

## Source Water Protection

The Rural Water Source Water Protection initiative works from the bottom up to implement local land use planning to protect drinking water supplies from contamination. The initiative works as an alternative to command and control source water protection by allowing the communities that benefit from a cleaner environment actually take direct responsibility for protecting it. One city official in rural Maryland commented, “This is the best Federal environmental program out town has ever participated in.”

This initiative encourages local water and waste water systems, agriculture interest and local elected officials to participate more aggressively in the development and implementation of local and regional source water protection plans. Land use decisions and zoning enforcement are, and should continue to be, done at the local government level. To make this happen, we need to initiative the type of program in each state that will encourage and document local government support for source water protection.

If we are to avoid a “top-down” regulatory agenda on source water protection, than there is a need to solve the problem at the local and watershed levels. The concept involves the use of Rural Water source technicians who are well versed in the steps necessary to design and implement a watershed protection program but who also have the confidence and support of local government officials. They work in priority watersheds in every state. This type of initiative ensures an effective management effort that is bottom-up, driven by local citizen’s concerns and guided by sound data and information. When local communities take responsibility for protecting their environment/natural resources – they do it more effectively and economically than a top-down regulatory approach. This was the conclusion of the National Research Council’s report, “*New Strategies for America’s Watersheds.*”

“Watershed management has been a top-down process, but this approach has led to numerous barriers to effective citizen involvement and use of locally developed knowledge. A truly effective watershed management effort is most likely to be a bottom-up process, driven largely by citizen concerns about local problems guided by sound data and information, with state and local governments to assume substantial rights and responsibilities for watershed management.”

Each participating state is provided a source water protection technician to assist local governments in implementing source water plans within priority watersheds. Technicians bring multi-jurisdictional watershed entities together for a common goal in prevention of contamination of drinking water supplies. Each watershed plan includes the organization of county & watershed-wide interests to initiate (and document) specific land use activities among local governments, business, industry, agriculture, the general public, etc. This assistance is delivered through state rural water associations with input from water system personnel and state regulatory agencies.

How important is the quality or availability of your water supply? An ounce of prevention may sound a bit cliché, but not so when your source water has become contaminated. Protecting and safeguarding our source water is typically cost-free with proper system management and protection. This chapter documents over 8,000 local communities that are involved in source water protection programs using Rural Water’s five step source water protection plan.

### **Step One: Planning Team**

The planning team typically consists of members such as the town manager, mayor, fire chief, public works director, system operator, water customer, town engineer, board members, or other elected officials. The planning team should consist of members willing to share the workload for the planning and formulation of the Source Water Protection Plan. Throughout the development process, planning team members should work toward establishing and achieving common goals, and identifying future needs for the water system. The team members should also be committed to meeting regularly, or as needed, as a group; be willing to share work responsibilities; and work toward the common goal of implementing and completing an effective Source Water Protection Plan.

### **Step Two: Delineation**

Step two involves a process that is designed to define or identify a specific area that needs protection. This defined area is referred to as the Source Water Protection area. The state public water supply section works cooperatively to provide technicians or other individuals with recharge rates for specific wells identified within a system. A specific formula is needed that utilizes pumping rate, pumping time, and recharge rate to calculate the specific source water protection area. This calculated formula will provide a radius (in linear feet) that indicates the distance outward from the center of the wellhead that should be protected. It will also provide the area in square miles needing protection.

### **Step Three: Contaminant Inventory**

This includes identifying and locating any and all “potential contamination sources” found within the source water protection area or the delineated area. Any source that has the potential to contaminate the source water within the source water protection area must be identified and inventoried. There are numerous types of potential contaminant sources, including improperly abandoned and/or constructed wells, above-ground and underground storage tanks, animal feed lots, auto repair shops, dry cleaners, major and secondary highways, railroads, septic tanks, wastewater plants, fertilizer/pesticide storage, oil/gas pipelines, printers, and many others. Each potential contaminant source must be listed, described, quantified, and ranked by risk.

### **Step Four: Implementation and Stage Management**

After the potential contaminant source inventory process, the planning team typically decides between two basic management approaches.

*Regulatory Management* may include such strategies as land use planning, formulation of environmental ordinances, subdivision regulations, zoning ordinances, building code enforcement, and other regulatory strategies that may be customized to address a specific water system.

*Non-Regulatory Management* may include such strategies as public education, identifying the protection area, household hazardous waste collection, conservation easements, land transfer (which may include land purchase and /or land donation), and any other specific non-regulatory options.

During the management process, each potential contaminant source will be addressed with a specific management strategy option. An example might be private septic systems found in a source water protection plan.

#### **Step Five: Contingency**

We all probably agree that planning in the future is important. We don't like to think about natural disasters including hurricanes, tornadoes, or floods. The fact still remains that every water system should have an emergency contingency plan. In Source Water Protection Plans, we include under "contingency": a call-down list including primary and secondary contacts for contingency plan implementations, a list of emergency supply equipment with portable and stationary generators, a brief description of the procedure for notifying appropriate state officials at the system's regional office, appropriate standard operating procedures for water transfer from an interconnection/adjointing water system, and a short-term and long-term plan which may include notification of customers, testing, flushing, and a return to service. A long-term contingency plan may be required when the problem cannot be easily remedied and new wells, may need drilling. In the interim, a dewater source or sources and implementation must be identified.

**These five steps clearly provide  
environmental outcomes that protect  
local wells and source waters  
from contamination, prevent non-compliance  
and protects public health!**