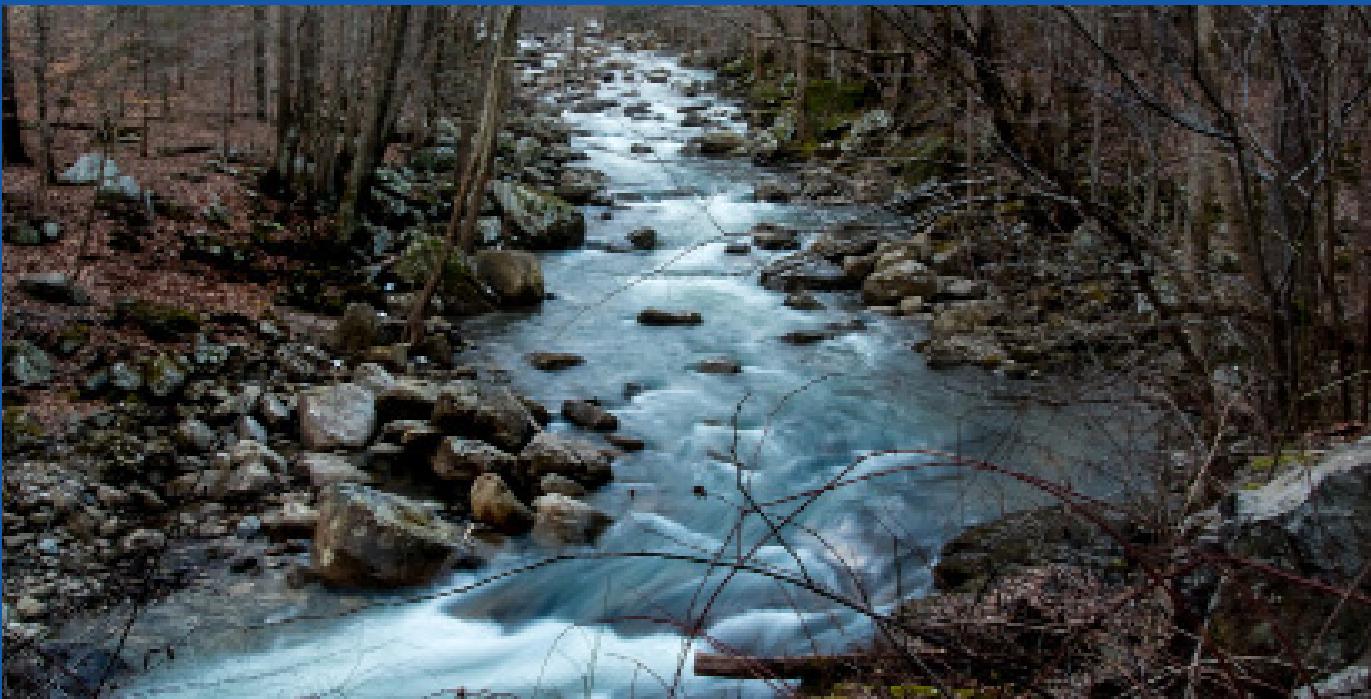


SOURCE WATER PROTECTION PLAN IMPLEMENTATION

FOR UTILITIES, WATERSHED OR OTHER COMMUNITY GROUPS



WEST VIRGINIA
RIVERS



INTRODUCTION

PURPOSE

This guide provides information to utilities and watershed groups about Source Water Protection Plans (SWPPs) and Watershed based Plans (WBPs) to encourage potential collaboration between the entities to achieve similar goals in areas where there is overlap between the two plans. The guide also provides approaches and recommendations for public involvement in the implementation of both types of plans. Case studies of watersheds with both SWPPs and WBPs are included to highlight similarities and opportunities for collaboration.

REQUIREMENTS OF SWPP

WV law outlines specific requirements for inclusion in the SWPPs. The requirements include:

- Management Plans to minimize the risk of contamination,
- Inventories of Potential Sources of Significant Contamination (PSSCs),
- Contingency Plans in the event of contamination,
- Communication Plans in the event of contamination,
- Specific engineering, and
- Feasibility studies for the installation of a real time early warning monitoring system.



Freedom Industries tanks

In January 2014, a chemical leak from an aboveground storage tank contaminated the drinking water for approximately 300,000 citizens in Charleston, West Virginia and in parts of nine counties. The legislature responded by enacting Senate Bill (SB) 373, which required most public water utilities to create SWPPs or update no later than July 1, 2016.

