coliform MPN samples or 2 or more identified fecal coliform samples)

2. Associated health risk contamination of drinking water sources by nitrate/nitrite at ½ the PMCL or greater.

3. Existing, known and confirmed drinking water source contamination for SOC/VOCs.

4. Existing, known and confirmed drinking water source contamination (at a concentration at or above the PMCL) for combined Radium-226 and Radium-228.

5. Existing, known and confirmed drinking water source contamination (at a concentration at or above the PMCL) for IOCs.

VII. Source Water Protection Program

The source water assessment is "for the protection and benefit of the waterworks". The availability of the assessment to the owner is the first step in assisting the owner in preparing a Source Water Protection Program (SWPP). VDH will be available to provide general technical assistance to waterworks owners in developing a SWPP. VDH strongly encourages waterworks owners to provide ample opportunity for citizen involvement in source water protection activities. In addition, VDH has contracted with the Virginia Rural Water Association (VRWA) to provide direct assistance to small waterworks (pop. <10,000) in developing and implementing a SWPP. VRWA will be utilizing the Manual entitled *Implementing Wellhead Protection: Model Components for Local Governments In Virginia*, prepared by the Virginia Ground Water Protection Steering Committee.

Appendix H describes the existing Groundwater Protection Program in Virginia.

Appendix I describes laws, regulations and activities protecting surface water in Virginia.

VIII. Making Assessments Available to the Public

A. Contents of Assessment Reports

1. The assessment report will include the following:

   - A brief narrative explaining the assessment procedure and results
   - Map(s) of the delineated source water assessment areas including source location(s)
   - The location and description of inventoried LUAs within zone 1
   - The location and description of identified PSCs within zone 2
   - The name and address of identified owners of LUAs and PSCs
   - A priority ranking of the identified LUAs (with the highest risk LUA at the start of the list)
   - A listing of any known contamination of the source within the last 5 years (regardless whether or not the source of this contamination has been identified) as listed in Section VI-C.

2. The report format will be as simple as practical yet clearly identify the items. The report will be made available to the water works owner expeditiously following completion.

3. VDH is making efforts to obtain the capabilities to provide a hard copy of a GIS generated map showing the delineated assessment areas and inventoried LUAs and PSCs. If hard copies of GIS generated maps can not be produced, the information will be provided on a section of a USGS quad sheet (see Appendix J).

B. Procedures for Making Assessments Available to the Public

1. VDH responsibilities:

   a. Provide the assessment report to the waterworks owner, the local health department and a local library upon completion.

   b. Provide wide notification of the availability of the results and other information collected by use of the Internet with links to the USEPA “Surf Your Watershed” effort, the Virginia Register, the Virginia Press Association members, press releases and public service announcements on a monthly basis.

   c. Provide notification of the availability of the results and other information collected to the local health departments, extension agents and town/county/city administrators and request them to include the notice in newsletters and other communications with the public.

d. Upon specific requests for individual assessments, VDH will make every effort to provide such information. Copies of the information will be provided for a reasonable handling fee. Interested individuals who prefer to review the information without requiring copies will be allowed to do so.

e. Ensure that the Consumer Confidence Report (CCR) includes the required SWAP information.

f. Ensure that an announcement is sent to the local newspaper including the SWAP information listed in the CCR requirement below within 30 days of the completion of the assessment.

2. Waterworks Owner Responsibilities:

a. Include in the Annual Consumer Confidence Report:

- A brief summary of the susceptibility to contamination of the drinking water source, based on the completed source water assessment.

- How to get a copy of the waterworks complete source water assessment report.

b. Consider notifying customers of the availability of the completed source water assessment through billing notices or other available means, and to

c. Consider utilizing public service announcement media or other appropriate local methods to expeditiously publicize the information that will be contained in the next Consumer Confidence Report concerning the source water assessment upon receipt of the completed assessment report from the VDH.

IX. SWAP Implementation Approach

A. Timetable

1. Community and Nontransient Noncommunity waterworks completed by July 1, 2002.
2. Transient Noncommunity waterworks completed by December 31, 2002.

B. VDH Staff

1. Community and Nontransient Noncommunity – Division of Water Supply Engineering
2. Transient Noncommunity – Office of Environmental Health Services/Local Health Departments

See Charts B and C

C. Priorities (in decreasing priority order)

1. Surface Sources with River/Stream Intakes
2. Surface Sources with Reservoirs
3. Groundwater Under Direct Influence of Surface Water
4. Groundwater in Karst Geology
5. Groundwater in Unconfined Aquifers
6. Groundwater in Confined Aquifers

D. General – The VDH staff will perform the assessment on the majority of sources. Waterworks owners will be encouraged to participate in any or all phases of the assessment. In all cases, VDH will make or concur with the final susceptibility determination.

1. The general implementation approach is to initially analyze and evaluate the available data from other information sources to determine its applicability. This will be accomplished with the aid of a contractor and the Virginia Economic Development Partnership (VEDP). If data is applicable but not currently in usable format (GIS), the data will be translated. This data will be made available through the VEDP or the Virginia Geographic Information Network (VGIN). Available locational data for the land use categories will be utilized in the inventory phase of the assessment.

2. DWSRF funds have been set-aside for complex, special needs, multi-state, etc. projects. These waterworks will be given the opportunity to apply for a Source Water Assessment Grant to be utilized for their use in funding an assessment that meets the minimum criteria in the SWAP.

