Henry County Public Service Authority

Source Water Protection Plan

CHA Project Number: 24272

Prepared for:

Henry County Public Service Authority

Funded by:

VDH VIRGINIA DEPARTMENT OF HEALTH
Protecting You and Your Environment
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Office of Drinking Water
Safe Drinking Water for a Healthy Virginia

Prepared by:

CHA

1341 Research Center Drive, Suite 2100
Blacksburg, VA 24060

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RECORD OF REVIEW

The Source Water Protection Plan should be reviewed and updated at least every 3 years.

Date of Review	Name of Reviewer	Description of Updates (if any)

1.0 STATEMENT OF ADOPTION

The Henry County Public Service Authority waterworks adopted this Source Water Protection Plan (SWPP) and has a copy of the plan on file with the Virginia Department of Health (VDH). The service and assistance of the waterworks' representatives in preparation of the plan is acknowledged and greatly appreciated.

Name	Organization
Mike Ward, P.E.	HCPSA
Mary Lawson	U.S. Army Corps of Engineers
Dale Wagoner	Henry County, VA
Justin Pruitt	HCPSA
Brian Williams	Dan River Basin Association

2.0 INTRODUCTION

2.1 PROTECTION OF SURFACE WATER SOURCES

Protection of sources which supply public drinking water is of vital importance to the residents of the Henry County Public Service Authority. The water supply represents a valuable resource and investment which, if it were to become polluted, could negatively impact public health and would be expensive to restore or replace. Reducing or preventing chemical and microbiological contamination of source waters may allow public waterworks to avoid costly treatments and minimize monitoring requirements. The costs associated with drinking water contamination include the following:

- Providing emergency replacement water;
- Paying for treatment and/or remediation expenses;
- Finding and developing new supplies;
- Paying for consulting services and staff time;
- Litigating against responsible parties;
- Conducting public information campaigns when incidents occur;
- Failing to meet the regulations of the Safe Drinking Water Act;
- Reducing property value or tax revenue;
- Adding health-related costs from exposure to contaminated water;
- Economic impacts, such as interruptions to businesses and loss of development opportunities; and
- Losing community acceptance of treated drinking water.

Source Water Protection is a voluntary program in Virginia. Proposed source water protection strategies are not mandated by state or federal regulations. Proposed commitments and schedules by waterworks' representatives are subject to change. Surface water is vulnerable to contamination by several pathways, including:

- Inorganic contaminants as a result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming;
- Microbial contaminants, such as viruses and bacteria, which can come from sewage treatment plants, failing septic systems, agricultural livestock operations and wildlife;
- Pesticides and herbicides, which can come from a variety of sources such as agriculture, storm water runoff, and residential uses;
- Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production and can also come from gas stations, urban storm water runoff and failing septic systems;

- Radioactive contaminants, which can occur naturally or as the result of oil and gas production and mining activities; and
- Any of the above contaminants as a result of chemical spills from storage tanks, trains, trucks, or pipelines.

The characteristics (land use, land cover, soil types, vegetation types, etc.) within the watershed can also impact the likelihood of contamination from a potential source migrating to a surface water intake. Preventing contamination is key to keeping drinking water supplies safe.

2.2 BACKGROUND

The Henry County PSA's primary intake is located on the Upper Smith River approximately three miles downstream of the Philpott Dam. The Smith River has a dendritic drainage pattern. The Fairy Stone State Park and Philpott Lake lie within the watershed area. The Smith River, Fairy Stone State Park, and Philpott Lake provide recreational opportunities such as fishing, water skiing, jet skiing, boating, camping, and picnic areas. The federally endangered Roanoke Log Perch has been found in the upper section of the Smith River watershed above and below Philpott Lake.

Philpott Lake is a 2,880-acre lake used primarily for flood control and hydroelectric power. No commercial or residential development exists along the shoreline. The Army Corps of Engineers maintains several boat launches, a visitor center, campgrounds, a swimming area, and walking trails. Fairy Stone Lake is a 168-acre lake used for recreation. The Department of Conservation maintains cabins, campsites, and walking trails as a state park. The Fairystone Lake has a limitation of electric motors only, and the Philpott Lake allows gasoline motors and has a fueling station for boats at the marina.

The water treatment plant consists of a flash mixing chamber, three vertical shafts equipped flocculator basins, four rectangular settling basins operating in parallel, and five dual media filters. The system also includes chlorination facilities, fluoridation by a volumetric dry feeder, booster pump stations, a clearwell, chemical feeders, and storage facilities.

The design rating of the Upper Smith River (Philpott) Water Supply is 5.946 MGD.

2.3 PLAN PURPOSE

The purpose of the Source Water Protection Plan (SWPP) is to protect surface water which serves as a source of public water supply from the threat of contamination as a result of accidents or unwise practices from nearby residential, industrial, commercial, agricultural, waste management, or transportation activities.

2.4 PLAN GOALS

The goals of the SWPP are:

- To promote public health, economic development, and community infrastructure by maintaining an adequate drinking water supply for all residents of the community;
- To create an awareness of the communities' drinking water source(s); and
- To provide for a comprehensive action plan in case of an emergency affecting the water source.

3.0 LOCAL ADVISORY COMMIITTEE (LAC)

The purpose of the LAC is to evaluate the site-specific risks to the Upper Smith River, develop site-specific recommended actions to mitigate the risks, and to ensure that the recommended actions are implemented. Community involvement is a critical element to developing a successful SWPP. The LAC involves the community in this process by incorporating community members and local officials into its membership, and by holding meetings with local stakeholders.

The LAC membership typically consists of waterworks employees, town or local government officials, county or regional government representatives, board members, and/or water customers. Extensive knowledge of source water protection or the water system components is not a prerequisite to be a committee member.

The Henry County Public Service Authority LAC consists of:

Name	Organization	Title
Mike Ward, P.E.	HCPSA	Director of Regulatory Compliance and Technical Applications
Mary Lawson	U.S. Army Corps of Engineers	Conservation Biologist
Dale Wagoner	Henry County, VA	Deputy Administrator
Justin Pruitt	HCPSA	Water Plant Superintendent
Brian Williams	Dan River Basin Association	Program Manager

The LAC contributes information to aid the development of the SWPP, reviews draft SWPPs, and ensures the implementation of recommended actions. The recommended actions that the LAC proposes are presented to the local officials and the waterworks for implementation.

The LAC holds meetings to solicit information from other local stakeholders, such as emergency response personnel, local health professionals, land or business owners, and other concerned citizens.

After reviewing the available information characterizing the water source and the Source Water Protection Area, the LAC develops recommended actions to best protect the Upper Smith River water source. The recommended actions developed by the LAC are listed in the following section.

4.0 RECOMMENDED ACTIONS

The following source water protection measures are recommended to prevent potential contamination of the Henry County Public Service Authority's water supply.

Table 1 – Action Plan for Source Water Protection

Action Number	Recommended Action	Planned Completion Date	Actual Completion Date
1	Promote education of the residents within the Source Water Protection Area (SWPA). Distribute brochures to property owners between the dam and the intake that reside within the SWPA that describes the importance of source water protection and a list of general do's and don'ts. Copies of these brochures should also be distributed in convenience stores in the area and at the visitor center at Philpott Lake, and publish a note on the tax bill. See Appendix A for a brochure template.	1 year	
2	Provide information about source water protection on your waterworks website and Annual Water Quality Report.	1 year	
3	Install signs along roads in high visibility locations near the designated boundary of the SWPA that state "Entering Henry County Public Service Authority Source Water Protection Area". (Note that signs on road right-of-way will require approval from VDOT.)	Within 2 years	
4	Annually review with pertinent emergency response personnel that serve the Henry County Public Service Authority the designated SWPA zone and appropriate response procedures. Provide an emergency information sheet that shows the SWPA, roads, and emergency contact information. Conduct an annual meeting/training/review with emergency response personnel to highlight the significance of the SWPA and review appropriate response procedures for incidents in the SWPA. Such actions should include the following in the event of a spill or potential source of contamination:	1 year	
5	Hold an annual meeting between the Henry County Public Service Authority utility operators, the County Planning Commission and County Building Inspectors to discuss source water protection information and activities in the community.	1 year	

Action Number	Recommended Action	Planned Completion Date	Actual Completion Date
6	Verify that active vehicle salvage yards have obtained industrial general storm water permits as required by the Virginia Water Control Board.	1 year	
7	Work with County Officials and landowners to identify grant opportunities to clean up junk yards	5 years	
8	Seek grant funding to collect samples from each sub watershed confluence to evaluate sources of *E. coli* upstream of the intake. Potential additional sampling locations proposed by the Dan River Basin Association are included in Appendix B. Additionally, an evaluation on whether to seek the scenic river designation through the Virginia Department of Conservation and Recreation (VDCR) should be considered.	5 years	
9	Meet annually with the soil water conservation district to identify any activities within the watershed related to the protection of water resources	1 year	
10	Identify areas with timber value and provide information to landowners regarding best management practices for water protection during timber harvesting	3 years	
11	Work with the County and local septic tank services to identify failing septic systems and work with the owners to address the cause of failures and prevent them from causing water quality issues. Distribute fliers, post announcements or otherwise communicate a recommendation that all owners of septic tanks clean them out every three years.	3 years	

5.0 SOURCE WATER ASSESSMENT AND PROTECTION AREAS

5.1 DELINEATION OF SOURCE WATER ASSESSMENT AND PROTECTION AREAS

Two different Source Water Assessment Area zones are delineated for each waterworks' source. These zones are defined for surface water sources as follows:

- Zone 1 is the watershed bounded by a 5-mile radius; it is a priority zone for managing potential sources of contamination.
- Zone 2 is the entire watershed outside of Zone 1.

For the purposes of this plan, the Source Water Protection Area (SWPA) is defined as the entire watershed of the source. The SWPA encompasses Zone 1 and Zone 2. A map of the SWPA for each source is provided in Appendix C.

Figure B.2 provides a map of the Upper Smith River intake SWPA Zones 1 and 2 in relation to the surface water intake included in this protection plan. Included in Appendix D is a listing of the identified potential sources of contamination along with physical and mailing addresses. Also included in Appendix D is a high-priority listing of potential sources of contamination.

5.2 TOPOGRAPHY

The watershed lies in parts of several different counties: Henry County, Franklin County, Floyd County, and Patrick County. The entire source water protection areas for the Upper Smith River intake is located within the Piedmont physiographic province of Virginia. The topography ranges from very steep to gently rolling. The lowest point in the Upper Smith River intakes' SWPA is at the intake itself which is approximately 800 feet in elevation. The highest point in the watershed is almost 3225-feet in elevation. The slope, or the rate at which elevation changes, is an important factor in predicting the amount and rate of run-off from an area. Steeper slopes generally result in rapid, higher volumes of run-off than shallower slopes, but shallower sloped areas are more prone to flooding. Appendix E shows the topography of the source water protection area.

5.3 LAND USE

The protection area is rural, and comprised of mixed woodlands, agricultural lands, and residential land areas. Numerous roadways stretch throughout the zones. Route 57, Route 58, Route 40, and Route 8 are the primary roadways in the protection zones.

Based on the "Reference the Land Cover Dataset", the Zone 2 Source Water Protection Area for the intake is shown on Table 1. As shown on the table, the Zone 2 SWPA for the Upper Smith River intake is predominately forested (~80%) followed by land designated as pastureland. Only 3.38% of the land is categorized as developed.

An existing land use map for the SWPA is presented in Appendix F-1.

Table 2 - Acreage & Percent Land Cover in the Upper Smith River Intake Zone 2 SWPAs

Land Use Category	Acres	Percent Land Cover	Land Use Considerations for Source Water Protection
Open Water Total	2869	2.07	NA
Developed, Open Space Total	4498	3.25	Rapid run-off and no infiltration into soils
Developed, Low Intensity Total	124	0.09	
Developed, Medium Intensity Total	47	0.03	
Developed, High Intensity Total	6	0.00	
Barren Land Total	85	0.06	
Deciduous Forest Total	102203	73.80	Potential for increased run-off during timbering operations
Evergreen Forest Total	6627	4.79	
Mixed Forest Total	5678	4.10	
Shrub/Scrub Total	1106	0.80	NA
Herbaceous Total	3167	2.29	NA
Hay/Pasture Total	11950	8.63	Rapid run-off and no infiltration into soils; pesticide, fertilizer misuse, animal waste in surface water
Cultivated Crops Total	49	0.04	
Woody Wetlands Total	73	0.05	NA
Emergent Herbaceous Wetlands Total	7	0.01	NA
TOTAL	138489	100	

5.4 FUTURE LAND USE

As land in the SWPA continues to be developed, the localities should keep in mind the effects of development on the sources of drinking water. Best management practices (BMPs) should be developed and practiced as land use changes based on the type of new land use activities. These may include best management practices for storm water runoff, erosion and sediment control, or timber harvesting or other commercial or industrial BMPs, or zoning or other types of ordinances that control land use.

The SWPA for this waterworks includes land in multiple counties across Virginia. For the counties with significant land included in the SWPA, the comprehensive plans were reviewed where available (Henry County, 1995; Franklin County, 2007). The plans differed in the level of detail provided for the planned future land use. All the plans addressed the idea that continued growth is important as is maintaining the original appeal that attracted people to move to the area initially. Many of the plans identified areas of concern and provided recommendations to allow for beneficial growth in the county while still preserving rural areas. The plans addressed limitations to growth specific to the County including environmental considerations such as topography, flood zones, and soil limitations.

A future land use map for the SWPA is presented in Appendix F-2. This appendix includes future land use maps from counties that had maps available (Henry County, 1995; Franklin County, 2007).

5.5 WATER RESOURCES

The following sections describe the resources that are available within the Source Water Protection Areas.

In the Zone 2 SWPA of the Upper Smith River WTP intake, major water bodies include the Upper Smith River along with smaller creeks and unnamed tributaries. The Upper Smith River WTP intake is located within the Roanoke River Basin.

No TMDLs have been established within the Upper River watershed within Zone 1 and Zone 2 of the SWPA.

5.6 SOILS

Drainage and soil depth are important factors that influence the likelihood of both surface water and groundwater contamination to occur following a release into the environment.

Generally, soils of the area consist of slightly to very strongly acidic, well to moderately drained, moderately to very deep, moderately to rapidly permeable, loamy to fine loamy soils. The soils were formed from the weathering of crystalline rocks that formed the Blue Ridge Mountains.

The areas throughout the Henry County Public Service Authority SWPA have varying depths of soil measurements. In general, deeper soils retain water and contaminants for a greater duration than shallower soils. However, the major soil types in the SWPA generally have moderately to slow infiltration rates. A majority of the soils in the watershed are classified as Class B and Class C soils.

A detailed soil map has been prepared for the area surrounding the Henry County Public Service Authority's water system, using spatial data from the USDA Soil Conservation Service. This map is provided as Appendix G. The map shows the major hydrologic groups in the SWPA. This includes:

- Class A - High infiltration rates. Soils are deep well drained to excessively drained sands and gravels.
- Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.
- Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.
- Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

6.0 POTENTIAL SOURCES OF CONTAMINATION (PSC)

VDH develops an inventory of PSC within the SWPA through its Source Water Assessment Program. This inventory contains information regarding the ownership of the PSC, the types of contaminants produced by the PSC, as well as the distance of the PSC to the water source. This inventory is summarized below.

Table 3 – Summary of Potential Sources of Contamination – Zones 1 and 2

Classification of Contamination Source	Estimated Number Sources Zone 1	Estimated Number Sources Zone 2
Point Sources		
Above-ground Storage Tank	0	2
Boat Yards	1	1
Car Wash	1	1
Cemetery	1	4
Chemical/Fuel Storage Areas	0	3
Fuel Storage Systems	4	5
Gasoline Station/Service Centers	4	8
Industrial Sites	11	30
Machine Shops	0	2
Open Dump	0	1
Other Industrial/Commercial	2	3
Other PSC	26	48
Paint Shop	1	1
Point Discharge	1	2
Power Generation Station	0	1
RCRA	1	6
Scrap and Junk Yard	0	6
Solid Waste Collection/Transfer Site	3	11
Tire Pile	0	4
Underground Storage Tank	0	1
Underground Injection Well	1	4
Wastewater Pump Station	14	18
Wastewater Treatment Facility	0	2
Wastewater Treatment Non-discharging Lagoon/Mass drainfield	4	4
Wood Preservative Manufacturer	1	1
Oil Storage Point Sources		
Closed Storage Tank Release	3	18
Open Storage Tank Release	1	2
Oil/Gas Production/Refining/Storage	0	2

The location maps of PSC within of the SWPA are presented in Appendices C. These PSC include publicly available information from DEQ, VDH, EPA, and other sources including a windshield survey of the watershed performed on July 10, 2019.

The risk of each PSC varies depending on proximity to the well and potential pathways to reach groundwater. The highest priority area for protection includes the activities within Zone 1 of the SWPA. The Henry County Public Service Authority should use the PSC inventory in Zone 1 in evaluating the risk posed by each potential source of contamination, and the need for protection measures.

To ensure that the supply remains uncontaminated, continual review of land use activities and identification of potential sources of contamination is necessary.

The identification of existing contamination sources will help to address immediate concerns about protection of the local water supply. To ensure that the supply remains uncontaminated, continual review of land use activities and identification of potential sources of contamination is necessary. A summary listing of various sources of contamination that are commonly considered is included in Appendix D.

Failing septic systems/straight pipes, private wells, hazardous materials transport along major roadways, gasoline stations; storm water runoff, and residential, recreational and agricultural uses of pesticides, fertilizers, chemicals, oil, etc. are the potential sources of contamination that are the most likely to affect surface water quality in the area.

7.0 SOURCE WATER PROTECTION PLAN

The SWPP describes the actions necessary to minimize the risk to the quality of the source water utilized by the Henry County Public Service Authority. The goal of the plan is to reduce or eliminate potential threats to drinking water supplies within the SWPA, either through existing regulatory or statutory controls, or by using non-regulatory (and often voluntary) measures centered around an involved public.