PUBLIC PARTICIPATION

The new source water protection law also specifically requires public participation in the planning process.

The most likely section for public participation are Management Plans.

Strategies that are part of Management Plans are designed to minimize the risk of contamination.

These strategies are more effective with the public's participation.

SWPP MANAGEMENT PLAN

Management Plan strategies can be PHYSICAL actions, such as:

- Developing a backup water supply
- Installing an early warning/water monitoring detection system
- Protecting land within the watershed
- Having backup generators in place
- Increasing storage capacity of raw or treated water

Management Plan strategies can be EDUCATIONAL, such as:

- Developing outreach materials about source water protection
- Communicating with potential upstream threats
- Collaborating with other water utilities
- Researching chemicals stored within the watershed

Many of the these strategies allow opportunities for public involvement. Many also do not require a significant financial investment, but are a beneficial component of a comprehensive source water protection program. Additional examples of management strategies can be found throughout the report.



Water treatment facilities

WATERSHED BASED PLANS

WBPs are created to address sources of pollution and streams with total maximum daily loads (TMDLs). These plans describe the pollutants that cause impairments to streams, the source of these pollutants, and how to reduce pollutant loads and meet TMDLs.

To be applicable for federal 319 funding, which is available as Section 319 Nonpoint Source Management Program of the Clean Water Act, nine specific elements must be included in the plans. In certain cases 319 funds may be available for healthy watersheds that are not impaired, but may be threatened. These are known as watershed protection plans (WPPs).

They are:

- **Causes and sources of pollution**
- **Nonpoint source pollution management**
- **Water quality-based goals**
- **Technical and financial assistance**
- **Information and education**
- **Schedule**
- **Milestones**
- **Criteria**
- **Monitoring**

PARTNERS

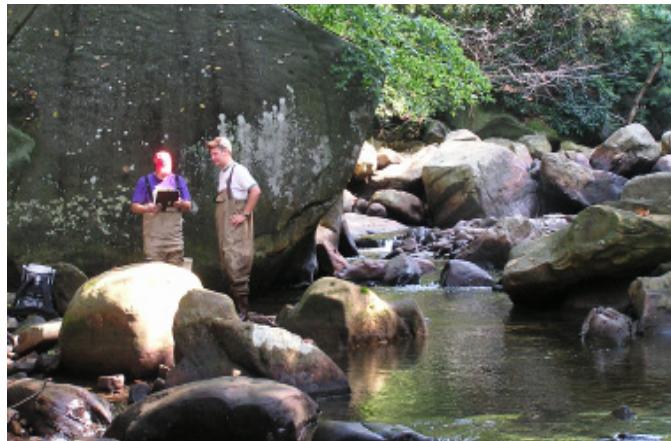
These plans are created for specific watersheds throughout the state of West Virginia by a variety of entities, including watershed groups, West Virginia Conservation Agency, West Virginia University Extension, and West Virginia Department of Environmental Protection.

PUBLIC PARTICIPATION

One of the nine Watershed Based Plan elements is an information and education component. Actions to reduce pollutant loads can benefit from public education and participation, such as encouraging agricultural practices that reduce nutrient loads to streams or proper handling of household chemical wastes.

POINT SOURCE VS NONPOINT SOURCE POLLUTION

Nonpoint sources (NPS) are diffuse, and are a result of runoff, precipitation, seepage, or stream alteration. Point source pollution refers to anything that comes from a discrete pipe, ditch, channel, or concentrated animal feeding operation (CAFO).



SWPP MANAGEMENT PLANS VS WATERSHED BASED PLANS

These plans are required for different purposes, but they both recognize many of the same concerns for and contributors to pollution within the watershed. They also both require specific recommendations and actions to protect water resources. These actions are outlined in the Management Plans of the SWPPs. In WBPs, these are detailed in a few of the required categories, including NPS management measures, information and education, and milestones.

KEY DIFFERENCES

- SWPPs document all potential sources of contamination within the watershed of a drinking water facility, whereas a WBP focuses on nonpoint source pollution.**
- SWPP management strategies focus on PREVENTING contamination from occurring within a watershed, while WBP management strategies aim to REDUCE contamination already occurring within a watershed.**

KEY SIMILARITIES

EDUCATION AND OUTREACH

By understanding the potential impacts on water resources, the public will hopefully take steps to reduce contamination. Mailings, social media, public presentations, and posters can inform the public about a variety of steps they can do to protect their drinking water, such as proper management of household wastes and proper septic system management.