E. Additional Support

1. United States Geological Survey (USGS) – support on a statewide basis will be provided by the USGS to assist VDH to assess the contamination potential of waterworks source waters in the Commonwealth. A study will identify the intrinsic

natural susceptibility of regional aquifers in Virginia. VDH will apply this information in screening groundwater supplies to identify those that may require a higher level assessment during the source water protection phase. The study results will be used by VDH as part of the susceptibility determinations as available.

2. Virginia Department of Conservation and Recreation (DCR) – support on a regional or location specific basis will be provided by DCR in performing 4 to 6 geological studies per year of groundwater sources in karst areas of the Commonwealth. VDH will select the groundwater sources to be studied and will utilize the conclusions in the final source assessments.

3. Virginia Economic Development Partnership – In support of the assessment efforts, GIS services are to be performed by a subcontractor with assistance by the Virginia Economic Development Partnership.

4. Other Agencies -

    a. In support of the VDH SWAP, information from other state agencies involved in water quality assessment and protection efforts will be utilized as appropriate.

    b. The following agencies were contacted regarding availability of data that could be utilized in the SWAP: Department of Environmental Quality; Department of Conservation and Resources; Department of Mines, Minerals and Energy and; Division of Mineral Resources (State Geologist).

    c. As EPA Region III implements the UIC program in Virginia, VDH will seek to incorporate the UIC data into the assessments. VDH will work with EPA to coordinate the inspection of Class V wells in source water assessment areas.

F. Assessment Updates – VDH intends to coordinate with and utilize the assessment data for the proposed Ground Water Rule and make the information available to the waterworks owner for source water protection activities. Additionally, VDH intends to add to its sanitary survey forms a section to update Land Use Activities within Zone 1 of the source water assessment areas.

Commonwealth of Virginia

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Number of Systems with a Surface Source(s) verses Number of Systems with a Groundwater Source(s)

Total Number of Systems = 3805

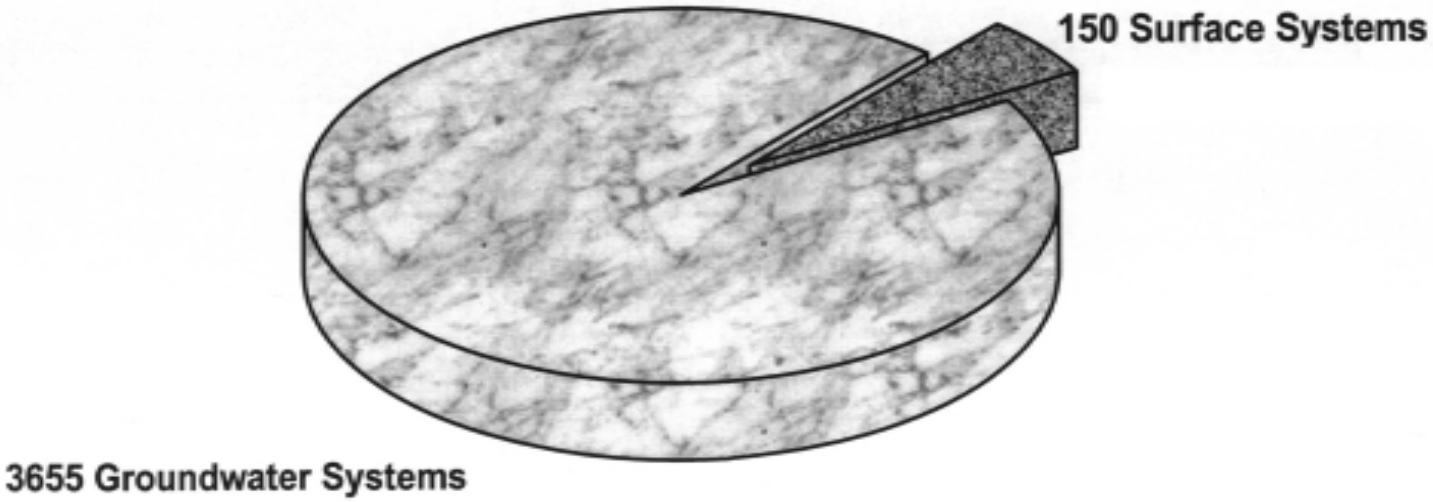

Chart B

Commonwealth of Virginia

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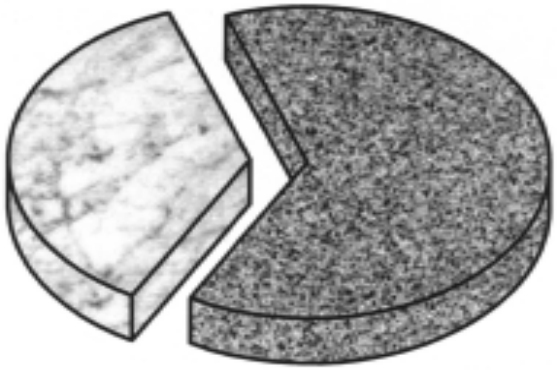
Number of DWSE Groundwater Sources verses Number of OEHS Groundwater Sources

Total number of Groundwater Sources = 4900



1781 OEHS SOURCES

3119 DWSE SOURCES

DWSE = Division of Water Supply Engineering (community and nontransient noncommunity)
OEHS = Office of Environmental Health (transient noncommunity)

Chart C