7.1 EXISTING MEASURES AND ACTIVITIES

Current measures in place for protecting the quality of water within the SWPA are:

- Monthly and Annual water testing;
- Routine maintenance of the water system;
- Adoption of the Virginia Storm Water Management Program including storm water permitting for construction projects.
- City and County Codes for Erosion and Sediment Control serves to prevent degradation of properties, stream channels, waters and other natural resources by establishing requirements for the control of soil erosion, sediment deposition and nonagricultural runoff and by establishing procedures whereby these requirements shall be administered and enforced. The references below indicate where these can be found in each respective municipal ordinance:
    - Henry County code (Chapter 7, Erosion and Sedimentation Control)
    - Franklin County code (Chapter 7, Erosion and Sediment Control and Stormwater Management)

7.2 SOURCE WATER PROTECTION EMERGENCY RESPONSE PLAN

"Emergency Response Planning Template for Public Drinking Water Systems" produced for the Rural Community Assistance Partnership (RCAP) National Network and the Rural Community Assistance Corporation (2005) was used to develop an Emergency Response Plan. The Emergency Response Plan provides contact information and defines basic emergency response procedures to aid the waterworks in responding to a source water contamination event. A copy of emergency response materials is included as Appendix H.

7.3 PUBLIC EDUCATION AND OUTREACH

In order for citizens to appreciate the benefits of source water protection, they must first understand what the problems are in providing safe drinking water, and how they can become involved in the

process. Public education is the greatest promoter of voluntary action and public support for a community's source water protection program.

Activities and opportunities should be sought that will increase public awareness that source water protection is a local issue and that each citizen plays a part. A public education brochure template is available in Appendix A. Some other examples of public education and outreach include providing information about source water protection on your waterworks website and Annual Water Quality Report, and by installing signs along roads in high visibility locations near the designated boundary of the SWPA that state "Entering Henry County Public Service Authority Source Water Protection Area".

7.4 IMPLEMENTATION AND FUNDING

The initial step in implementation should be to discuss responsible parties and timelines to implement the strategies. Community members can determine the best process for completing activities within the projected time periods.

Numerous funding opportunities are available to aid communities in the implementation of source water protection initiatives. The following is a summary funding sources currently available to support source water protection in Virginia:

Drinking Water State Revolving Fund – Virginia Department of Health – Office of Drinking Water

Funding type: low interest loan with possible principal forgiveness

Description: This program provides planning funding, which could be used to analyze solutions to source water measures or evaluate potential new sources. This program also provides low interest loans with possible principal forgiveness for waterworks construction projects including new wells and intake modifications, and low interest loans for waterworks to acquire land or conservation easements and to establish local voluntary incentive-based source water protection measures. Funding is prioritized for small, financially stressed, community waterworks.

Link: http://www.vdh.virginia.gov/drinking-water/financial-construction-assistance-programs/

Nonpoint Source Management Implementation Grant Program – Virginia Department of Environmental Quality

Funding type: grant

Description: This program provides grants for watershed projects, demonstration and educational programs and nonpoint source pollution control program development.

Link:http://www.deq.virginia.gov/Programs/Water/WaterQualityInformationTMDLs/NonpointSourcePollutionManagement.aspx

Virginia Wastewater Revolving Loan Fund – Virginia Department of Environmental Quality

Funding type: low interest loan

Description: This program provides low interest loans for acquisition of title or other rights to real property to protect or improve water quality, and for storm water runoff control best management practices.

Link:http://www.deq.virginia.gov/Programs/Water/CleanWaterFinancingAssistance/VCWRLFTableofContents.aspx

Virginia Clean Water Revolving Loan Fund – Virginia Department of Environmental Quality

Funding type: low interest loan

Description: This program primarily funds wastewater treatment projects, but also funds agricultural best management practices and non-point Source Pollution Abatement. This program can provide low interest loans to waterworks or localities to provide loans or other incentives to facilitate the implementation of agricultural best management practices.

Links: Land conservation - http://www.deq.virginia.gov/Programs/Water/CleanWaterFinancingAssistance/LandConservation.aspx

Stormwater - http://www.deq.virginia.gov/Programs/Water/CleanWaterFinancingAssistance/StormwaterFundingPrograms/StormwaterLoans.aspx

Stormwater Local Assistance Fund – Virginia Department of Environmental Quality

Funding type: cost-share

Description: This fund provides matching grants for stormwater projects including new stormwater best management practices, stormwater best management practice retrofits, stream restoration, low impact development projects, buffer restorations, pond retrofits, and wetlands restoration.

Link:http://www.deq.virginia.gov/Programs/Water/CleanWaterFinancingAssistance/StormwaterFundingPrograms/StormwaterLocalAssistanceFund(SLAF).aspx

Virginia Land Conservation Foundation – Virginia Department of Conservation and Recreation

Funding type: grant

Description: Grants are awarded to help fund the purchase of permanent conservation easements, open spaces and parklands, lands of historic or cultural significance, farmlands and forests, and natural areas. This program may allow public waterworks to permanently protect land in the SWPA at little cost to the waterworks.

Link: http://www.dcr.virginia.gov/virginia-land-conservation-foundation/

The Land and Water Conservation Fund State and Local Assistance Program – Virginia Department of Conservation and Recreation

Funding type: cost-share

Description: This program supports the acquisition and/or development of public outdoor recreation areas. This may aid utilities in purchasing land in the SWPA when the source water protection goals do not conflict with the recreational use of the land. It should be noted that all LWCF assisted areas must be maintained and opened, in perpetuity, as public outdoor recreation areas.

Link: http://www.dcr.virginia.gov/recreational-planning/grants

Other Virginia Department of Forestry funding programs –

VDF administers a number of programs aimed at promoting healthy forests and wildlife habitat that may help waterworks to limit erosion on land that they control within the SWPA. Additionally, VDF administers programs aimed at supporting agricultural best management practices. Waterworks can use these programs to promote Best Management Practices within their SWPA.

Link: http://www.dof.virginia.gov/costshare/index.htm

Urban Waters Small Grants Program – US Environmental Protection Agency

Funding type: grant

Description: This program provides small grants to restore their urban waters in ways that also benefit community and economic revitalization. In general, projects should address local water quality issues related to urban runoff pollution, provide additional community benefits, actively engage underserved communities, and foster partnership

Link: https://www.epa.gov/urbanwaters/urban-waters-small-grants

Healthy Watersheds Consortium Grant – U.S. Endowment for Forestry & Communities, Inc.

Funding type: grant

Description: This program provides grants to accelerate strategic protection of healthy, freshwater ecosystems and their watersheds. The primary focus for applicants should be protection and stewardship of the landscape that comprises the watershed, rather than restoration of degraded habitats or projects with a strictly water quality improvement outcome.

Link: http://www.usendowment.org/healthywatersheds.html

Regional Conservation Partnership Program – U.S. Department of Agriculture

Funding type: cost share

Description: This program provides funding to locally driven, public-private partnerships that improve the nation's water quality, combat drought, enhance soil health, support wildlife habitat and protect agricultural viability. The program connects partners with producers and private landowners to design and implement voluntary conservation solutions that benefit natural resources, agriculture, and the economy. Applicants must match or exceed the federal award with private or local funds.

Link: https://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/farmbill/rcpp/

APPENDIX A

EDUCATIONAL MATERIALS

Protecting Your Surface Water: What to do:

- Recognize and manage possible sources of contamination on your property.
- Use hazardous products as directed and dispose of them properly.
- Conserve water.
- Use biodegradable soap when washing your car.
- Select plants in your yard that require low fertilizer application.
- If you have a heating oil tank, check it regularly for leaks.

What NOT to do:

- Do not dispose of used motor oil and other hazardous chemicals by pouring them on the ground, into a storm drain or down the drain.
- Do not indiscriminately spray pesticide where a pest problem has not been identified.
- Do not divert storm drains or basement pumps into septic systems.
- Do not dump any trash or waste near a sinkhole or streams.

Ways to Get Involved:

- Participate in clean-up activities in your neighborhood.
- Help identify potential sources of contamination in your source water protection area.
- Help educate your neighbors and others about source water protection.

Did You Know?
Just 1 gallon of gasoline can contaminate 1,000,000 gallons of water!

Hazardous Waste Disposal:

- Used oil is accepted by:
  - Local automobile parts stores
  - First Piedmont Transfer Station on Clearview Drive

A Quick Summary Review of Source Water Protection:

- Your Community is privileged to have extremely high quality drinking water. Conservation of this water is essential.
- Your Community is taking a proactive approach to ensure that your drinking water stays safe and pure.
- You are living on top of your drinking water and your actions can affect the drinking water for the entire community.

More Information is Available:

On Source Water Protection at:
http://www.epa.gov/sourcewaterprotection

On Septic Systems at:
http://water.epa.gov/infrastructure/septic/

On Water Conservation at:
http://www.epa.gov/watersense/

On Watershed Management at:
http://water.epa.gov/type/watersheds/index.cfm

On Hazardous Waste Disposal at:
http://www.epa.gov/wastes/hazard/index.htm

For questions regarding the Henry County Public Service Authority, Upper Smith River Source Water Protection Plan, please contact:
Michael Ward, HCPSA Director of Regulatory Compliance and Technical Applications
276-634-2540

Source Water Protection Plan: Keeping Your Water Supply Safe

Henry County Public Service Authority, Upper Smith River Intake System

Prepared in cooperation with:

CHA

VDH VIRGINIA DEPARTMENT OF HEALTH
Protecting You and Your Environment

What is Source Water Protection?

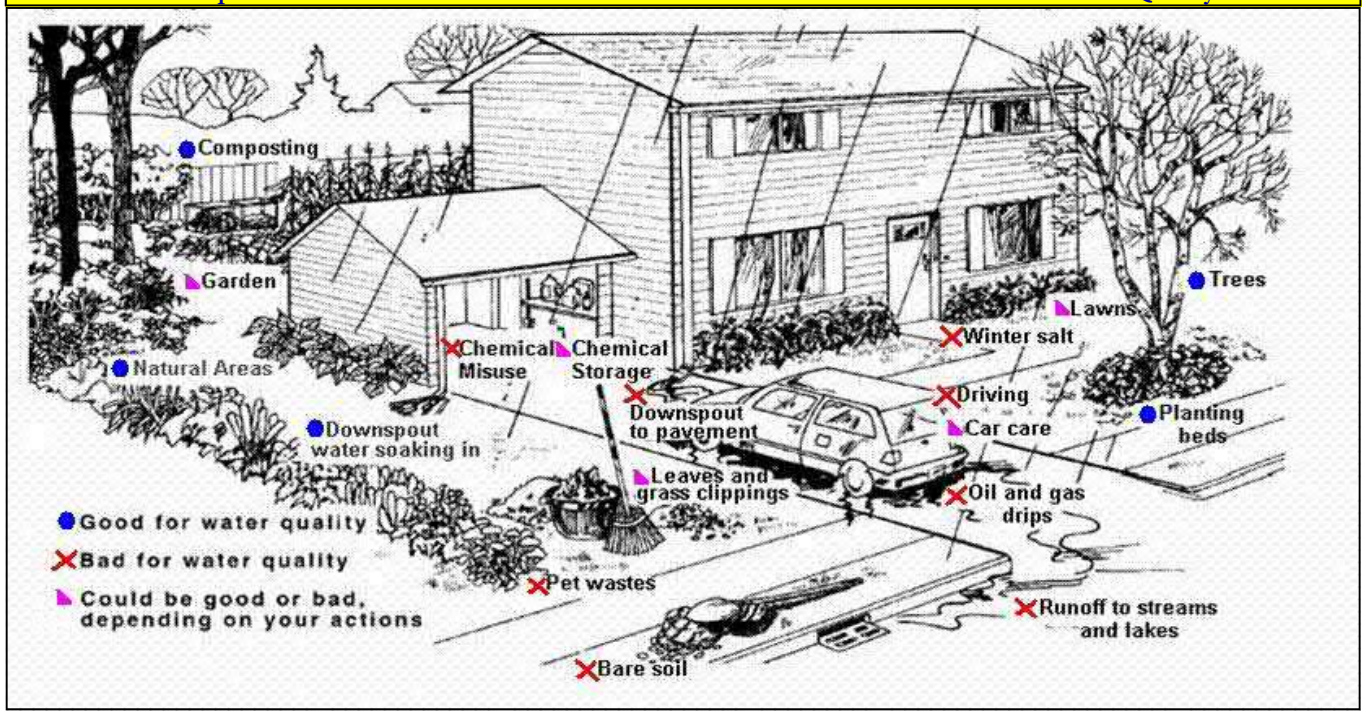
Source Water Protection is a method of preventing contamination of a public water supply by effectively managing potential contaminant sources in the area which contributes water to the surface water supply. This land surface area is called the Source Water Protection Area (SWPA) and encompasses the watershed.

The watershed is the area of land which captures all precipitation within its boundaries. Rainfall, snow melt, and storm water runoff all drain into the watershed; any of which could potentially negatively affect the source water with contaminants picked up along the way.

Source Water Protection Plan helps safeguard the water supply and everyone needs to be Involved for the plan to be successful!

What are the Threats to My Drinking Water?

Examples of Situations and Activities Around Your House that Can Affect Your Water Quality



Why Should Source Water Protection Matter to Me?

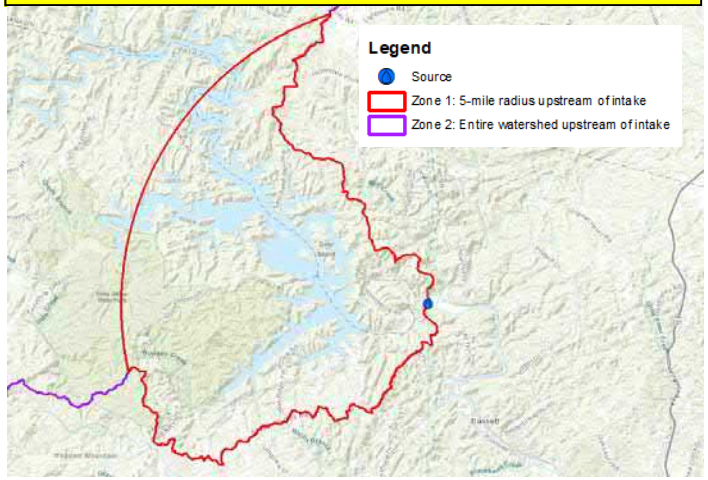
The drinking water that you receive from the Henry County Public Service Authority comes from the Upper Smith River. Protecting this source water is an important part of providing safe drinking water to the public.

The public water supply represents a valuable resource and investment which, if it were to be polluted, could negatively impact public health and would be expensive to the restore or replace. Reducing or preventing chemical and microbiological contamination of source waters could allow the public water authority to avoid costly monitoring and treatments which in turn, could save your wallet.

How Does Source Water Become Contaminated?

Many normal day-to-day activities could have the unintended consequence of contaminating the water supply. Contaminants may enter or be washed into streams, reservoirs, and public water supply intakes. Potential threats in your SWPA include underground storage tanks, failing septic systems, straight pipes, commercial, industrial, and agricultural activities; improper use and/or disposal of household chemicals and fuels; and overuse of fertilizers and pesticides. Treating a contaminated water supply can cost thousands of dollars, if not more. Preventing contamination is the key to keeping water supplies safe.

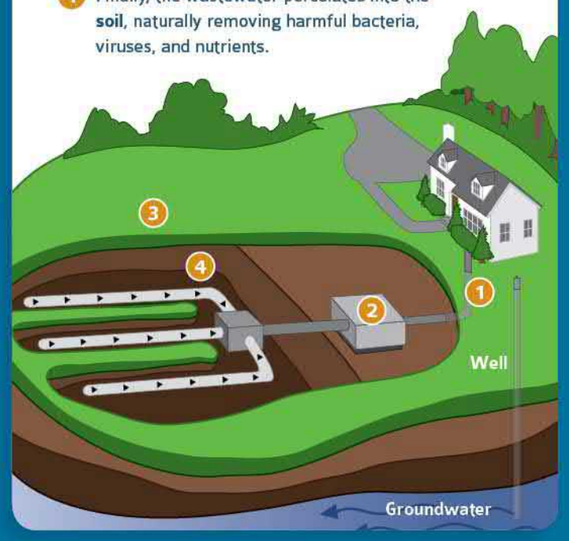
The figure below shows the Zone 1 Source Water Protection Area for the Henry County Public Service Authority, Upper Smith River Water System.



How does a septic system work?

This is a simplified overview of how a septic system works.

1. All water runs out of your house from one main **drainage pipe** into a septic tank.
2. The **septic tank** is a buried, water-tight container usually made of concrete, fiberglass or polyethylene. Its job is to hold the wastewater long enough to allow solids to settle down to the bottom (forming sludge), while the oil and grease floats to the top (as scum). Compartments and a T-shaped outlet prevent the sludge and scum from leaving the tank and traveling into the drainfield area.
3. The liquid wastewater then exits the tank into the **drainfield**. If the drainfield is overloaded with too much liquid, it will flood, causing sewage to flow to the ground surface or create backups in toilets and sinks.
4. Finally, the wastewater percolates into the **soil**, naturally removing harmful bacteria, viruses, and nutrients.



SepticSmart Helps Protect Your Home and Family

If you have a septic system, it's extremely important to keep up with its proper care and maintenance. The U.S. Environmental Protection Agency's SepticSmart initiative helps ensure that we all know how to do our part to safeguard our community's health and protect the environment. It can also protect your family and keep you from spending thousands of dollars repairing or replacing a damaged system.

Insert text here

For more information on how you can be SepticSmart, please visit:

www.epa.gov/septicsmart

EPA

EPA-832-B-12-003
September 2012

Do your Part— Be SepticSmart!