COMMUNICATION WITH POTENTIAL SOURCES OF CONTAMINATION

Communication can inform facilities who may not be aware of the location in relation to a drinking water source. Positive dialogue could also lead to implementation of Best Management Practices (BMPs) and reductions in contaminants. This can allow facilities to become partners, as opposed to an opponent.

BEST MANAGEMENT PRACTICES (BMPs)

Best Management Practices (BMPs) are actions that can be taken to reduce the impact of certain development activities, such as construction, agriculture, or forestry. BMPs include proper silt fence installation during construction, riparian buffers around agricultural fields, and design of roads to minimize runoff. By encouraging the use of BMPs, contaminants can be reduced.

MANAGEMENT PLANS VS WATERSHED BASED PLANS

PUBLIC PARTICIPATION

Public participation is a required component of SWPPs and the plans must record how the public has been and will continue to be engaged in the process. They can also be an important component of WBP implementation.

The public can be a willing and beneficial partner in protecting water resources.

There are specific actions the public can take to reduce contaminants from entering the waterways:

- Participating in drug take-back programs, in which household medicines are collected and properly disposed
- Participating in hazardous household waste collection days
- Appropriately managing household chemicals (for example, not dumping them down the drain)

The public can also participate by learning about SWPPs and WBPs. They can:

- Attend meetings held by water utilities and watershed groups.
- Learn about contaminants and their sources within the watershed.
- Serve as “watchdogs” and report incidents when contamination occurs.
- Speak to local and state politicians to encourage regulations to protect water resources.

POTENTIAL COLLABORATION BETWEEN WATER UTILITIES AND WATERSHED GROUPS

Even if there is not a WBP currently in place, water utilities can still work with watershed planning groups to efficiently and effectively manage water resources. Ways water utilities and watershed planning groups can collaborate include the following:

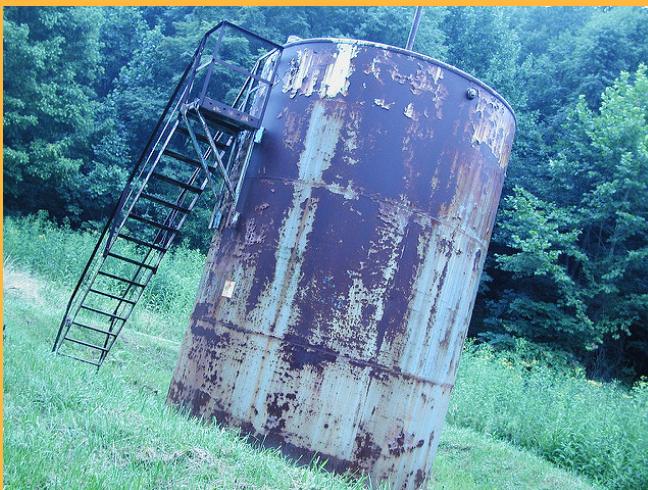
- Groups can meet to discuss ways to work together.
- Members of watershed groups can join source water protection teams.
- Water utility staff can serve on the board of watershed groups.
- Hold joint meetings about their respective plans.
- Share water quality data.
- Hold joint drug take-back or household hazardous waste collection events.



CASE STUDIES

SIMILARITIES BETWEEN SWPPs AND WBPs

- **Education and outreach, such as brochures, newsletters, workshops, and public meetings.**
- **Concern for potential impacts from oil and gas operations.**
- **The WBP focuses on sedimentation from roads.**
- **The SWPP suggests communicating with oil and gas operators regarding the vulnerability of surface waters to accidental spills and establishing direct notification if a spill occurs.**



Courtesy of smithereen11 via Flickr Creative Commons

MANAGEMENT STRATEGIES

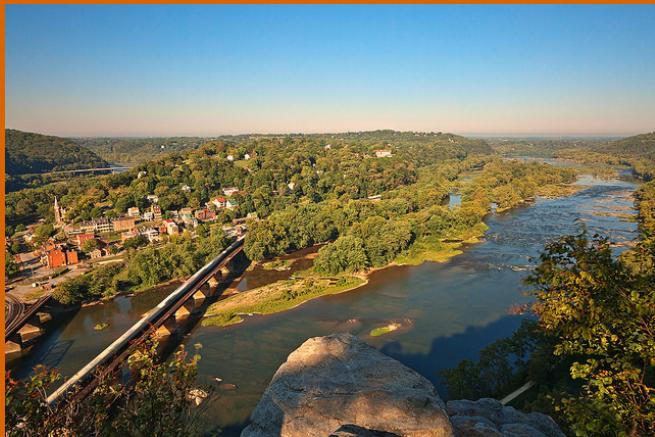
- **The WBP outlines public outreach strategies undertaken by different organizations that contribute to local knowledge on water resources.**
- **The WBP highlighted the potential for reclamation of oil and gas roads to reduce sedimentation.**
- **The SWPP suggests regular watershed meetings where the public can voice their concerns about oil and gas development.**
- **The director of the Lewis Upshur Local Emergency Planning Committee regularly conducts commodity studies and communicates information to the water utility.**



