

Protecting the Source: It's Time for YOUR Plan!



We protect our family, our property, and ourselves on a daily basis. Most of our protection efforts have become second-nature to us: locking our house when we leave; parking away from the cart corral at the grocery store; or, holding down our four-year old for the shots at the doctor. Okay, so that last one may not be easy, but it has to be done for the child's protection. We are willing to deal with and accept the expense, inconvenience, and tears. Likewise, municipalities and rural water districts protect their public water supply through whatever treatment means necessary. Many times, they protect the supply of water for consumers regardless of expense and inconvenience. But is there more that can be done? Could treatment expenses be lessened? Is there a way to utilize partnerships to maintain a healthier, more sustainable water supply? Source water protection may be the answer to all of these questions, and more!

Simply defined, source water protection is the first step in a multi-barrier approach to protecting and maintaining a healthy quantity and

This municipal-owned well house in Kansas is located between cropland and a county road, both potential contaminant sources. These sources will be identified and prioritized through the development a source water protection plan.

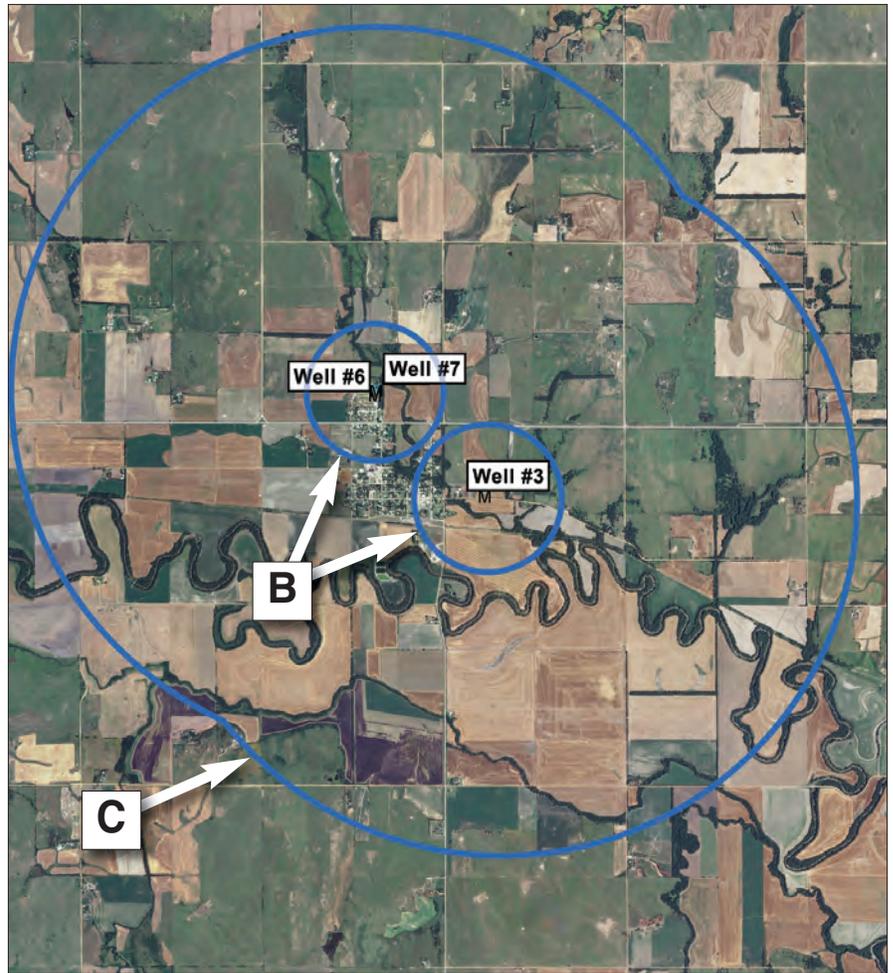
There seems to be no end to the amount of resources that can be spent on treating a water supply, but protecting that water at its source may be the most economical, long-term approach.

quality of water. Source water protection focuses conservation efforts at the source of the water before it reaches the wells or intakes. Surface water systems would have a source water protection plan looking at the watershed above the intakes, while a ground water system would focus on either the aquifer feeding the wells or a calculated, fixed radius around the well field.

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protecting that water at its source may be the most economical, long-term approach. Implementing a good source water protection plan may reduce contamination, e.g., nitrate, so that expensive new treatment facilities may not even be needed. The price of source water protection can be best illustrated when comparing it to the cost of a contaminated water supply. The cost of treatment, remediation, establishing a new water supply, importing bottled water, consulting fees, staff time, legal expenses, and public education efforts will significantly outweigh protection costs. Orange County, California incurred nitrates, salts, selenium, and VOCs in their groundwater, resulting in a \$54 million price tag for remediation, enhanced treatment, and a replacement supply. There are cities and RWDs in Kansas that might have and still can, avoid expensive treatment were they to only adopt and implement source water protection plans.