A simple guide to the proper care and maintenance of your septic system.

septicsmart
U.S. Environmental Protection Agency

Why is it important to properly maintain my septic tank?

It saves you money.
Malfunctioning systems can cost $3,000-$7,000 to repair or replace compared to maintenance costs of about $250-$500 every three to five years.

It protects the value of your home.
Malfunctioning septic systems can drastically reduce property values, hamper the sale of your home, and even pose a legal liability.

It keeps your water clean and safe.
A properly maintained system helps keep your family's drinking water pure, and reduces the risk of contaminating community, local, and regional waters.

It keeps the environment clean.
Malfunctioning septic systems can harm the local ecosystem by killing native plants, fish, and shellfish.

Do I have a septic system? If so, how can I find it?

Here are a few tips to determine if you have a septic system and how to locate it.

You most likely have a system if:
- You are on well water.
- The water line coming into your house does not have a meter.
- Your neighbors have a septic system.

You can find your septic system by:
- Looking on the "as built" drawing for your home.
- Checking in your yard for lids or manhole covers.
- Using an inspector/pumper, who can also help you find exactly where the system is located.

What can I do to help maintain my system?

Protect it and Inspect it.
A typical septic system should be inspected at least every three years by a licensed contractor and your tank pumped as recommended by the inspector (generally every three to five years).

Think at the Sink.
- Your septic system contains a living collection of organisms that digest and treat waste. Pouring toxins down your drain can kill these organisms and harm your septic system.
- Oil-based paints, solvents, and large volumes of toxic cleaners should not enter your septic system. Even latex paint cleanup waste should be minimized.
- Eliminating the use of a garbage disposal can reduce the amount of fats, grease, and solids entering the septic tank and ultimately clogging the drainfield. Increased disposal use results in more frequent pumping.

Don't Overload the Commode.
A variety of household products can clog and potentially damage septic system components.

Do not flush:
- Feminine hygiene products
- Condoms
- Diapers
- Cigarette butts
- Coffee grounds
- Cat litter

For a complete list, visit **www.epa.gov/septicsmart**.

Don't Strain your Drain.
It's simple. The less water you use, the less water that enters the septic tank, which decreases its workload. Here are a few easy ways to save water:
- Run dishwasher and washing machine only when full.
- Repair leaky toilets and pipes.
- Use high-efficiency toilets and faucets.

For more information on how you can save water, visit EPA's WaterSense program, **www.epa.gov/watersense**.

Shield your Field.
It's equally important to protect your drainfield.
- Do not park or drive on your drainfield.
- Plant trees the appropriate distance from the drainfield to keep roots from growing into the system.
- Keep roof drains, sump pumps and other rainwater drainage systems away from the area. Excess water slows down or stops the treatment process.

How do I know if my septic system is not working properly?

Mind the Signs!
Here are a few signs of septic system malfunction. If you discover any of these warning signs, call a licensed septic tank contractor immediately. One call could save you thousands of dollars.
- Wastewater backing up into household drains.
- A strong odor around the septic tank and drainfield.
- Bright green, spongy grass appearing on the drainfield, even during dry weather.

Out of Sight, Out of Mind?

When it comes to lots of things, once something is out of our sight, we often no longer think about its consequences. Did you ever think about what happens to the salt you threw on your sidewalk last week to melt the ice? When that big pile of snow the snowplow left at the end of the street melted, where did all that salt mixed in the snow go? Water (from melting snow) dissolves that salt (or other contaminates) and can infiltrate into the groundwater that we all drink, especially in areas where sinkholes or other features exist that promote the rapid infiltration of groundwater. Here are some things that you can do to help:

1. Where possible, use non-chemical methods (such as sand/kitty litter for traction).
2. When using salt, use the minimum amount required for effective traction control.
3. Avoid using salt in sinkhole areas and try to direct run off from streets away from sinkholes to prevent contaminated water from rapidly infiltrating into the groundwater. Slow infiltration allows for the soil to act as a filter and remove some types of contamination.

Don't Be a 'Drain' to the Water Supply

The most likely people to contaminate the local water supply are not rogue individuals or a terrorist group, it is you and your neighbors. Well meaning consumers dispose of hazardous materials down their kitchen and bathroom sinks on a regular basis. Some hazardous household wastes include: paints, household cleaners, herbicides and pesticides, floor/furniture polish, batteries, and automobile fluids. These are items that should not be dumped down drains or disposed of with the curbside trash.

Take Care of Your Septic System So It Won't Poop Out

Septic tanks allow for the storage and treatment of human wastes in areas where no sewer system exists. The treatment occurs by bacterial decomposition resulting in material called sludge. Contamination of your water source groundwater from septic tanks can be caused by several factors. If the drain field is located too close to the drinking water source, then the water may not have time to be filtered sufficiently before it comes out of your tap. Poor design, faulty construction, and incorrect operation and maintenance can also cause problems with the system and lead to contamination of the water supply. Several things you can do to make sure your septic system continues to work effectively include:

1. When possible, do not overload the system with excess use of water. Each system is rated for a certain number of people and certain amount of material.
2. Do not dump hazardous household chemicals (paints, cleaners, auto fluids, etc), cooking oils, or grease down the drain.
3. Avoid parking cars or other vehicles on the drain field.
4. Try to avoid planting trees on or near the drain field.
5. Maintain your septic system by having your tank pumped every 3-5 years.

Garbage In, Garbage Out

Have you seen the naturally occurring bowl or cone shaped holes in or around your subdivision? These holes known as sinkholes are common in areas where carbonate rocks, which easily dissolve in groundwater, are present below the surface. Historically sinkholes have been inviting sites for people to dump trash and other wastes. However, dumping can contaminate the groundwater since sinkholes act as a direct conduit to the groundwater, your drinking water source. The direct conduit from the sinkhole to the groundwater allows very little filtering of the material coming in. Think of it as "garbage in (to the sinkhole), garbage out (of your tap)". Besides direct dumping, sinkholes are also affected by other sources of contamination including the application of fertilizers, herbicides, and pesticides, leakage associated with improperly lined landfills, and faulty septic systems that seep directly into the groundwater. Prevent potential contamination of your water source by not dumping garbage into sinkholes and minimize the use of chemicals around them. Remember what you put in a sinkhole could end up in your tap.

Where Does Your Water Come From?

Did you know that your water comes from a river? The surface water intake pumps water from the Smith River to the treatment plant for treatment prior to distribution to the community. To help protect the water source, your water provider has created a source water protection plan that talks about how your water could be vulnerable and how to protect it. If you're interested in finding out what you could do to protect your water, contact your water provider and ask to see the source water protection plan.

Are You Fertilizing Your Water?

Have you ever thought about what happens to the fertilizer you put on your grass or in your flower beds? If you over fertilize, the fertilizer might not get completely used and could end up going into your water source. To prevent this from happening, make sure you read and follow the directions on the fertilizer package about the amount and rate of application. You should also fertilize at the times of year and only the plant types specified on the package. If this information is not available on the package, contact the manufacturer. You should also talk with anyone you hire to maintain your lawn or garden to ensure they aren't over fertilizing. Using the correct application rates at the suggested times for the recommended plants can prevent fertilizer from filtering into the ground and potentially into your water. So, when you fertilize, be careful to not over fertilize or you could end up drinking it.

Who Cares About Rusty Old Tanks?

Ever notice large tanks sticking out of the ground or sitting above the ground? Those tanks are called Above Ground or Underground Storage Tanks (ASTs or USTs). ASTs and USTs can hold a variety of substances such as propane, fuel, or other chemicals and can be found at local businesses, farms, and even private residences. Although storage tanks are great ways to hold large amounts of substances, they can rust and develop cracks over time causing the substances they're holding to leak into the ground. When these substances leak into the ground they can work their way into your water.

So how can you prevent storage tanks from affecting your water? If you have a storage tank on your property, make sure you check it regularly for signs of leakage. Regular monitoring is the best way to prevent underground storage tanks from leaking. If you notice someone else's tank is leaking, let them know so they can correct the problem. Placing tanks on concrete pads or asphalt makes leaks more visible and prevents them from getting into the ground. Painting and repairing tanks when you first notice rust or cracks also prevents the tanks from leaking.

How Much Is Too Much?

Sometimes you just need to spray those bugs! Whether Japanese beetles are eating your roses or weeds are overwhelming your grass, pesticides and herbicides are the only way to minimize the damage to your plants, right? Not necessarily.

Integrated pest management (IPM) is the use of biological, cultural and chemical methods to create a comprehensive pest management program. IPM techniques include planting cover crops to prevent weed growth in your garden and putting beneficial insects in your garden to eat the undesirable insects and minimize insect infestations. Another important factor to consider is buying the right plant for the right place. Plants placed in the required conditions for that plant tend to have fewer insect problems and require less water. Applying pesticides according to manufacturer's requirements for plant type, rate, and at specified times can also decrease your pesticide use and is considered a part of IPM.

The use of IPM protects the water resources in your area. Not only can you protect local wildlife using IPM, you also can protect your drinking water source. If not applied properly, the chemicals you use in your yard can infiltrate in the ground and contaminate your drinking water source. So, think about the chemicals you're spraying in your yard because sometimes the amount you're using just might be too much.

Do your Part—
Be SepticSmart!

A Homeowners' Guide to Septic Systems

septicsmart™

U.S. Environmental Protection Agency

EPA

Maintaining Your Septic System:

Good for your wallet. Good for your health. Good for the environment.

Did you know that one-quarter of all U.S. homes have septic systems? Yours may be one of them. If you're not properly maintaining your septic system, you're not only hurting the environment, you're putting your family's health at risk—and may be flushing thousands of dollars down the drain!

First Things First:

What Is a Septic System?

Common in rural areas without centralized sewer systems, septic systems are underground wastewater treatment structures that use a combination of nature and time-tested technology to treat wastewater from household plumbing produced by bathrooms, kitchen drains, and laundry.

Do You Have a Septic System?

You may already know you have a septic system. If you don't know, here are tell-tale signs that you probably do:

- You use well water.
- The waterline coming into your home doesn't have a meter.
- You show a "$0.00 Sewer Amount Charged" on your water bill.
- Your neighbors have a septic system.

How To Find Your Septic System

Once you've determined that you have a septic system, you can find it by:

- Looking on your home's "as built" drawing.
- Checking your yard for lids and manhole covers.
- Contacting a septic inspector/pumper to help you locate it.

Why Should You Maintain Your Septic System?

Maintaining Your Septic System…

Saves You Money

Regular maintenance fees of $250 to $300 every three to four years is a bargain compared to the cost of repairing or replacing a malfunctioning system, which can cost between $3,000 and $7,000. The frequency of pumping required for your system depends on how many people live in your home and the size of the system.

Protects Your Property Value

An unusable septic system or one in disrepair will lower your property value, not to mention pose a potentially costly legal liability.

Keeps You and Your Neighbors Healthy

Household wastewater is loaded with disease-causing bacteria and viruses, as well as high levels of nitrogen and phosphorus. If a septic system is well-maintained and working properly, it will remove most of these pollutants. Insufficiently treated sewage from septic systems can cause groundwater contamination, which can spread disease in humans and animals.

Improperly treated sewage also poses the risk of contaminating nearby surface waters, significantly increasing the chance of swimmers contracting a variety of infectious diseases, from eye and ear infections to acute gastrointestinal illness and hepatitis.

Service provider coming? Here's what you need to know.

When you call a septic service provider, he or she will inspect for leaks and examine the scum and sludge layers in your septic tank.

Your septic tank includes a T-shaped outlet which prevents sludge and scum from leaving the tank and traveling to the drainfield area. If the bottom of the scum layer is within six inches of the bottom of the outlet, or if the top of the sludge layer is within 12 inches of the outlet, your tank will need to be pumped. Remember to note the sludge and scum levels determined by the septic professional in your operation and maintenance records, as this will help determine how often pumping is necessary.

The service provider should note any repairs completed and the tank condition in your system's service report. If additional repairs are recommended, be sure to hire someone to make them as soon as possible.

The National Onsite Wastewater Recycling Association (NOWRA) website has a septic locator that makes it easy to service professionals in your area. Visit **www.septiclocator.com** and enter your ZIP code to get started!

Beware of septic tank additives!

Some makers of septic tank additives claim their products break down septic tank sludge in order to eliminate the need for pumping. But the effectiveness of additives has not been determined; in fact, many studies show that additives have no significant effects on a tank's bacterial populations.

Septic tanks already contain the microbes they need for the effective breakdown of household wastewater pollutants. Periodic pumping is the only true way to ensure that septic systems work properly and provide many years of service.

Protects the Environment

More than four billion gallons of wastewater is dispersed below the ground's surface every day. That's a lot of water! Groundwater contaminated by poorly or untreated household wastewater doesn't just pose dangers to drinking water—it poses dangers to the environment. Malfunctioning septic systems release bacteria, viruses, and chemicals toxic to local waterways. When these pollutants are released into the ground, they eventually enter streams, rivers, lakes, and more, harming local ecosystems by killing native plants, fish, and shellfish.

Maintaining Your Septic System:

The Basics

Septic system maintenance isn't complicated, and it doesn't need to be expensive. Upkeep comes down to four important elements:

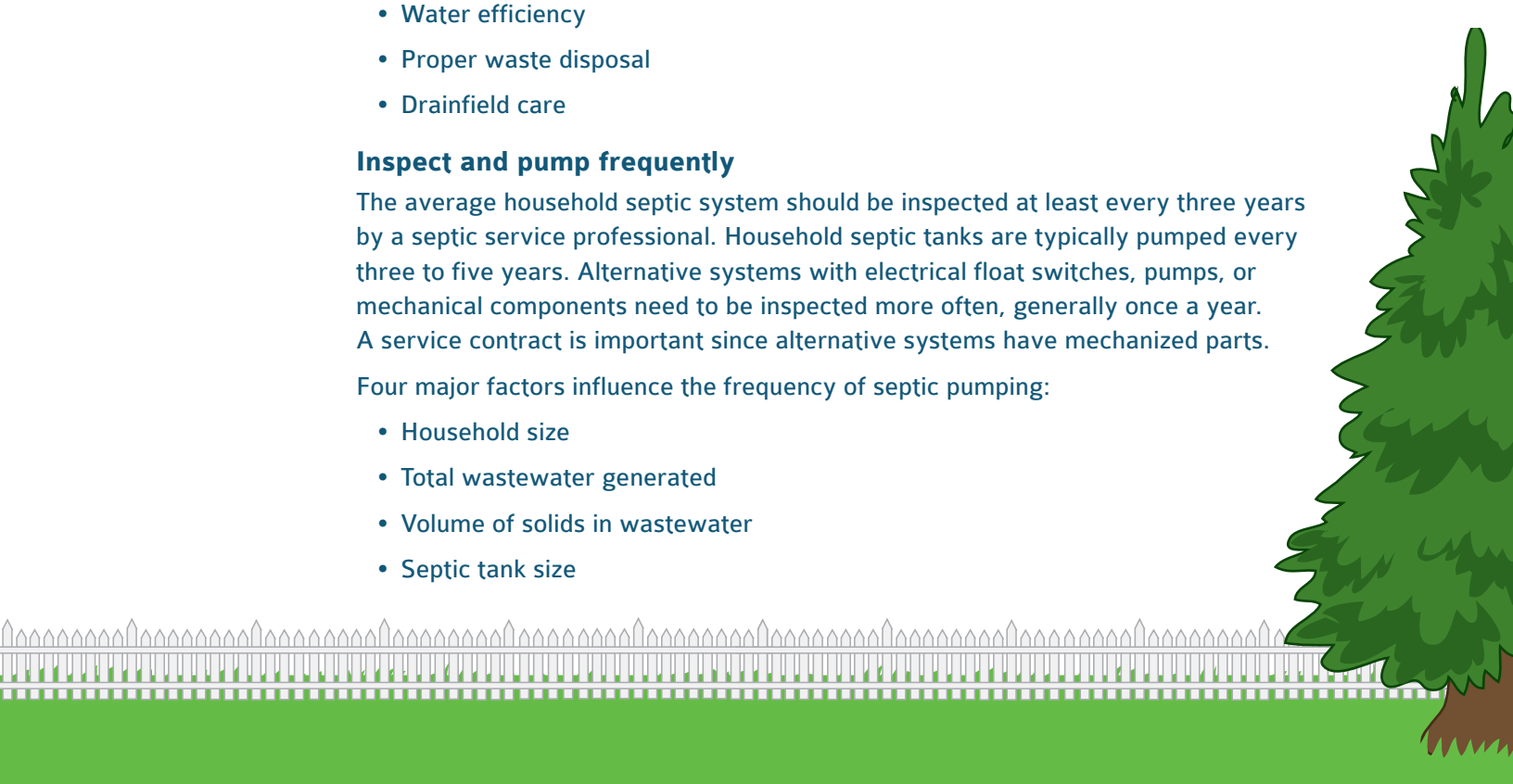
- Inspection and pumping
- Water efficiency
- Proper waste disposal
- Drainfield care

Inspect and pump frequently

The average household septic system should be inspected at least every three years by a septic service professional. Household septic tanks are typically pumped every three to five years. Alternative systems with electrical float switches, pumps, or mechanical components need to be inspected more often, generally once a year. A service contract is important since alternative systems have mechanized parts.

Four major factors influence the frequency of septic pumping:

- Household size
- Total wastewater generated
- Volume of solids in wastewater
- Septic tank size



Use water efficiently

Did you know that average indoor water use in a typical single-family home is nearly 70 gallons per individual, per day? And just a single leaky toilet can waste as much as 200 gallons of water per day?

All of the water a household sends down its pipes winds up in its septic system. This means that the more water a household conserves, the less water enters the septic system. Efficient water use can not only improve the operation of a septic system, but it can reduce the risk of failure as well. Learn more about simple ways to save water and water-efficient products by visiting EPA's WaterSense Program at **www.epa.gov/watersense**.