CASE STUDIES

SIMILARITIES BETWEEN SWPPs AND WBPs

- **Encouragement of agricultural land owners to implement best management practice.**
- **Encouragement of forest conservation on agricultural sites to reduce sedimentation.**
- **Agricultural nutrient management planning in the SWPP helps reduce Chesapeake Bay pollutants, such as nitrogen, phosphorus, and sedimentation.**
- **Installation of new septic systems to reduce fecal coliform.**



"Harpers Ferry & Potomac River Overlook" Courtesy of Nicholas Raymond via Flickr Creative Commons

MANAGEMENT STRATEGIES

- The SWPP discusses joining the Potomac River Basin Drinking Water Source Protection Partnership, which includes water utilities serving residents of the Potomac basin as well as agencies representing Virginia, West Virginia, Maryland, Pennsylvania, the District of Columbia, and the U.S. EPA.
- The SWPP plans to provide education for developers of new subdivisions on the benefits of open-space conservation. It also suggests inquiring as to whether or not local ordinances can be revised to protect or restore riparian zones.
- The SWPP outlines several education and outreach strategies related to agriculture.

HARPERS FERRY



CASE STUDIES

SIMILARITIES BETWEEN SWPPS AND WBPs

- **Management of septic systems.**
- **Education and outreach strategies for fecal coliform reductions.**



"Marlinton Train Depot" Courtesy of Jimmy Emerson, DVM via Flickr Creative Commons

MANAGEMENT STRATEGIES

- **Determining what herbicides and chemicals are used in right-of-way maintenance.**
- **The SWPP details raising public awareness of potential environmental and drinking water impacts if industrial development is considered in the future.**
- **The SWPP describes yearly windshield surveys of the ZCC.**



FUNDING OPPORTUNITIES

- In 2016, West Virginia Department of Health and Human Resources offered the 2016 Local Source Water Protection Grant to help utilities implement SWPP activities. This opportunity may be available in future years. https://www.wvdhhr.org/oehs/eed/swap/documents/Grants/2016_Grant_Application.pdf
- West Virginia Department of Environmental Protection has offered funding from the 319 grant program for the creation and implementation of WBPs and WPPs. <http://www.dep.wv.gov/WWE/Programs/nonpointsource/Pages/NPS.aspx>
- The US Environmental Protection Agency provides the Healthy Watersheds Consortium Grant that could be used to fund measures in which public water utilities and watershed groups could collaborate to protect healthy watersheds <https://www.epa.gov/hwp/healthy-watersheds-consortium-grant>

FOR MORE INFORMATION AND TO LEARN MORE ABOUT SWPPS AND WBPS

- West Virginia Source Water Assessment and Wellhead Protection Programs. <https://www.wvdhhr.org/oehs/eed/swap/>
- Overview of the West Virginia Senate Bill 373 Source Water Protection Program and Its Implementation. <https://www.wvdhhr.org/oehs/eed/swap/Bill.asp>
- West Virginia Department of Environmental Protection Watershed Planning <http://www.dep.wv.gov/WWE/Programs/nonptsource/WBP/Pages/planning.aspx>
- West Virginia Conservation Agency Non-point Source Program <http://www.wvca.us/NPSPProgram.cfm>
- US Environmental Protection Agency: The Watershed Approach <https://www.epa.gov/nps/watershed-approach>
- Local water utilities <http://www.psc.state.wv.us>
- Local watershed groups <http://www.wvrivers.org/make-a-difference/learn-about-local-rivers>

ABOUT

This document is a project of the West Virginia Rivers Coalition (WV Rivers) to provide citizens with information on how to get involved in protecting their drinking water. WV Rivers is a statewide organization dedicated to conserving and restoring West Virginia's exceptional rivers and streams that feed our public drinking water supplies.

www.wvrivers.org

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