This source water protection planning map from a small municipal water system in Kansas illustrates the systems protection area. The inner blue circles show protection zones B, extending out 1,000 feet from the municipal wells. The outer blue circle delineates zone C, a 2-mile radius around the wells. Priority is given to the contaminant sources within these zones and an action plan is developed to address potential threats.



Where to begin?

Source water protection efforts can be identified and prioritized through the development of a source water protection plan. A source water protection plan has five main components:

- delineating the source water protection area
- identifying sources of contamination that may impact the protection area
- determining the susceptibility of the public water supply (PWS) to these sources
- notifying the public of the results
- developing an action plan to address the contaminant sources.

Delineating the source water protection area. The first step is delineating the protection area. This may be performed by using a calculated fixed radius, computer modeling, or watershed/aquifer data. The protection area should include all sources of water and potential contaminants within the prescribed area.

Identifying sources of contamination. A contaminant source inventory includes all potential and documented sources of contaminants that may threaten the water supply. The contaminant source inventory prioritizes the threat of the potential contaminants and indicates their level of concern to the water system.

Determining the susceptibility of the PWS to contaminant sources. Determining susceptibility of a water system indicates the severity of the threat to that system being contaminated. Factors are taken into account such as distance from contaminant to the well/intake, toxicity of contaminant, volume of discharge, and likelihood of the contaminant entering the source waters.



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Notifying the public. Keeping the public educated and informed is essential. It is necessary that the public control and/or modify their actions to prevent contaminating the water supply. Community involvement in protection efforts will strengthen the importance of source water protection to the consumers.

Developing an action plan. A properly designed action plan will list achievable implementation activities and efforts that focus on the highest priority contaminant sources. The action plan will list goals, objectives, and timelines for implementing the defined actions.

The source water protection plan is a great “one-stop-shop” for systems. In addition to the components listed above, the plan will also include water rights information, contact lists, the system source water assessment, geologic information for the protection area, media releases, the emergency water supply plan, the emergency response plan, boil advisory notices, and forms to document protection activities completed.

Utilizing the information gathered during the development of a source water protection plan is as essential as developing the plan itself. The development of a plan allows specific management measures to be determined and goals to be put into action. Each individual source water protection plan is tailored to the unique factors and issues facing the individual water system. The protection document is developed by a locally driven steering committee, which is vital to the success of a source water protection program.

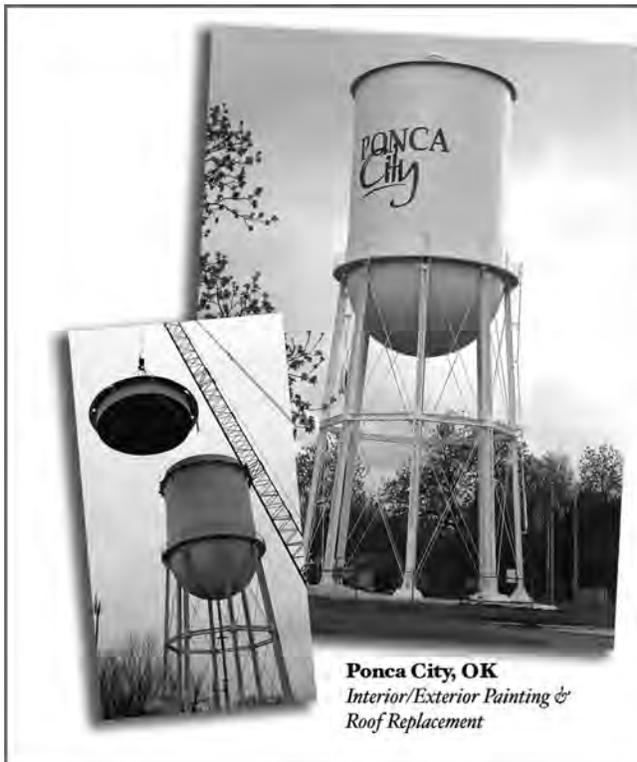
An effective source water protection program begins with a committed steering committee, but can expand to include partnerships with other conservation and community organizations. State and federal agencies, county governments and non-profit organizations are out there, focusing their conservation efforts on the protection of watersheds and water resources. The development of a protection program is a great way to get involved with these groups and potentially tap into funding for implementation activities.

It's time for YOUR plan!

So where do you go from here? The first step is making a call to Kansas Rural Water Association. With two staff members assisting water systems in the development of source water protection plans, the process is made easy! Doug Helmke or myself, Katie Miller, would be pleased to assist your city or RWD in developing or updating your source water protection plan. Doug can be reached at dhelmke@krwa.net or by phone at (785) 640-4701. I can be reached at katie@krwa.net or by phone at (785) 210-6628.

Katie Miller joined the KRWA staff in October 2009. She previously worked for Flint Hills Resource Conservation and Development as a Watershed Restoration and Protection Strategy Project Coordinator since

2003. She organized and coordinated the Twin Lakes Water Festival in 2005 – 2009; it has been attended by more than 6,000 participants.



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