- **High-efficiency toilets:** Toilet use accounts for 25 to 30 percent of household water use. Most older homes have toilets with 3.5- to 5-gallon reservoirs, while newer, high-efficiency toilets use 1.6 gallons of water or less per flush. Replacing existing toilets with high-efficiency models is an easy way to quickly reduce the amount of household water entering your septic system.
- **Faucet aerators and high-efficiency showerheads:** Faucet aerators help reduce water use as well as the volume of water entering your septic system. High-efficiency showerheads or shower flow restrictors also reduce water use.
- **Washing machines:** Washing small loads of laundry on your washing machine's large-load cycle wastes water and energy. By selecting the proper load size, you'll reduce water waste. If you're unable to select a load size, run only full loads of laundry.

  Another tip? Try to spread water use via washing machine throughout the week. Doing all household laundry in one day might seem like a time-saver, but it can be harmful to your septic system, as it doesn't allow your septic tank time to adequately treat waste and could potentially flood your drainfield.

  Consider purchasing an ENERGY STAR® clothes washer, which uses 35 percent less energy and a whopping 50 percent less water than a standard model. Learn more about ENERGY STAR appliances by visiting **www.energystar.gov**.

Small leaks can lead to big problems!

When it comes to water fixtures, a couple of quick fixes can save you serious problems down the road!

Check to see if your toilet's reservoir is leaking into your toilet bowl by adding five drops of liquid food coloring to the toilet reservoir before bed. If the dye is in the toilet bowl the next morning, the reservoir is leaking and repairs are needed.

Think a leaky faucet is no big deal? Think again. A small drip from a faucet adds gallons of unnecessary water to your septic system every day.

To see how much a leak adds to your water usage, place a cup under the drip for 10 minutes. Multiply the amount of water in the cup by 144 (the number of minutes in 24 hours, divided by 10). Just one cup of leaky faucet water every 10 minutes equals 36 wasted gallons of water a day—and they all end up in your septic system.

New faucets and toilet reservoirs are easily accessible and inexpensive. Choose to make a small investment for a big difference in your septic system.

- **Proper waste disposal:** Whether you flush it down the toilet, grind it in the garbage disposal, or pour it down the sink, shower, or bath, everything that goes down your drains ends up in your septic system. And what goes down the drain can have a major impact on how well your septic system works.

Toilets Aren't Trash Cans!

Your septic system is not a trash can. An easy rule of thumb? Don't flush anything besides human waste and toilet paper.

Never flush:

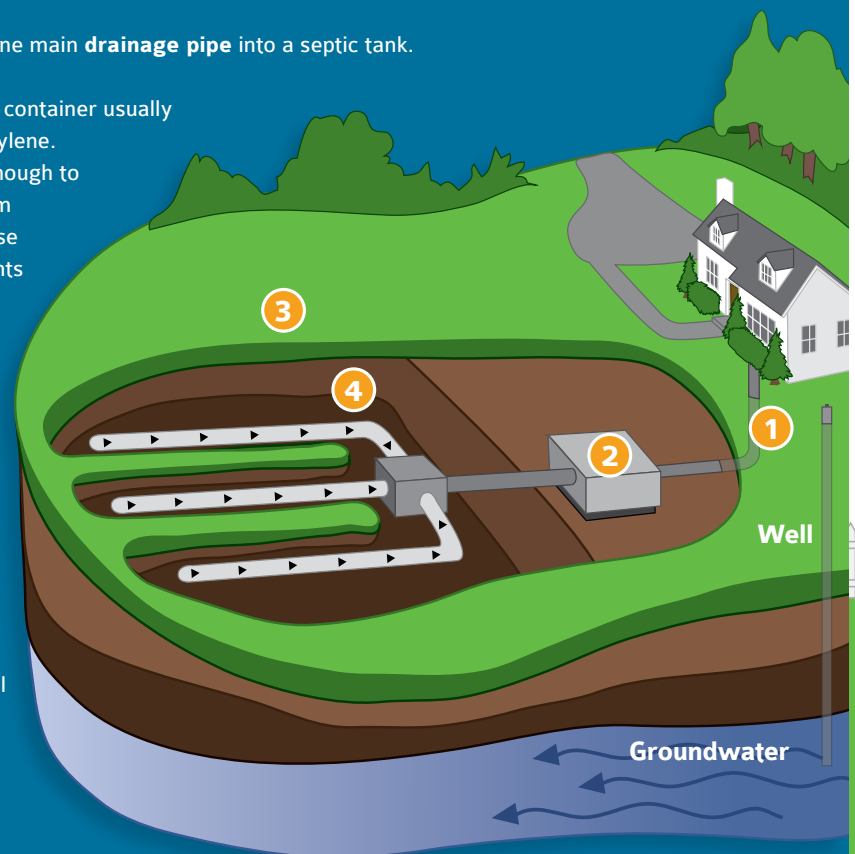
- Feminine hygiene products
- Condoms
- Dental floss
- Diapers
- Cigarette butts
- Coffee grounds
- Cat litter
- Household chemicals like gasoline, oil, pesticides, antifreeze, and paint
- Pharmaceuticals

For a complete list, visit **water.epa.gov/septicsmart**.

How does a septic system work?

This is a simplified overview of how a septic system works.

1. All water runs out of your house from one main **drainage pipe** into a septic tank.
2. The **septic tank** is a buried, water-tight container usually made of concrete, fiberglass or polyethylene. Its job is to hold the wastewater long enough to allow solids to settle down to the bottom (forming sludge), while the oil and grease floats to the top (as scum). Compartments and a T-shaped outlet prevent the sludge and scum from leaving the tank and traveling into the drainfield area.
3. The liquid wastewater then exits the tank into the **drainfield**. If the drainfield is overloaded with too much liquid, it will flood, causing sewage to flow to the ground surface or create backups in toilets and sinks.
4. Finally, the wastewater percolates into the **soil**, naturally removing harmful bacteria, viruses, and nutrients.



Own an RV, boat or mobile home?

If you spend any time in a recreational vehicle (RV) or boat, you probably know of the problem of odors from sewage holding tanks. Learn more about proper and safe wastewater disposal—download EPA's factsheet at **www.epa.gov/region9/water/groundwater/uic-pdfs/rv-wastewater.pdf** or call The National Small Flows Clearinghouse's Septic System Care hotline toll-free at 1-800-624-8301.

Take care at the drain

Your septic system contains a collection of living organisms that digest and treat household waste. Pouring toxins down your drain can kill these organisms and harm your septic system. Whether you're at the kitchen sink, bathtub, or utility sink:

- Avoid chemical drain openers for a clogged drain. Instead, use boiling water or a drain snake.
- Never pour cooking oil or grease down the drain!
- Never pour oil-based paints, solvents, or large volumes of toxic cleaners down the drain. Even latex paint waste should be minimized.
- Eliminate or limit the use of a garbage disposal, which will significantly reduce the amount of fats, grease, and solids that enter your septic tank and ultimately clog its drainfield.

Maintain your drainfield

Your drainfield—a component of your septic system that removes contaminants from the liquid that emerges from your septic tank—is an important part of your septic system. Here are a few things you should do to maintain it:

- Never park or drive on your drainfield.
- Plant trees the appropriate distance from your drainfield to keep roots from growing into your septic system. A septic service professional can advise you of the proper distance, depending on your septic tank and landscape.
- Keep roof drains, sump pumps, and other rainwater drainage systems away from your drainfield area, as excess water slows down or stops the wastewater treatment process.

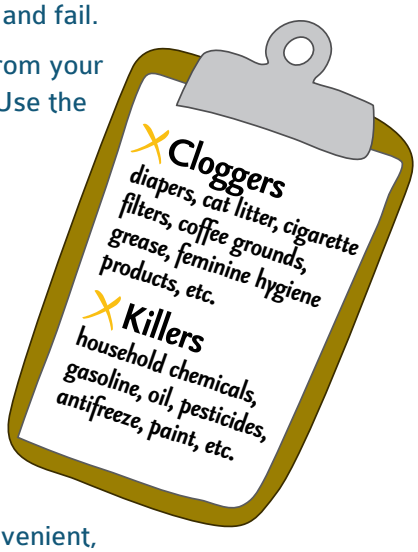
Failure Causes

Pouring household and home improvement chemicals down your drains, flushing garbage down toilets, excessive water use, and failure to provide proper maintenance aren't the only culprits for septic system failure. Take note of these additional causes of septic failure:

Hot tubs

Hot tubs may be a great way to relax, but when it comes to emptying them, your septic system should avoided. Emptying a hot tub into your septic system stirs the solids in the tank, pushing them into the drainfield, causing it to clog and fail.

Drain cooled hot tub water onto turf or landscaped areas far away from your septic tank and drainfield, and in accordance with local regulations. Use the same caution when draining swimming pools.



Water purification and softening systems

Some freshwater purification systems, including water softeners, unnecessarily pump water into septic systems. Such systems can send hundreds of gallons of water to septic tanks, causing agitation of solids and excess flow to drainfields. When researching water purification and softening systems, check with a licensed plumbing professional about alternative routing for such treatment systems.

Garbage disposals

Consider eliminating or limit the use of garbage disposals. While convenient, frequent use of garbage disposals significantly increases the accumulation of sludge and scum in septic tanks, resulting in the need for more frequent pumping.

Improper design or installation

The proper design and installation of a septic system is essential for it to correctly function. A home's groundwater table, soil composition, and a properly leveled drainfield are just a few factors to ensure a well-functioning septic system. Be sure to do your research when hiring septic professionals.

Failure symptoms: Mind the signs!

A foul odor isn't always the first sign of a malfunctioning septic system. Call a septic professional if you notice any of the following:

- Wastewater backing up into household drains.
- Bright green, spongy grass on the drainfield, even during dry weather.
- Pooling water or muddy soil around your septic system or in your basement.
- A strong odor around the septic tank and drainfield.

Mind the signs of a failing system. One call to a septic professional could save you thousands of dollars!

U.S. Environmental Protection Agency

For more information on how you can be SepticSmart, please visit:

www.epa.gov/septicsmart

EPA-832-B-12-005
September 2012

Henry County Public Service Authority Develops Source Water Protection Plan

Henry County Public Service Authority (HCPSA) is committed to protecting the local drinking water that supplies the residents of the HCPSA. The HCPSA have developed a joint Source Water Protection Plan with the assistance of CHA Consulting, Inc. and through grant funding that was provided by the Virginia Department of Health.

The goal of the development of the Source Water Protection Plan was to identify and diminish the risks that could potentially compromise the community's drinking water supply within the Upper Smith River watershed. These risks could potentially impact the health and safety of the residents, as well as the economy of the region.

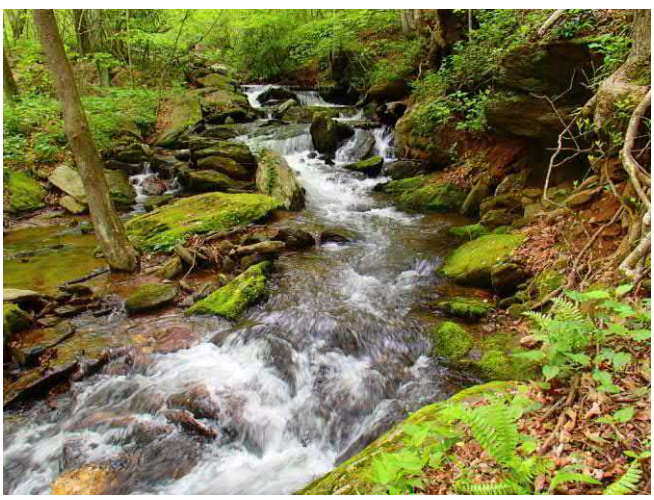
The development of the plan facilitates several future implementation measures that will reduce the likelihood of contamination impacting the HCPSA's drinking water intake and prepare the HCPSA so that if a response is needed, it is conducted in a safe and efficient manner to protect people and the environment. The plan includes specific recommendations that aim to promote public education and community involvement as well as increase emergency planning for those persons that would be directly involved in emergency response situations.

The Source Water Protection Plan has a public version of the plan that is available to review upon request. Any questions regarding the development of the plan may directed to Mike Ward, HCPSA P.E. Director of Regulatory Compliance and Technical Applications, at (276) 634-2540.

APPENDIX B

SUGGESTED SAMPLING LOCATIONS

Source Water Protection Plan
Suggested Sampling Sites
Smith River, VA



Brian Williams
Dan River Basin Association

Upper Smith River – Patrick and Franklin Counties

Shooting Creek :

- 36.855658, -80.162099 – Rte 622

White Oak Creek

- 36.846813, -80.168141 – Deer Run Rd (Rte 622)

Poplar Camp Creek

- 36.839131, -80.190912 – Deer Run Rd (Rte 622)

Joint Crack Creek

- 36.822227, -80.214818 – Charity Hwy (Rte 40)

Widgeon Creek

- 36.804565, -80.218450 – Brown Trout rd

Sycamore Creek

- 36.770237, -80.208690 – Elamsville Rd

Buffalo Creek

- 36.752146, -80.267944 – Woolwine Hwy (Rte 40)

Beards Creek

- 36.872092, -80.082075 – Fairystone Park rd

Nicholas Creek Jamison Mill

- 36.851586, -80.065706 – JamisonMill rd

Runnett Bag Creek

- 36.884125, -80.149286 – Franklin Street (Hwy 40)

Puppy Creek

- 36.824268, -80.139469 – Puppy Creek Rd

Otter Creek

- 36.893582, -80.121503 – Marlow Farm Rd

Smith River

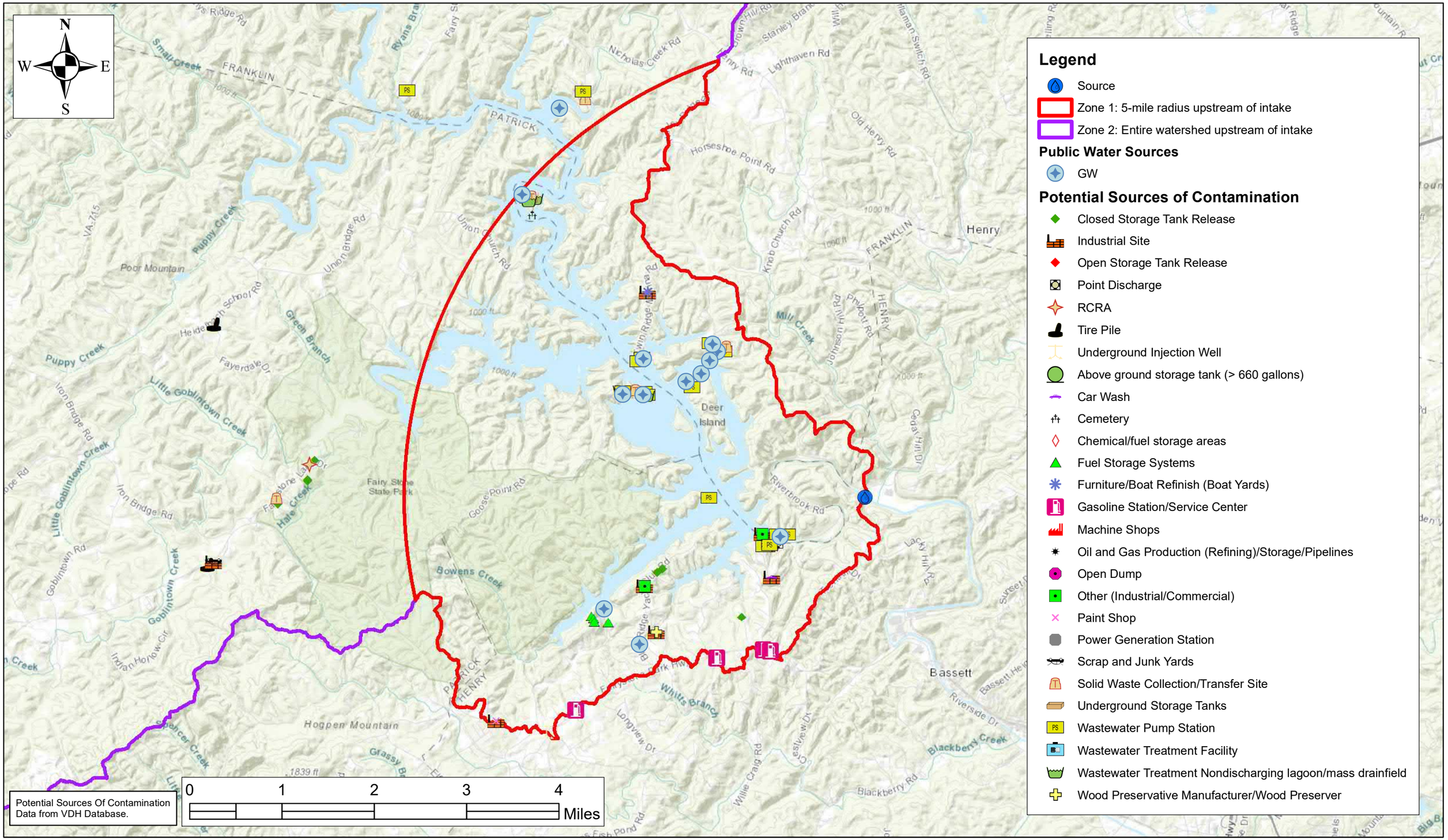
- 36.805339, -80.200743 – Iron Bridge rd (Rte704)

Smith River

- 36.752146, -80.267944 – Elamsville Rd, Woolwine

APPENDIX C-1

SOURCE WATER PROTECTION AREA ZONE 1 MAP

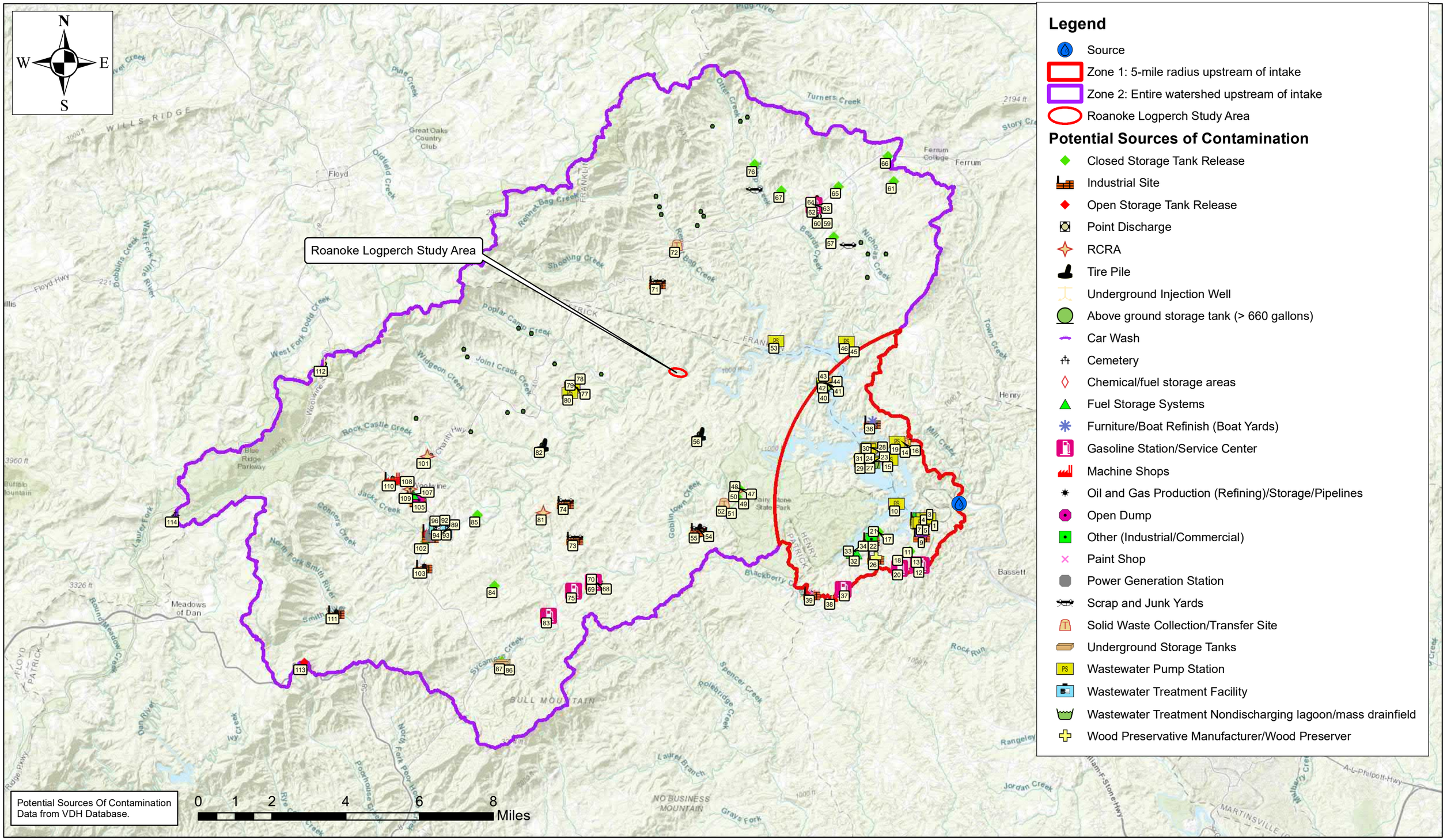


Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

Henry County PSA Upper Smith River Zone 1
Potential Sources of Contamination
Appendix C-1

APPENDIX C-2

SOURCE WATER PROTECTION AREA ZONE 2 MAP



Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

Henry County PSA Upper Smith River SWPA Zone 2
Potential Sources of Contamination
Appendix C-2

APPENDIX D

POTENTIAL SOURCES OF CONTAMINATION INVENTORY

Appendix D - Upper Smith River SWPA Potential Sources of Contamination List
County/City: Henry Waterworks: Henry County Public Service Authority PWSID# 5089852 Facility: Upper Smith River WTP

Map ID	Property / Business Owner	Contaminant Type	Facility Type	Address
0	State Mountain Church	Inorganics,	Cemetery	Floyd, VA
1	Liberty Fabrics, Inc	Site Specific	Other	PO Box 7, Woolwine VA 24185
2	WOOLWINE PLANT	Inorganics, SOCs,	Closed Storage Tank	138 Elamsville Rd Stuart VA 24171
3	Not found	Inorganics, Microbial, SOCs,	Solid Waste Collection/Transfer Site	Not found
4	Deer Run Campground Inc	Inorganics, Microbial, SOCs,	Solid Waste Collection/Transfer Site	PO Box 6, Woolwine VA 24185
5	Deer Run Campground Inc	Inorganics, Microbial, SOCs,	Solid Waste Collection/Transfer Site	PO Box 6, Woolwine VA 24185
6	Deer Run Campground Inc	Inorganics, Microbial, SOCs,	Wastewater Pump Station	PO Box 6, Woolwine VA 24185
7	Deer Run Campground Inc	Inorganics, Microbial, SOCs,	Wastewater Pump Station	PO Box 6, Woolwine VA 24185
8	Dennis Holmgaard Property	VOCs	Tire Pile	327 Hershberger Rd. c/o Friendship Manor Roanoke VA 24019
9	Bill Clark	Inorganics, SOCs, VOCs	Chemical/fuel storage areas	9792 Woolwine Highway, Woolwine VA 24185
10	Bill Clark	Inorganics, SOCs, VOCs	Chemical/fuel storage areas	9792 Woolwine Highway, Woolwine VA 24185
11	Bill Clark	Inorganics, Microbial, SOCs,	Open Dump	9792 Woolwine Highway, Woolwine VA 24185
12	US Army Corps Of Engineers	Inorganics, Microbial, SOCs,	Wastewater Pump Station	Philpott Project 1058 Philpott Dam Rd, Bassett VA 24055
13	Rose Turner	Inorganics, SOCs, VOCs	Furniture/Boat Refinish (Boat Yards)	466 Twin Ridge Marina Rd, Henry VA 24102
14	Wanda P Willard	Inorganics, Microbial, SOCs,	Wastewater Pump Station	1052 Twin Ridge Marina Rd, Henry VA 24102
15	US Army Corps Of Engineers	Inorganics, Microbial, SOCs,	Wastewater Pump Station	Philpott Project 1058 Philpott Dam Rd, Bassett VA 24055
16	US Army Corps Of Engineers	Inorganics, Microbial, SOCs,	Wastewater Pump Station	Philpott Project 1058 Philpott Dam Rd, Bassett VA 24055
17	US Army Corps Of Engineers	Inorganics, Microbial, SOCs,	Wastewater Pump Station	Philpott Project 1058 Philpott Dam Rd, Bassett VA 24055
18	US Army Corps Of Engineers	Site Specific	Other (Industrial/Commercial)	Philpott Project 1058 Philpott Dam Rd, Bassett VA 24055
19	US Army Corps Of Engineers	Inorganics, Microbial, SOCs,	Wastewater Pump Station	Philpott Project 1058 Philpott Dam Rd, Bassett VA 24055

Appendix D - Upper Smith River SWPA Potential Sources of Contamination List
County/City: Henry Waterworks: Henry County Public Service Authority PWSID# 5089852 Facility: Upper Smith River WTP

20	US Army Corps Of Engineers	Inorganics, Microbial, SOCs,	Wastewater Pump Station	Philpott Project 1058 Philpott Dam Rd, Bassett VA 24055
21	PHILPOTT DAM HYDROELECTRIC PLANT	Site Specific	Point Discharge	810 DAM SPILLWAY ROAD BASSETT VA 24055
22	PHILPOTT POWERHOUSE	Site Specific	RCRA	810 DAM SPILLLWAY ROAD BASSETT VA 24055
23	US Army Corps Of Engineers	Inorganics, Microbial, SOCs,	Wastewater Pump Station	Philpott Project 1058 Philpott Dam Rd, Bassett VA 24055
24	PHILPOTT LAKE	Site Specific	Wastewater Pump	810 SPILLWAY ROAD BASSETT VA 24055
25	US Army Corps Of Engineers	Inorganics, SOCs, VOCs	Car Wash	Philpott Project 1058 Philpott Dam Rd, Bassett VA 24055
26	Michael Lyons Property Number 1	Inorganics, SOCs, VOCs	Closed Storage Tank Release	1322 Blue Ridge Yacht Club Rd Bassett VA 24055
27	Michael Lyons Property Number 2	Inorganics, SOCs, VOCs	Closed Storage Tank Release	1248 Blue Ridge Yacht Club Rd Bassett VA 24055
28	Phillip Donald Marshall	Site Specific	Other (Industrial/Commercial)	1138 Blue Ridge Yacht Club Rd, Bassett VA 24055
29	Annie or Versil Washburn	Dioxin, Inorganics, SOCs	Wood Preservative Manufacturer/Wood	244 Valley View Dr, Bassett VA 24055
30	Village Market	Inorganics, SOCs,	Open Storage Tank	6601 Fairystone Park Hwy Bassett VA 24055
31	C Ervin & Freda Cox	Inorganics, SOCs, VOCs	Gasoline Station/Service Center	PO Box 81, Bassett VA 24055
32	Robertson Ruby Residence	Inorganics, SOCs,	Closed Storage Tank	381 Spring Garden Ln Bassett VA 24055
33	Phillip & Judy Helms	Inorganics, SOCs, VOCs	Gasoline Station/Service Center	1094 Fairmont Dr, Bassett VA 24055
34	Tim Dodson	Inorganics, SOCs, VOCs	Gasoline Station/Service Center	6121 Fairystone Pk Hwy, Bassett VA 24055
35	Sandra Hagler	Inorganics, SOCs, VOCs	Gasoline Station/Service Center	PO Box 755, Pine Bush NY 12566
36	EASTERS AUTO SALES	Inorganics, Microbial, RADs,	Underground Injection Well	8655 FAIRYSTONE PARK HIGHWAY, BASSETT VA 24055
37	William M & Nancy Gilley	Inorganics, SOCs,	Paint Shop	157 Chestnut Oak Dr, Bassett VA 24055
38	Liberty Fabrics Inc	Inorganics, SOCs, VOCs	Above ground storage tank (> 660 gallons)	PO Box 7, Woolwine VA 24185
39	Liberty Fabrics Inc	Inorganics, SOCs, VOCs	Above ground storage tank (> 660 gallons)	PO Box 7, Woolwine VA 24185
40	Harbour residence	Inorganics, SOCs,	Closed Storage Tank	1233 Elamsville Rd Stuart VA 24171
41	Liberty Fabrics Inc	Inorganics,	Cemetery	PO Box 7, Woolwine VA 24185

Appendix D - Upper Smith River SWPA Potential Sources of Contamination List
County/City: Henry Waterworks: Henry County Public Service Authority PWSID# 5089852 Facility: Upper Smith River WTP

42	Liberty Fabrics Inc	Inorganics, Microbial, SOCs,	Wastewater Treatment Facility	PO Box 7, Woolwine VA 24185
43	Patrick Co Public Schools	Inorganics, SOCs,	Fuel Storage Systems	PO Box 346, Stuart VA 24171
44	GRIFFITH LUMBER CO INC	Site Specific	RCRA	1284 CHARITY HWY WOOLWINE VA 241850000
45	HANESBRANDS WOOLWINE VIRGINIA FACILITY	Site Specific	RCRA	34 CHARITY HIGHWAY WOOLWINE VA 24185
46	Woolwine Methodist Church	Inorganics,	Cemetery	Not found
47	US Army Corps of Engineers	Inorganics, Microbial, SOCs,	Wastewater Pump Station	1058 Philpott Dam Rd, Bassett VA 24055
48	US Army Corps of Engineers	Inorganics, Microbial, SOCs, VOCs	Wastewater Treatment Nondischarging lagoon/mass drainfield	1058 Philpott Dam Rd, Bassett VA 24055
49	US Army Corps of Engineers	Inorganics, Microbial, SOCs,	Solid Waste Collection/Transfer Site	1058 Philpott Dam Rd, Bassett VA 24055
50	US Army Corps of Engineers	Inorganics, Microbial, SOCs, VOCs	Wastewater Treatment Nondischarging lagoon/mass drainfield	1058 Philpott Dam Rd, Bassett VA 24055
51	US Army Corps of Engineers	Inorganics, Microbial, SOCs,	Wastewater Pump Station	1058 Philpott Dam Rd, Bassett VA 24055
52	Worley Machine Enterprises Inc	Inorganics, SOCs, VOCs	Machine Shops	8735 Woolwine Hwy, Woolwine VA 24185
53	American Electric Power	Inorganics, SOCs,	Power Generation Station	PO Box 24404, Canton OH 44701-4404
54	WOODS GARAGE	Inorganics, SOCs, VOCs	Closed Storage Tank Release	8361 Woolwine Highway Woolwine VA 24185
55	Meredi Spencer	Inorganics, SOCs,	Fuel Storage Systems	525 Bowens Creek Rd C1, Bassett VA 24055
56	Jack T Kellam	Inorganics, SOCs,	Fuel Storage Systems	Bowers Creek Rd C-2, Bassett VA 24055
57	G D Lawson	Inorganics, SOCs,	Fuel Storage Systems	365 Bowens Creek Rd C-3, Bassett VA 24055
58	James C Vislante	Inorganics, SOCs,	Fuel Storage Systems	Bowers Creek Rd C-5, Bassett VA 24055
59	US Army Corps of Engineers	Inorganics, Microbial, SOCs,	Wastewater Pump Station	1058 Philpott Dam Rd, Bassett VA 24055
60	US Army Corps of Engineers	Inorganics, Microbial, SOCs,	Wastewater Pump Station	1058 Philpott Dam Rd, Bassett VA 24055
61	US Army Corps of Engineers	Inorganics, Microbial, SOCs, VOCs	Wastewater Treatment Nondischarging lagoon/mass drainfield	1058 Philpott Dam Rd, Bassett VA 24055
62	US Army Corps of Engineers	Inorganics, Microbial, SOCs,	Solid Waste Collection/Transfer Site	1058 Philpott Dam Rd, Bassett VA 24055

Appendix D - Upper Smith River SWPA Potential Sources of Contamination List
County/City: Henry Waterworks: Henry County Public Service Authority PWSID# 5089852 Facility: Upper Smith River WTP

63	US Army Corps of Engineers	Inorganics, Microbial, SOCs, VOCs	Wastewater Treatment Nondischarging lagoon/mass drainfield	1058 Philpott Dam Rd, Bassett VA 24055
64	US Army Corps of Engineers	Inorganics,	Cemetery	1058 Philpott Dam Rd, Bassett VA 24055
65	US Army Corps of Engineers	Inorganics, Microbial, SOCs,	Solid Waste Collection/Transfer Site	1058 Philpott Dam Rd, Bassett VA 24055
66	US Army Corps of Engineers	Inorganics, Microbial, SOCs,	Wastewater Pump Station	1058 Philpott Dam Rd, Bassett VA 24055
67	US Army Corps of Engineers	Inorganics, Microbial, SOCs,	Wastewater Pump Station	1058 Philpott Dam Rd, Bassett VA 24055
68	US Army Corps of Engineers	Inorganics, Microbial, SOCs,	Solid Waste Collection/Transfer Site	1058 Philpott Dam Rd, Bassett VA 24055
69	US Army Corps of Engineers	Inorganics, Microbial, SOCs,	Wastewater Pump Station	1058 Philpott Dam Rd, Bassett VA 24055
70	FAIRY STONE STATE PARK	Inorganics, SOCs,	Closed Storage Tank	967 Fairystone Lake Dr Stuart VA 24171
71	FAIRY STONE STATE PARK	Site Specific	RCRA	967 Fairystone Lake Dr Stuart VA 24171
72	DCR - Fairy Stone State Park	Inorganics, SOCs,	Closed Storage Tank	967 Fairystone Lake Dr Stuart VA 24171
73	FAIRY STONE STATE PARK	Inorganics, SOCs,	Closed Storage Tank	967 Fairystone Lake Dr Stuart VA 24171
74	Carmichael/Darby property	Inorganics, SOCs,	Closed Storage Tank	362 Fairystone Park Ln Stuart VA 24171
75	Kermon Carter	Inorganics, Microbial, SOCs,	Solid Waste Collection/Transfer Site	1319 Clarke Avenue SW, Roanoke VA 24016
76		VOCs	Tire Pile	
77	David Roberts	Inorganics, Microbial, SOCs,	Solid Waste Collection/Transfer Site	3918 Fairy Stone Highway, Stuart VA 24171
78	David Roberts	Inorganics, SOCs,	Chemical/fuel storage	3918 Fairy Stone Highway, Stuart VA 24171
79	US Army Corps of Engineers	Inorganics, Microbial, SOCs,	Wastewater Pump Station	1058 Philpott Dam Rd, Bassett VA 24055
80	Franklin County	Inorganics, Microbial, SOCs,	Solid Waste Collection/Transfer Site	40 East Court St, Rocky Mount VA 24151
81	Patrick County	Inorganics, Microbial, SOCs,	Solid Waste Collection/Transfer Site	106 Rucker St, PO Box 466, Stuart Virginia 24171
82	Irin Quinn	VOCs	Tire Pile	Route 2, Box 84 Ferrum VA
83	GROOM-A-RAMA	Inorganics, Microbial, RADs,	Underground Injection Well	S.R. 606, RT. 1, BOX 59 FERRUM VA 24088
84	EDDIE'S GARAGE	Inorganics, Microbial, RADs,	Underground Injection Well	RT. 3, BOX 57 FERRUM VA 24088
85	A and A Market	Inorganics, SOCs, VOCs	Gasoline Station/Service Center	Not found
86	Ciappa Tom Residence	Inorganics, SOCs,	Closed Storage Tank	1334 Franklin St Ferrum VA 24088

Appendix D - Upper Smith River SWPA Potential Sources of Contamination List
County/City: Henry Waterworks: Henry County Public Service Authority PWSID# 5089852 Facility: Upper Smith River WTP

87	Brouillard Darla Residence	Inorganics, SOCs,	Closed Storage Tank	11737 Franklin St Ferrum VA 24088
88	Pilson's Garage	Inorganics, SOCs,	Scrap and Junk Yards	Not found
89	Sam Pilson	VOCs	Tire Pile	Route 2, Box 555 Stuart VA
90	Robert's Market	Inorganics, SOCs, VOCs	Gasoline Station/Service Center	Not found
91	Clyde Turner's Used Cars	Inorganics, SOCs, VOCs	Gasoline Station/Service Center	Not found
92	Country Convenience	Inorganics, SOCs, VOCs	Gasoline Station/Service Center	Not found
93	Pilson Brothers Lumber Co. Inc.	Inorganics, SOCs, VOCs	Closed Storage Tank Release	1555 Pilson Sawmill Rd Stuart VA 24171
94	VDOT	Inorganics, SOCs,	Underground Storage	1401 E Broad St, Richmond VA 23219
95	FAIRYSTONE HQ	Inorganics, SOCs, VOCs	Closed Storage Tank Release	483 Fairystone Park Highway Stuart VA 24171
96	Worley Machine Shop	Inorganics, SOCs, VOCs	Oil and Gas Production (Refining)/Storage/Pipelin	Not found
97	Mickles Henry Residence	Inorganics, SOCs,	Open Storage Tank	8487 Jeb Stuart Hwy Patrick VA
98	Hopkins Timber Contractors	Inorganics, SOCs, VOCs	Oil and Gas Production (Refining)/Storage/Pipelin	Not found
99	HANESBRANDS INC	Site Specific	Wastewater Treatment	138 ELAMSVILLE RD STUART VA 24171
100	HANESBRANDS INC	Site Specific	Point Discharge	138 ELAMSVILLE RD STUART VA 24171
101	HANESBRANDS WOOLWINE VIRGINIA FACILITY	Site Specific	Wastewater Treatment Facility	138 ELAMSVILLE RD STUART VA 24171
102	Sara Lee	Inorganics, Microbial, SOCs,	Wastewater Treatment Facility	Not found
103	Turbo Sales and Fabrication	Inorganics, SOCs,	Machine Shops	Not found
104	TUGGLES GAP ICE CREAM SHOP	Inorganics, Microbial, RADs,	Underground Injection Well	3351 PARKWAY LANE 8 FLOYD VA 24091
105	Not found	Inorganics, SOCs,	Scrap and Junk Yards	Not found
106	HUTCHENS, L E INC	Site Specific	RCRA	RTE 8 STUART VA 24171
107	Not found	Inorganics, SOCs,	Scrap and Junk Yards	Not found
108	Not found	Inorganics, SOCs,	Scrap and Junk Yards	Not found
109	Auto and Small Engine Repair Facility Fire	Inorganics, SOCs, VOCs	Closed Storage Tank Release	6290 Dry Hill Rd Ferrum VA 24088
110	The Broaddus Shively Property, VDOT Right-Of-Way	Inorganics, SOCs, VOCs	Closed Storage Tank Release	Route 788, 1.5 miles North of Route 40 Ferrum VA 24088
111	Eddie's Garage	Inorganics, SOCs,	Closed Storage Tank	1642 Henry Rd Ferrum VA 24088
112	JOANN C. YOUNG RESIDENCE	Inorganics, SOCs,	Closed Storage Tank	225 King Richard Rd Ferrum VA 24088
113	Lewis, Edward Lee & Dawn S		Agricultural	751 Woods Gap Road, Woolwine, VA 24185

Appendix D - Upper Smith River SWPA Potential Sources of Contamination List
County/City: Henry Waterworks: Henry County Public Service Authority PWSID# 5089852 Facility: Upper Smith River WTP

114	Patrick County, VA		Agricultural	2259 Charity Highway, Woolwine, VA 24185
115	Godfrey, Melssia & Ann Living		Agricultural	5367 Charity Lane, Woolwine, VA, 24185
116	Turner, Richard Stephen & Dana D		Agricultural	4300 Woods Gap Road, Woolwine, VA 24185
117	Pilson, Caroline		Agricultural	4000 Woods Gap Road, Woolwine, VA 24185
118	Turner, Albert Lane		Agricultural	6600 Charity Lane, Woolwine, VA 24185
119	Dawe, Kathleen		Agricultural	1477 Poplar Camp Road, Woolwine, VA 24185
120	Rakes, Hubert J		Agricultural	855 Poplar Camp Road, Woolwine, VA 24185
121	T & L Development, LLC		Logging	9036 Charity Highway, Woolwine, VA 24185
122	Jones, Esther B & Harold		Agricultural	2446 Deer Run Road, Ferrum, VA 24088
123	Boyd, Thomas L & Malindy		Agricultural	Ike Road & Runnett Bag Road, Ferrum, VA 24088
124	Lupacchino, Michael Geonzon & Naomi Nicole		Agricultural	1201 Runnett Bag Road, Ferrum, VA 24088
125	Eder, William F		Agricultural	100 Hurds Branch Road, Ferrum, VA 24088
126	Allen, Jimmy R & Shirley L		Agricultural	563 Dry Hill Road, Ferrum, VA 24088
127	Shively, David Jason & Rachel Jones		Agricultural	541 Dry Hill Road, Ferrum, VA 24088
128	Bowling, Margie; Shively, Regina & David & Timothy & Scott Christel		Agricultural	155 Dry Hill Road, Ferrum, VA 24088
129	Boyd, Barbara Jean G		Agricultural	940 Buffalo Ridge Road, Ferrum, VA 24088
130	Shively, Joel A		Agricultural	311 Buffalo Ridge Road, Ferrum, VA 24088
131	Thompson, Douglas Arthur		Agricultural	760 Barton Spur Road, Ferrum, VA 24088
132	Whitlow, Billy Ronald & Deena Gail		Logging	988 Timberline Road, Ferrum, VA 24088
133	Rhodes, Loren W & Kendra B		Agricultural	1024 Ingramville Road, Ferrum, VA 24088
134	Jamison, Richard L & Nedra K		Agricultural	1156 Timberline Road, Ferrum, VA 24088
135	Griffith Lumber Company		Logging	1284 Charity Highway, Woolwine, VA 24185
136	Cruise, Lucille M & Whitlow, Billy R & Deena Gail		Agricultural	2761 Henry Road, Henry, VA 24102

VARIOUS POTENTIAL SOURCES OF CONTAMINATION

According to the Virginia Groundwater Protection Steering Committee, the following land uses can pose threats to both surface water and groundwater sources. This is provided to demonstrate potential sources the Henry County Public Service Authority should be aware of and plan in accordance for in the future. Many of the following sources of pollution are not currently present in the Upper Smith River Intake source water protection area, but citizens should be aware of their potential impact and keep them in mind for future plans for the area.

Residential

Threats to surface water and groundwater from residential uses are normally less acute on a case-by-case basis than those from other, more intensive, land uses. The cumulative effect from many residents in an area can prove to be a serious problem, however, especially if owners are unaware of the numerous potential contaminants that can be found in the home and yard and the proper methods for their use and disposal. Examples of potential residential sources include:

- On-site septic systems (e.g. nitrates, bacteria and viruses, household cleaners)
- Sewer lines
- Fuel storage
- Lawn chemicals (e.g. pesticides, fertilizers)
- Automotive and pool chemicals
- Storm water
- Abandoned wells
- Road deicing operations (e.g. road salt)
- Household activities chemicals (e.g. solvents, paints, household cleaners)

Industrial

Industrial operations commonly use toxic substance as part of manufacturing, warehousing, and/or distribution. Materials such as chemicals, petroleum, cleaning supplies, machinery, metals, electronic products, asphalt, and others pose a potential threat unless carefully managed. Activities representing the greatest concern include the following.

- Mining, quarrying
- Pipelines
- Storage tanks (above and underground)
- Operating and abandoned wells (e.g., gas, oil, water, monitoring and exploration)

- Septage and sludge lagoons
- Land application of sludge

Even small quantities of toxic and hazardous waste chemicals can contaminate water resources. These chemicals should never be put directly into the ground and their containers should not be discarded on the ground, or in the trash.

Underground storage of hazardous materials has historically been a significant source of groundwater contamination. Even a small leak can contaminate a substantial amount of water.

Commercial

Many commercial operations use toxic and hazardous materials in their processes. The storage, use, and disposal of chemicals required by these operations can pose a potential threat to surface water and groundwater, since even small amounts of the hazardous materials can contaminate large amounts of surface water and groundwater. Specific examples of land uses of concern include:

- Auto repair shops, gas stations (e.g. oils, greases, solvents, antifreeze, gasoline)
- Road maintenance depots, de-icing operations
- Boat yards, railroad tracks and yards, airports
- Construction areas
- Dry cleaners, Laundromats
- Medical institutions, research laboratories
- Photography establishments, printers
- Golf courses (chemical application)

Agricultural

Chemical usage associated with farming activities can present a contamination threat to surface water and underlying groundwater. Pesticides, fungicides, and fertilizers can leach through the soil to the water below when applied improperly in the field. They also have the potential to leak from any storage containers into the ground. Animal feedlots and livestock operations can create excessive nitrate/nitrite and bacteriological problems if animal waste loads, whether dry or liquid, are high and groundwater is shallow, or the soil is permeable. Specific concerns for farming include:

- Pesticides, fungicides
- Fertilizers
- Feedlots, confined animal feeding operations

Waste Management

Disposal of wastes must be handled carefully to prevent contamination of surface water and groundwater. Older landfills in particular can threaten groundwater. In lined landfills, reliance is placed on the liner not failing after a number of years. Landfills are known sources of contamination and typically result in pollutants including nutrients, metals and hydrocarbons. The need to manage "waste" storm water is created by most development – residential, commercial and industrial – since impervious surface prevent rain from soaking into the soil. Sites of greatest concern can include:

- Landfills
- Impervious surfaces
- Basins, lagoons

Transportation

Facilities moving potentially contaminating liquids or materials through an area can result in spills and accidents in locations near public water supplies. Preventing escape of such materials is crucial as is rapid response. Specific sources of concern may include:

- Pipelines
- Highways
- Airports
- Rail lines

INSERT FACILITY NAME
AND ADDRESS

Re: Henry County Public Service Authority Upper Smith River Intake Source Water Protection Area

Dear _____:

The Henry County Public Service Authority is taking efforts to protect the community drinking water supply which comes from the Upper Smith River intake. Henry County Public Service Authority, in conjunction with the Virginia Department of Health and CHA Consulting, Inc., has developed measures which highlight Potential Sources of Contamination and seek to minimize the risk of contamination to the drinking water. Attached is a map of the water system and the associated Source Water Protection Areas (SWPA) for your reference. The SWPA is the zone upstream of a water source where a spill or contaminants above ground have the potential to reach the intake and contaminate the water supply. Based on your location and the possibility your business may have chemicals, we are requesting your cooperation in our source water protection efforts. In an event of a spill or an emergency within these areas, please notify me at (276) 634-2540 as soon as possible so that the appropriate actions can be implemented to protect the water supply. If you have any questions about this letter or the attached information, please call me at the above number. Thank you for your assistance in this matter.

Sincerely,

Michael Ward
Director of Regulatory Compliance and Technical Applications
Henry County Public Service Authority

Appendix D - Henry County PSA Upper Smith River
High Priority Site List

MAP ID	Property Owner	Facility Type	Mailing Address	Latitude	Longitude
0	HANESBRANDS WOOLWINE VIRGINIA FACILITY	TRI REPORTER	34 CHARITY HIGHWAY WOOLWINE VA 24185	36.790424	-80.277389
1	HUTCHENS, L E INC	RCRA	RTE 8 STUART VA 24171	36.782446	-80.212386
2	FAIRY STONE STATE PARK	RCRA	967 FAIRYSTONE LAKE DR STUART VA 24171	36.791028	-80.117576
3	GRIFFITH LUMBER CO INC	RCRA	1284 CHARITY HWY WOOLWINE VA 24185	36.803259	-80.269349
4	PHILPOTT POWERHOUSE	RCRA	810 DAM SPILLLWAY ROAD BASSETT VA 24055	36.781618	-80.027158

N

W E

S

Legend

Source

Zone 1: 5-mile radius upstream of intake

Zone 2: Entire watershed upstream of intake

High Priority Sites

Facility Type

RCRA

TRI Reporter

GRIFFITH LUMBER CO INC

HANESBRANDS WOOLWINE VIRGINIA FACILITY

HUTCHENS, L E INC

FAIRY STONE STATE PARK

PHILPOTT POWERHOUSE

Potential Sources Of Contamination
Data from VDH Database.

0 1 2 4 6 8 Miles

Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

Henry County PSA Upper Smith River SWPA
High Priority Sites
APPENDIX D

INSERT ADDRESS

Re: Upper Smith River Intake Source Water Protection Area Timbering Activities

Dear _____:

The Henry County Public Service Authority is taking efforts to protect the community drinking water supply which comes from the Upper Smith River intake. Henry County Public Service Authority, in conjunction with the Virginia Department of Health and CHA Consulting, Inc., has developed measures which highlight Potential Sources of Contamination and seek to minimize the risk of contamination to the drinking water. Attached is a map of the water system and the associated Source Water Protection Areas (SWPA) for your reference. The SWPA is the zone upstream of a water source where a spill or contaminants above ground have the potential to reach the intake and contaminate the water supply. Please notify me at (276) 634-2540 of any timbering activities that will be occurring in the SWPA in order to ensure best management practices are in place. If you have any questions about this letter or the attached information, please call me at the above number. Thank you for your assistance in this matter.

Sincerely,

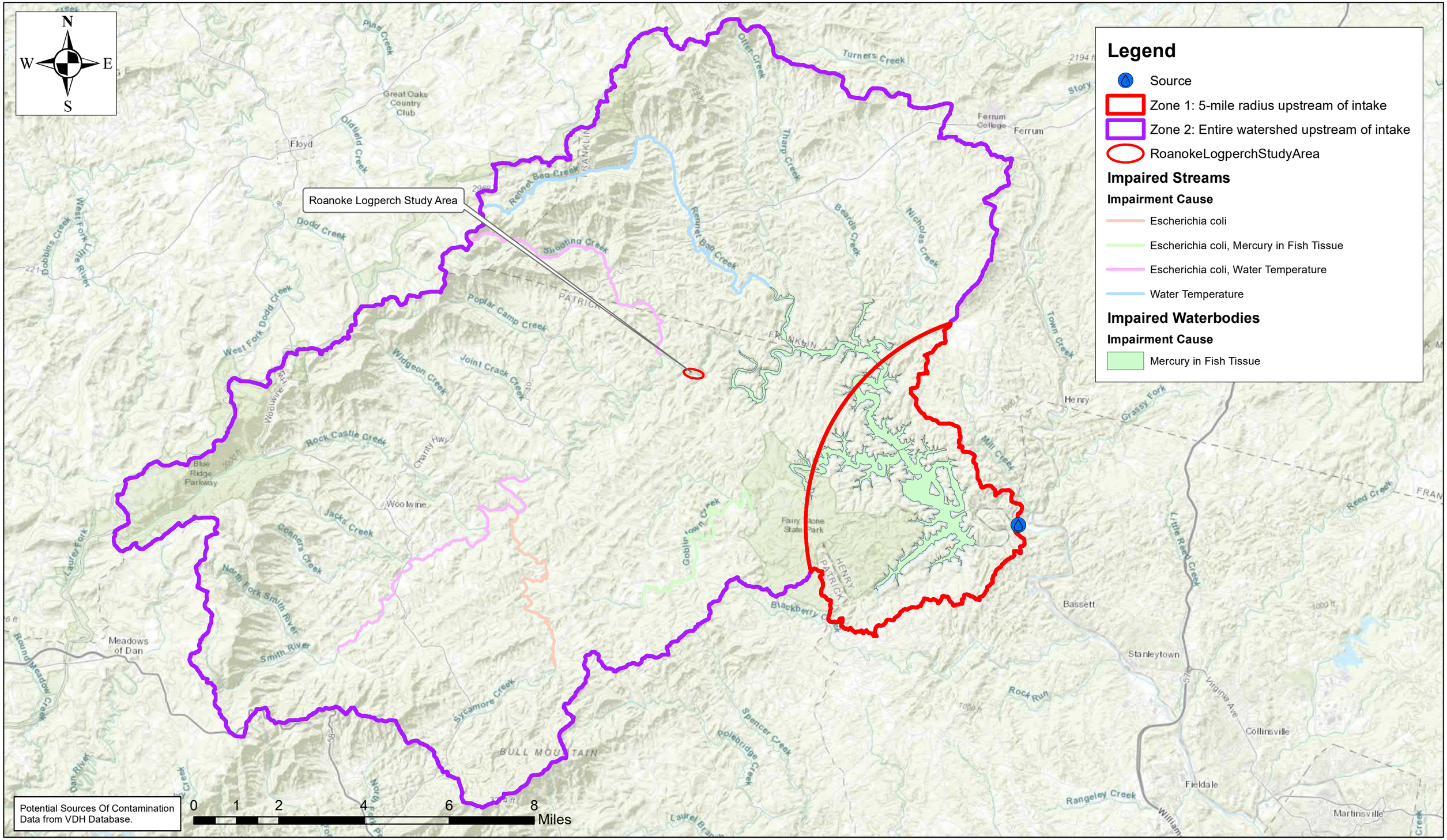
Michael Ward
Director of Regulatory Compliance and Technical Applications
Henry County Public Service Authority

Appendix D - Henry County PSA Upper Smith River
Timbering Activities

Mecklenburg County			
Parcel ID	Owner	Address	County
1000000200	Whitlow, Billy Ronald & Deena Gail	988 Timberline Road, Ferrum, VA 24088	Franklin
4919-35	T & L Development, LLC	9036 Charity Highway, Ferrum, VA 24088	Patrick
-	Griffith Lumber Company	1284 Charity Highway, Woolwine, VA 24185	Patrick

APPENDIX E

TOPOGRAPHIC MAP



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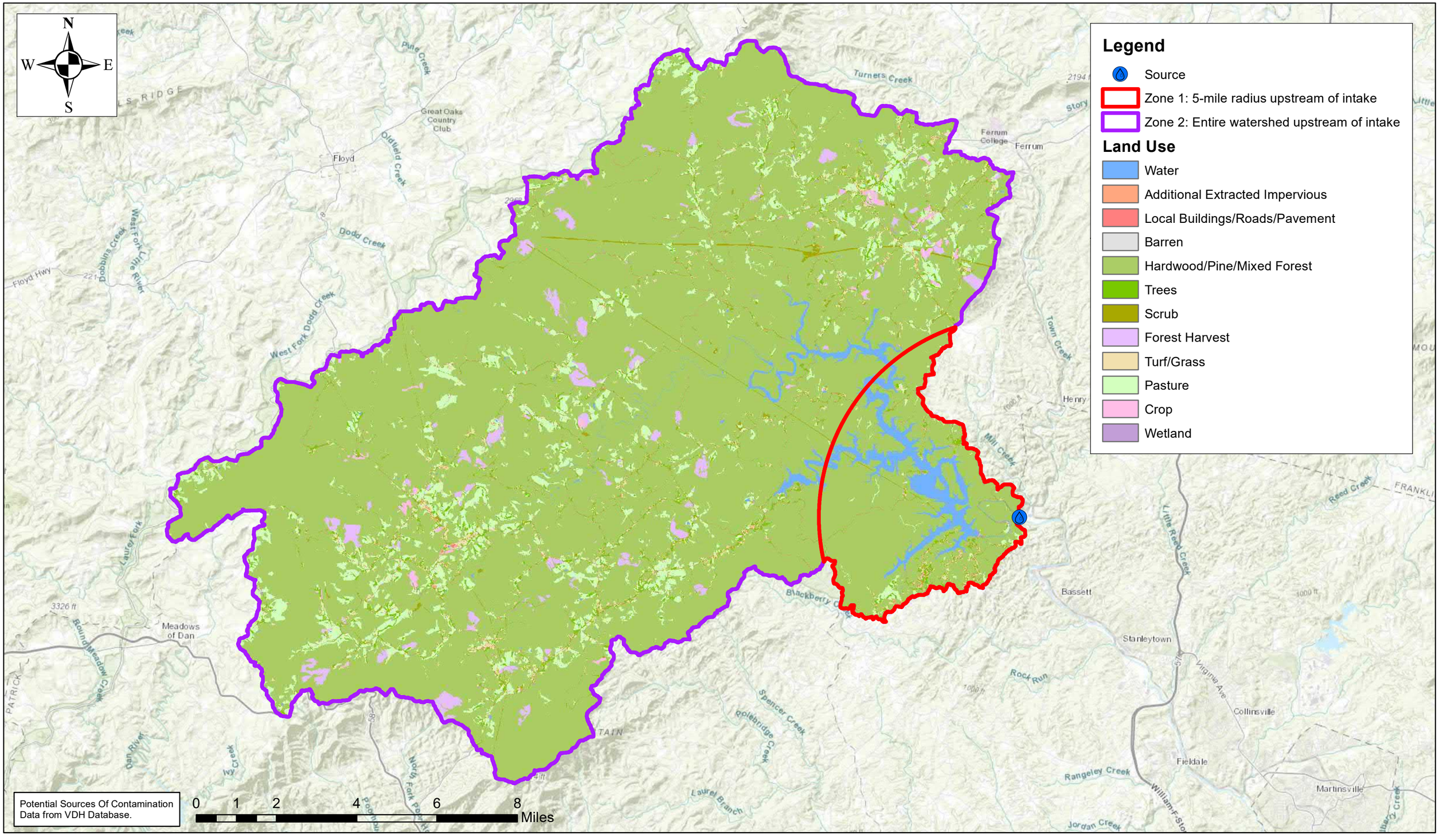
Henry County PSA Upper Smith River
Topographic Map
Appendix E

APPENDIX F-1

SOURCE WATER PROTECTION AREA LAND USE MAP



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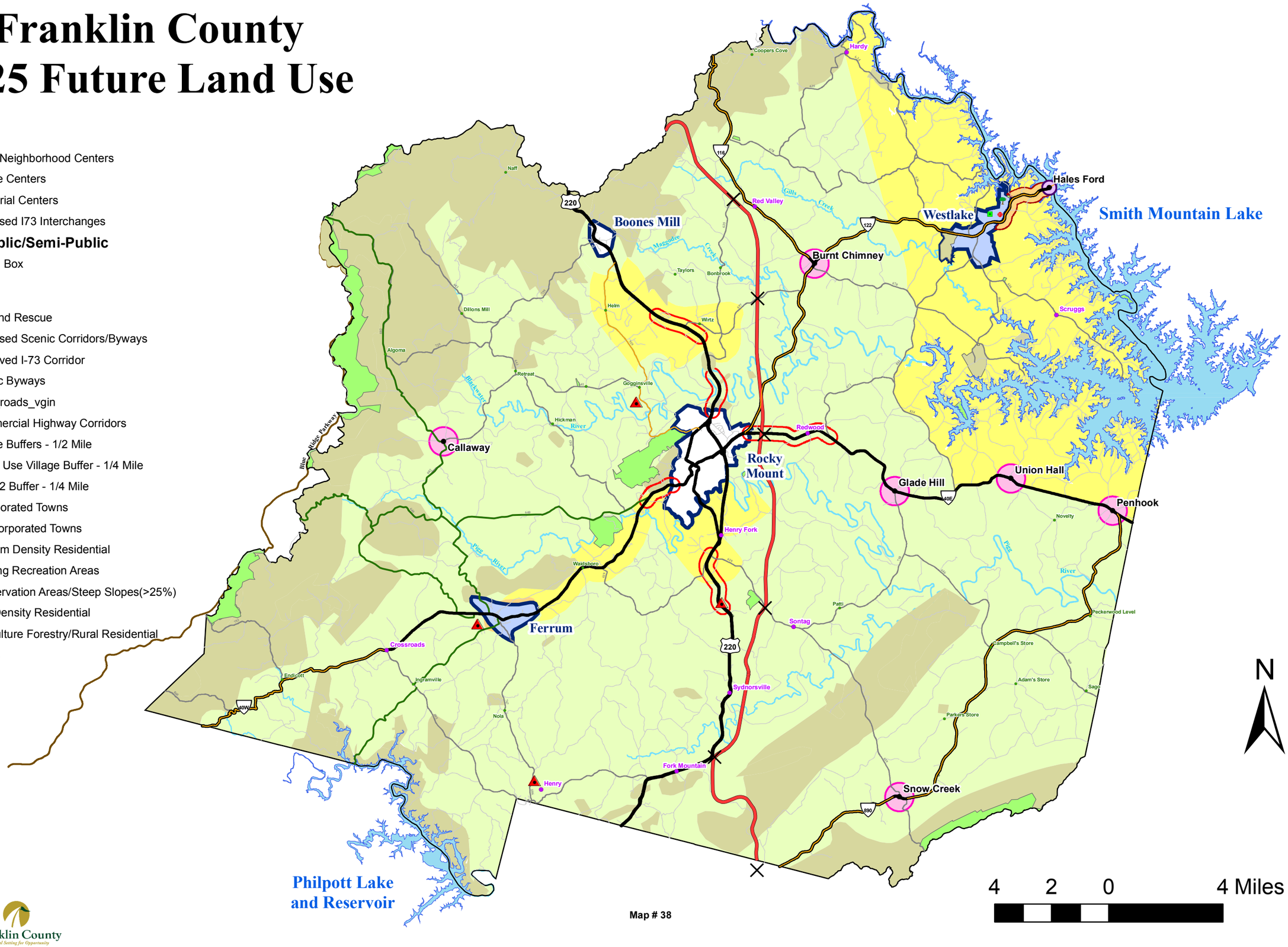
Henry County PSA Upper Smith River
Land Use Map
Appendix F-1

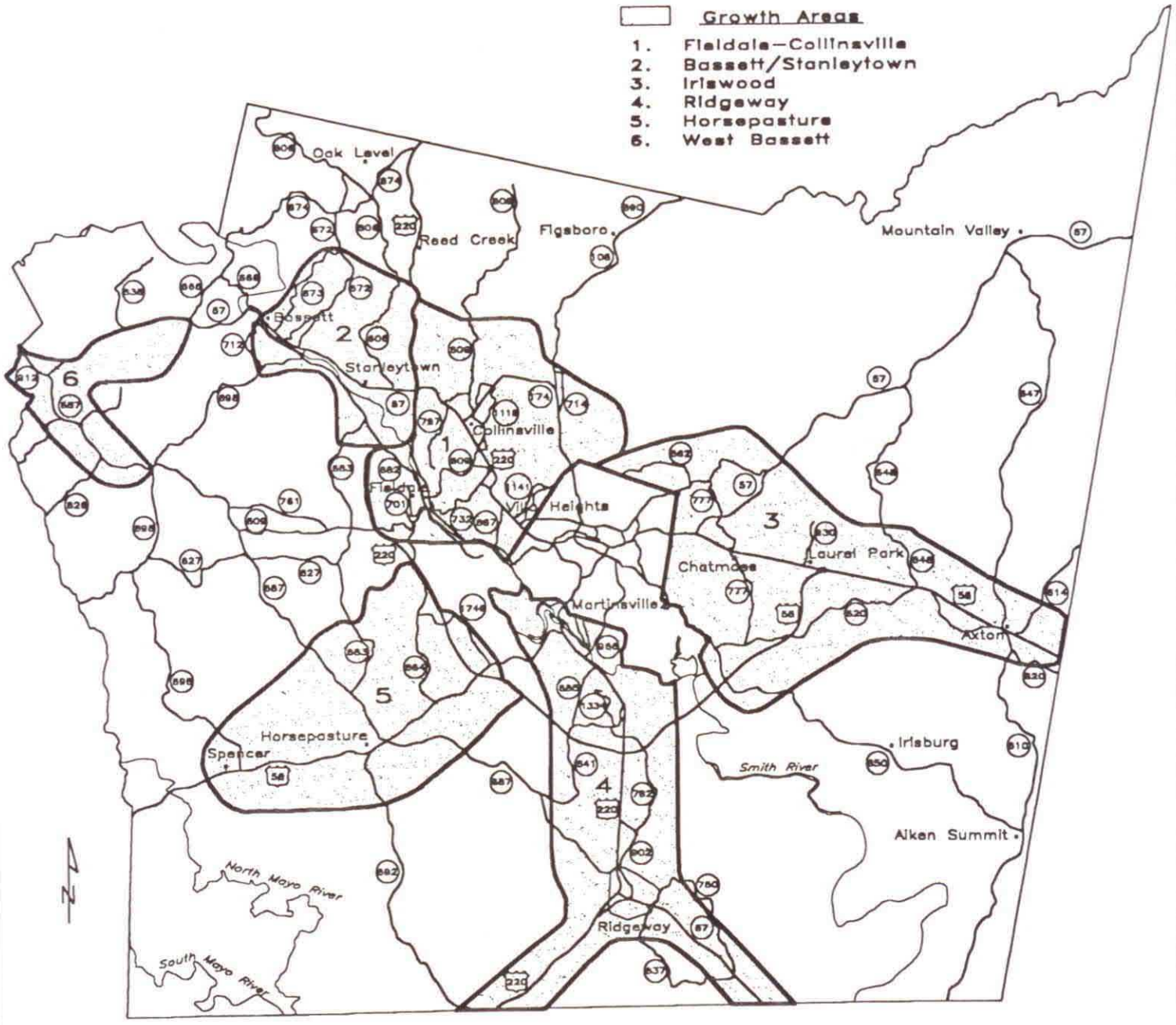
APPENDIX F-2

SOURCE WATER PROTECTION AREA FUTURE LAND USE

Franklin County
2025 Future Land Use

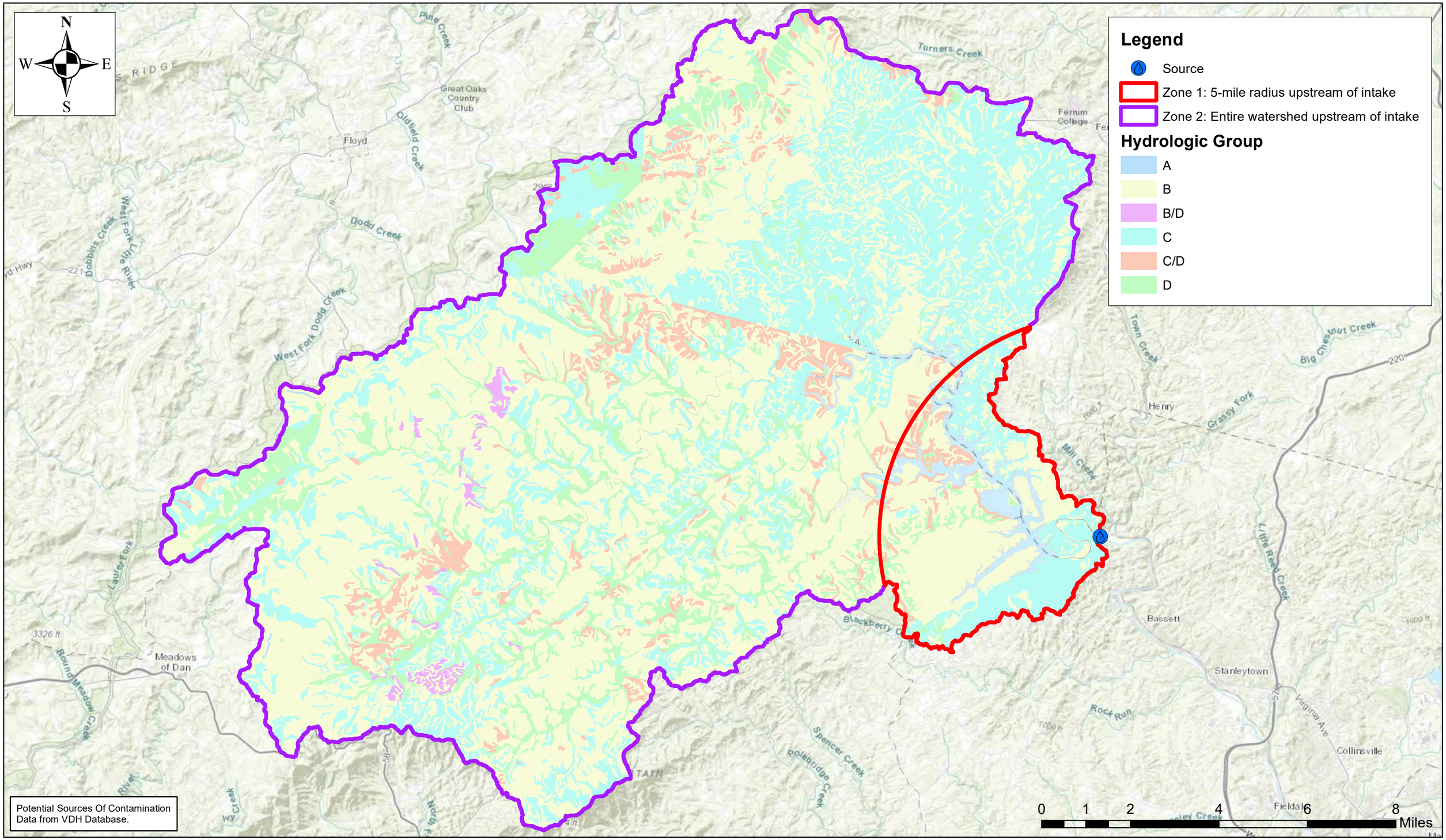


Henry County
Growth Areas



APPENDIX G

SOILS MAP



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Henry County PSA Upper Smith River
Soils Map
Appendix G

APPENDIX H

EMERGENCY RESPONSE PLAN

Emergency Response Planning Template for Public Drinking Water Systems

Rural Community Assistance Corporation
www.rcac.org

Midwest Assistance Program

COMMUNITY RESOURCE GROUP INCORPORATED

Great Lakes RCAP Rural Community Assistance Program

RCAP Solutions
Resources for Communities And People

Southeast Rural Community Assistance Project, Inc.
Water Is Life

Produced for the Rural Community Assistance Partnership (RCAP) National Network

by Rural Community Assistance Corporation, Western RCAP

RCAP Safety and Security Education Program

Emergency Response Planning Template for Public Drinking Water Systems

RCAP Regional Offices:

If you need technical assistance to complete your Emergency Response Plan, please contact one of our regional offices listed below.

Regional Offices	Contact Number	Web Address
RCAP National Office	888/321-7227	www.rcap.org
Western RCAP	916/447-2854	www.rcac.org
Southeast RCAP	866/928-3731	www.southeastrcap.org
Great Lakes RCAP	800/775-9767	www.glrcap.org
Southern RCAP	479/443-2700	www.crg.org
Northeast RCAP	800/488-1969	www.rcapsolutions.org
Midwest RCAP	952/758-4334	www.map-inc.org

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For additional copies of this publication, call 888/321-7227or visit RCAP's web site at *www.rcap.org.*

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RCAP
Rural Community Assistance Partnership

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Planning Template

Introduction

Preparing an emergency response plan is an essential part of managing a drinking water system. Rural Community Assistance Partnership, Inc has developed this template for public water systems serving 3,300 population or fewer to help them develop such plans.

How to use the template

Developing an emergency response plan can take a lot of time and effort. The purpose of this document is to make the job easier and help create a plan that works for your water system. The document is intended for use by any water system and may be modified to fit the specific needs of each system. This document can be used as a starting point based on what is relevant for the type, size, and complexity of the system.

The template is just a guide; you may modify it in any way that works for your system – add sections, take them out, or rearrange them if you wish. You may also use a completely different format for your plan if you find one that works better for your system.

Since this document may contain sensitive information, make sure to keep it stored in a safe and secure location. It is recommended you have one copy stored on-site and one off-site to ensure the document is available in the event you are unable to access your offices or facilities. The document is available electronically on the web at: http://www.rcap.org

You should also keep up-to-date plans and schematics of your treatment facility and distribution system (storage tanks, pump stations, etc), as well as up-to-date operations manuals. These should be kept in at least two secure locations, one being with the final version of this emergency response plan.

Section 1.
System Information

Keep this basic information easily accessible to authorized staff for emergency responders, repair people, and the news media.

System information

System Identification Number	5089852	
System Name and Address	Upper Smith River Water Filtration Plant 3300 Kings Mountain Road Collinsville, VA 24078	
Directions to the System		
Basic Description and Location of System Facilities	Supply is the Upper Smith River intake, with a 4 MGD capacity	
Location/Town	Collinsville, VA	
Population Served and Service Connections from Division of Drinking Water Records	29,196 people	12,196 connections
System Owner	Henry County Public Service Authority	
Name, Title, and Phone Number of Person Responsible for Maintaining and Implementing the Emergency Plan	Michael Ward, Director of Regulatory Compliance	(276) 634-2540 Phone (276) 734-4123 Cell _____ Pager
Location of treatment and distribution schematics and operations manuals	Located at the administration building and the water filtration plant.	

Section 2.
Chain of Command – Lines of Authority

The first response step in any emergency is to inform the person at the top of this list, who is responsible for managing the emergency and making key decisions.

Chain of command – lines of authority

Name and Title	Responsibilities During an Emergency	Contact Numbers
Michael Ward, Director of Regulatory Compliance	Initiate emergency response procedures	(276) 634-2540 (Work) (276) 340-7557 (Home)

Section 3.
Events that Cause Emergencies

The events listed below may cause water system emergencies. They are arranged from highest to lowest probable risk.

Events that cause emergencies

Type of Event	Probability or Risk (High-Med-Low)	Comments
Damage to the Raw Water Pump Station		

Section 4.
Emergency Notification

Notification call-up lists - Use these lists to notify first responders of an emergency.

Emergency Notification List

Organization or Department	Name & Position	Telephone	Night or Cell Phone	Email
Local Law Enforcement		911	911	
Fire Department		911	911	
Emergency Medical Services		911	911	
Water Operator (if contractor)				
EPA Contact				
Hazmat Hotline				
Interconnected Water System	City of Martinsville	(276) 403-5157	(276) 403-5137	
Neighboring Water System (not connected)				
RCAP Contact				
Rural Water Contact	Scott McNally Source Water Protection Specialist		(908) 642-1590	smcnally@vrwa.org

Priority Customers

Organization or Department	Name & Position	Telephone	Night or Cell Phone	Email
Hospitals or Clinic(s)	Martinsville Memorial	(276) 666-7200	(276) 666-7200	
Public or Private Schools	Henry Co. Public Schools	(276) 634-4700	(276) 252-2681	
Wastewater Treatment Plant				
Adult Care Facility	Stanleytown Nursing Home	(276) 629-1772		

State, Federal or Tribal Notification List

Organization or Department	Name & Position	Telephone	Night or Cell Phone	Email
State or Tribal Police				
Regulatory Agency State/Federal/Tribal	VA Dept. of Health (Tim Baker)	(276) 638-2311		
Authorized Testing Laboratory	Pace Analytical	(336) 623-8921		

Service / Repair Notifications

Organization or Department	Name & Position	Telephone	Night or Cell Phone	Email
Electric Utility Co.	AEP	(276) 627-1221	(800) 956-4237	
Electrician				
Gas/Propane Supplier				
Water Testing Lab.				
Sewer Utility Co.				
Telephone Co.	Sprint	(276) 666-4307		
Plumber				
Pump Supplier	Godwin Pumps	(703) 626-2790	(540) 365-6484	
"Call Before You Dig"				
Rental Equipment Supplier				
Chlorine Supplier				
Other Chemical Supplier				
Well Drilling Co.				
Pipe Supplier				

Media Notification List				
Organization or Department	**Name & Position**	**Telephone**	**Night or Cell Phone**	**Email**
Newspaper - Local	Martinsville Bulletin	(276) 638-8801		
Newspaper – Regional/State/Tribal	Roanoke Times	(540) 981-3149		
Radio	WHEE Radio	(276) 632-9811		
Radio	WMVA Radio	(276) 632-2152		
TV Station	Channel 18 Television	(276) 656-3900		

Notification procedures

Notify water system customers of potential water shortage

Who is Responsible:	
Procedures:	

Alert local law enforcement, state, federal, or tribal drinking water officials, and local health agencies

Who is Responsible:	
Procedures:	

Contact service and repair contractors

Who is Responsible:	

Procedures:	

Contact neighboring water systems, if necessary

Who is Responsible:	
Procedures:	

Procedures for issuing a health advisory

Who is Responsible:	
Procedures:	

Other procedures as necessary

Who is Responsible:	
Procedures:	

Section 5.
Effective Communication

Communication with customers, the news media, and the general public is a critical part of emergency response.

Designated public spokesperson

Designate a spokesperson (and alternate) and contact your local primacy agency for delivering messages to the news media and the public.

Designate a spokesperson and alternates

Spokesperson	Alternate
Dale Wagoner, Assistant General Manager (276) 634-4781 dwagoner@co.henry.va.us	

Health advisories

During events when water quality and human health are in question, it may be necessary to issue a health advisory that gives advice or recommendations to water system customers on how to protect their health when drinking water is considered unsafe. These advisories are issued when the health risks to the consumers are sufficient, in the estimation of the water system, state or tribal, or local health officials, to warrant such advice.

Health advisories usually take the form of a drinking water warning or boil water advisory. Communication during these times is critical. Health advisories should always be well thought out and provide very clear messages.

The U.S. Environmental Protection Agency has put together a number of tools, including fact sheets, brochures, forms, and templates to help prepare for a health advisory. These are on the web at: http://www.epa.gov/safewater/pn.html

Section 6.
Response Actions for Specific Events

In any event, there are a series of general steps to take:

1. Analyze the type and severity of the emergency;
2. Take immediate actions to save lives;
3. Take action to reduce injuries and system damage;
4. Make repairs based on priority demand, and
5. Return the system to normal operation.

The following tables identify the assessment, set forth immediate response actions, define what notifications need to be made, and describe important follow-up actions.

A. Power outage

Assessment	
Immediate Actions	
Notifications	
Follow-up Actions	

B. Distribution line break

Assessment	
Immediate Actions	
Notifications	
Follow-up Actions	

C. Chlorine treatment equipment failure

Assessment	
Immediate Actions	
Notifications	
Follow-up Actions	

D. Treatment equipment

Assessment	
Immediate Actions	
Notifications	
Follow-up Actions	

E. Source pump failure

Assessment	
Immediate Actions	
Notifications	
Follow-up Actions	

F. Microbial (coliform, *E. coli*) contamination

Assessment	
Immediate Actions	
Notifications	
Follow-up Actions	

G. Chemical contamination

Assessment	
Immediate Actions	
Notifications	
Follow-up Actions	

H. Vandalism or terrorist attack

Assessment	
Immediate Actions	
Notifications	
Follow-up Actions	

I. Reduction or loss of water in the well

Assessment	
Immediate Actions	
Notifications	
Follow-up Actions	

J. Drought

Assessment	
Immediate Actions	
Notifications	
Follow-up Actions	

K. Flood

Assessment	
Immediate Actions	
Notifications	
Follow-up Actions	

L. Earthquake

Assessment	
Immediate Actions	
Notifications	
Follow-up Actions	

M. Hazardous materials spill in vicinity of sources or system lines

Assessment	
Immediate Actions	
Notifications	
Follow-up Actions	

N. Electronic equipment failure

Assessment	
Immediate Actions	
Notifications	
Follow-up Actions	

O. Cyber attack

Assessment	
Immediate Actions	
Notifications	
Follow-up Actions	

P. Other

Assessment	
Immediate Actions	
Notifications	
Follow-up Actions	

Section 7.
Alternative Water Sources

Intertie to adjacent water supply system

Water Systems Within One-Quarter Mile of our System	Feasibility of Connecting
City of Martinsville	Interconnection already extant

Alternate source(s) of water

Alternative Sources	Names	Phone	Availability	Is the Water Safe for Drinking?
Bottled water Suppliers for potable water use			Local commercial and retail stores could supply the system with bottled water if the need arose	Yes
Tanker trucks in the area available to deliver bulk water for non potable use	Army National Guard	276-638-8131	The Army National Guard could use their water tanker trucks to supply water to the system	Yes

Section 8.
Returning to Normal Operation

Returning to normal operations

Action	Description and Actions

Section 9.
Plan Approval

Plan approval

This plan is officially in effect when reviewed, approved, and signed by the following people:

Name/Title	Signature	Date

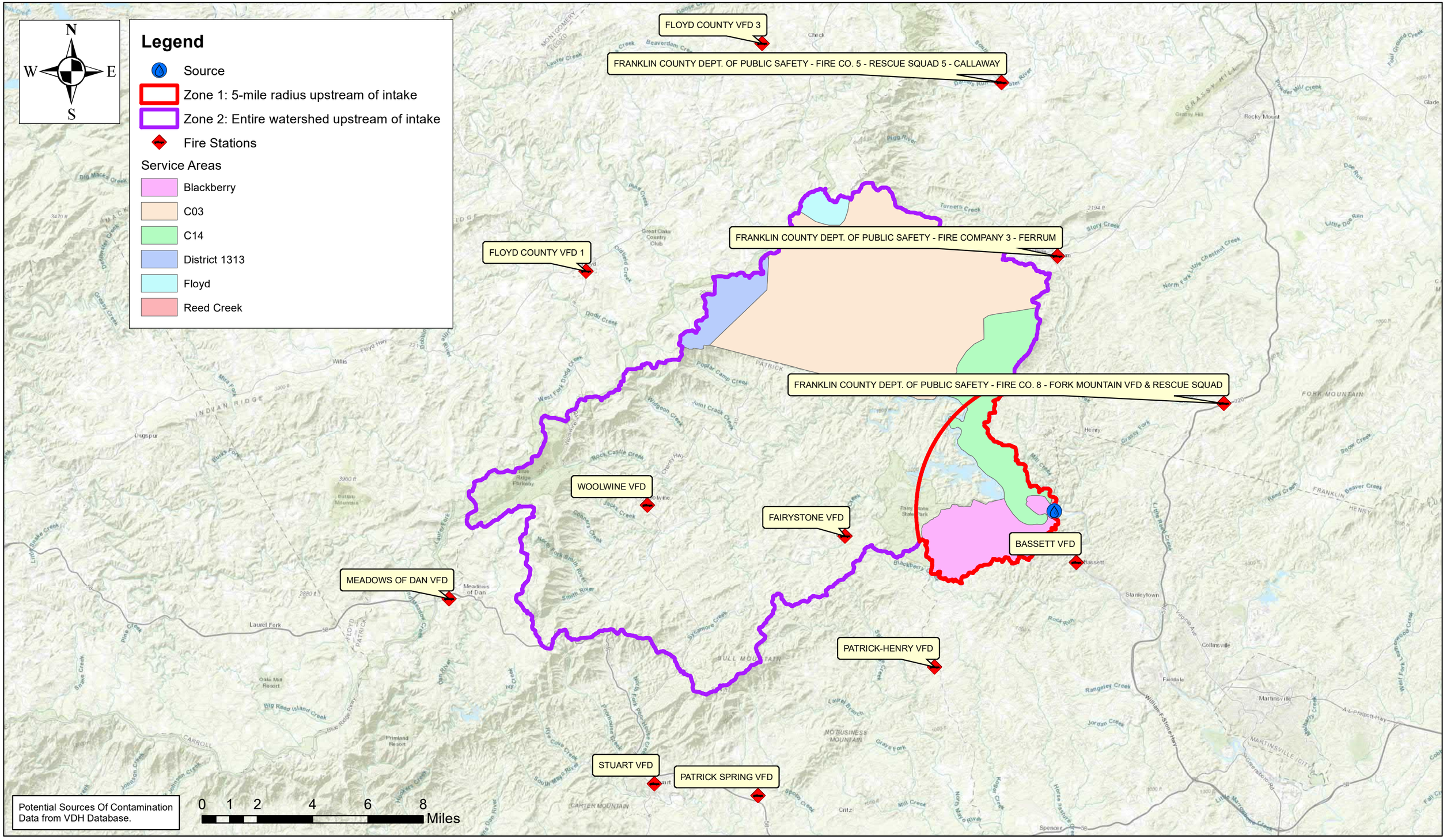
Disclaimer

This document contains information on how to plan for protection of the assets of your water system. The work necessarily addresses problems in a general nature. You should review local, state, tribal (if applicable), and federal laws and regulations to see how they apply to your specific situation.

Knowledgeable professionals prepared this document using current information. The authors make no representation, expressed or implied, that this information is suitable for any specific situation. The authors have no obligation to update this work or to make notification of any changes in statutes, regulations, information, or programs described in this document. Publication of this document does not replace the duty of water systems to warn and properly train their employees and others concerning health and safety risks and necessary precautions at their water systems.

Rural Community Assistance Partnership, Inc. assumes no liability resulting from the use or reliance upon any information, guidance, suggestions, conclusions, or opinions contained in this document.

Rural Community Assistance Partnership, Inc.
1522 K Street, N.W., Suite 400
Washington, D.C. 20005
888/321-7227



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Henry County PSA Upper Smith River Emergency Response Map
Appendix G

Henry County Public Service Authority SWPA
Fire Station Addresses
Appendix H

MAP ID	FDID	NAME	COUNTY	TELEPHONE	ADDRESS (LINE 1)	ADDRESS (LINE 2)	LONGITUDE	LATITUDE
0	14110	PATRICK SPRING VFD	PATRICK	276-694-6426	181 SPRING ROAD	PATRICK SPRINGS, VA 24133	-80.19872	36.63622
1	14106	STUART VFD	PATRICK	276-694-7330	106 PATRICK AVENUE	STUART, VA 24171	-80.26620	36.64135
2	14104	MEADOWS OF DAN VFD	PATRICK	276-952-2323	2925 JEB STUART HIGHWAY	MEADOWS OF DAN, VA 24120	-80.40229	36.73641
3	06705	FRANKLIN COUNTY - FIRE CO. 8 - FORK MOUNTAIN VFD & RESCUE SQUAD	FRANKLIN	540-489-1593	2805 VIRGIL HAMLIN GOODE HIGHWAY	ROCKY MOUNT, VA 24151	-79.89947	36.84590
4	08902	BASSETT VFD	HENRY	276-629-5323	3735 FAIRYSTONE PARK HIGHWAY	BASSETT, VA 24055	-79.99403	36.76136
5	06704	FRANKLIN COUNTY - FIRE CO. 3 - FERRUM	FRANKLIN	540-365-2186	9626 FRANKLIN STREET	FERRUM, VA 24088	-80.00959	36.92175
6	06703	FRANKLIN COUNTY - FIRE CO. 5 - RESCUE SQUAD 5 - CALLAWAY	FRANKLIN	540-483-1208	8380 CALLAWAY ROAD	CALLAWAY, VA 24067	-80.04799	37.01253
7	14107	PATRICK-HENRY VFD	PATRICK	276-629-7677	3125 COUNTY LINE ROAD	PATRICK SPRINGS, VA 24133	-80.08526	36.70530
8	06303	FLOYD COUNTY VFD 3	FLOYD	540-651-8407	1710 KINGS STORE ROAD	CHECK, VA 24072	-80.20493	37.03070
9	14108	WOOLWINE VFD	PATRICK	276-930-2100	9912 WOOLWINE HIGHWAY	WOOLWINE, VA 24185	-80.27417	36.78746
10	06301	FLOYD COUNTY VFD 1	FLOYD	540-745-4975	143 AKERS STREET	FLOYD, VA 24091	-80.31725	36.90961
11	14109	FAIRYSTONE VFD	PATRICK	276-930-2113	6687 FAIRYSTONE PARK HIGHWAY	STUART, VA 24171	-80.14501	36.77314

INSERT FIRE DEPARTMENT CONTACT
AND ADDRESS

Re: Henry County PSA – Upper Smith River Watershed Source Water Protection Area

To Whom It May Concern:

The Henry County PSA is taking efforts to protect the community drinking water supply which comes from the Upper Smith River intake. The Henry County PSA, in conjunction with the Virginia Department of Health and CHA Consulting, Inc., have developed measures which highlight Potential Sources of Contamination and seek to minimize the risk of contamination to the drinking water. Attached is a map of the water system and the associated Source Water Protection Areas (SWPA) for your reference. The SWPA is the zone upstream of a water source where spill or contaminants above ground have the potential to reach the intake and contaminate the water supply. In an event of a spill or an emergency within these areas, please notify me at (276) 734-4123 (cell) as soon as possible so that the appropriate actions can be implemented to protect the water supply. If you have any questions about this letter or the attached information, please call me at (276) 634-2540. Thank you for your assistance in this matter.

Sincerely,

Michael Ward, PE
Director of Regulatory Compliance and Technical Applications
Henry County PSA