

Necessity sometimes dictates best protection regulations

It has been more than 20 years since wellhead protection was recognized as a strategy for water quality preservation and improvement. When the amendments to the Safe Drinking Water Act were signed into law in 1986, the 50 states were required to develop programs to protect areas around public water supply wells. The 1996 amendments expanded the scope of water protection to include surface water supplies and required states to develop a plan to delineate the source water areas for public water systems and to assess the risk these water systems face. The Source Water Assessments have been completed, and the scores for all water systems in operation in the late

educational activities to protect their sources of groundwater. A few communities however have found that their situations required

public water supplies, for the purpose of ensuring safe and affordable water for their customers.

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more than faith in their neighbors and the natural conditions of the earth to protect their water supplies. The cities of Colby and Hays as well as Ellis and Russell Counties have adopted regulations which control the activities near

The city of Colby had a small local chrome plating business on the outskirts of town that wasn't considered to be much of a nuisance. Of course, a nuisance in most people's set of values is one that is displeasing to the eye, nose

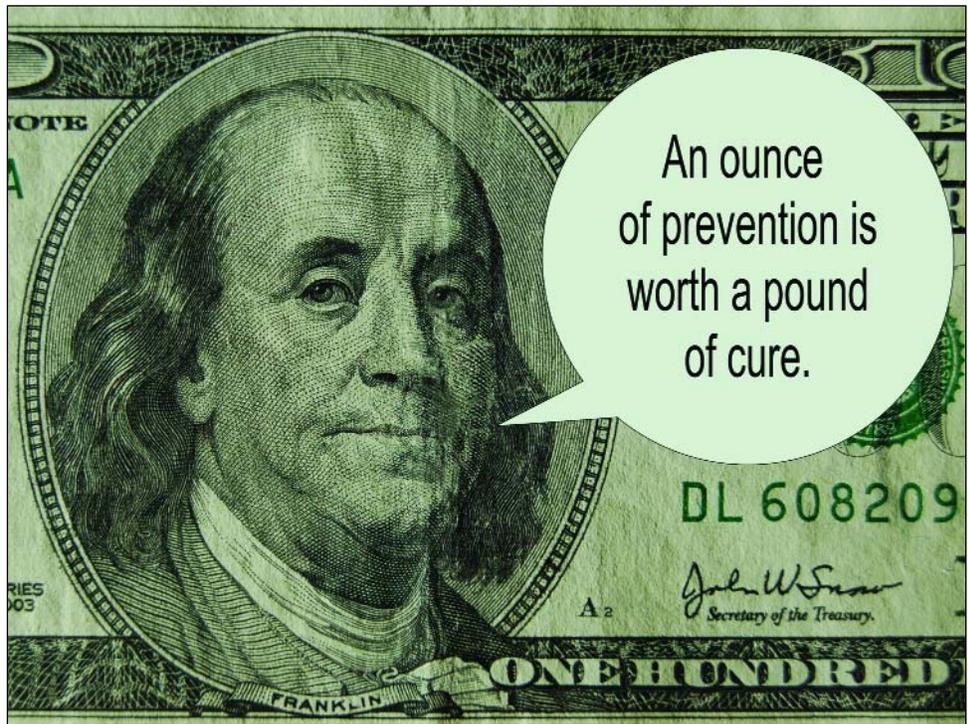
90s are available on the Kansas Department of Health and Environment (KDHE) Web site. (see links, page 86)



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In Kansas, source water protection remains a voluntary program. And as a voluntary program, the flexible guidelines for wellhead protection planning in Kansas are designed to allow any activity that promotes the protection of the environments that provide water to public water supply wells.

Most Kansas water system personnel and community leaders considering wellhead protection have been satisfied with the pursuit of voluntary and



or ear. They certainly didn't make much noise. There may have been fumes downwind of the shop when solutions precipitated chrome onto automotive accessories and released lighter-than-air by-products, but they dissipated quickly. The eye may have noticed some disarray that is common to repair shops. The shop wasn't considered to be a big nuisance until the results of water sample testing showed the presence of chromium in the water pumped from one of the Colby city wells. Without the city's testing program, the illegal disposal of liquid plating waste would likely not have been found and stopped. Still, dozens of people with domestic wells near the shop were exposed to the plating waste.

The business has closed and the Kansas Department of Health and Environment has assumed responsibility for restoring the aquifer to as much of its original quality as possible. Water will be pumped and treated indefinitely. Because of the serious potential of exposure of the citizens of Colby to hazardous chemicals, and the expensive replacement costs to replace limited quantities of water, the city of Colby has adopted a wellhead protection plan that set a goal to control the activities in close proximity to their water wells. Adoption of this plan led to the adoption of a city zoning regulation, which is likely the strongest for water quality protection in the state.

This zoning regulation creates an overlay zone which allows the underlying zoning of properties to continue but further prohibits certain activities that may be detrimental to the aquifer. For example, the underlying zoning may allow a commercial activity to occur on a property, but if this commercial activity uses underground storage tanks in their

operation (one of many prohibited activities in the overlay zone), the business would be in violation of the zoning regulation. The zoning regulation allows for special annual permits for exemption to the overlay zoning restrictions, if information can be provided which shows that the activities are of little or no threat to the aquifer.

The overlay zoning districts were developed by using the calculated capture zones of the city's water wells. The areas above that portion of the aquifer that would supply water to the wells from the present to 10 years in the future were designated as the overlay zones.

The citizens of Ellis County also understand the importance of safe water. As one of the fastest growing counties in the state over the past several decades, it has the unfortunate luck of being located in an area where the supply of water is not as plentiful as their neighbors farther to the east or west. It is recognized there that

the conservative use of the water is only one way to have more water later. Protection of the limited supply is also a vital water management strategy. The Ellis County Environmental Code sets



protection standards in the unincorporated areas of the county. Similar to the city of Colby ordinance, the Ellis County



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URLs for related documents

Kansas Department of Health and Environment Source Water Assessment Results:

- <http://www.kdheks.gov/nps/swap/SWreports.html>

EPA collection of Source Water Protection Ordinances, Codes and Regulations:

- http://cfpub.epa.gov/safewater/sourcewater/sourcewater.cfm?action=Publications&view=filter&document_type_id=105

City of Hays Wellhead and Aquifer Protection Code:

- http://ordlink.com/codes/hays/_DATA/TITLE08/Chapter_8_36_WELLHEAD_AND_AQUIFER_/index.html

Russell County Zoning:

- <http://www.russellcounty.org/index.asp?DocumentID=289>

Code designates wellhead protection areas to be the areas above the aquifers that supply water to public water system wells from the present to 10 years in the

future. At a minimum, the area within 300 feet of an Ellis County public water supply well is a wellhead protection area. The code also prohibits a number of

potentially hazardous activities from occurring in the wellhead protection areas, and requires notification to the County of spills or leaks, repairs to storage tanks and other such occurrences.

As the Ellis County Code only applies to the unincorporated areas of the county, the city of Hays has determined that it is also in their best interest to regulate the activities that occur within their corporate boundaries. City code prohibits confined feeding operations within 300 feet of public water supply wells (which not only includes the city of Hays wells but also a few mobile home parks). Also prohibited is the disposal of wastewater treatment plant sludge within the corporate boundaries, hazardous and radioactive waste disposal sites and sanitary and demolition landfills and dumps.

The city of Hays' code also establishes a permitting program for monitoring wells and water wells that are proposed to be



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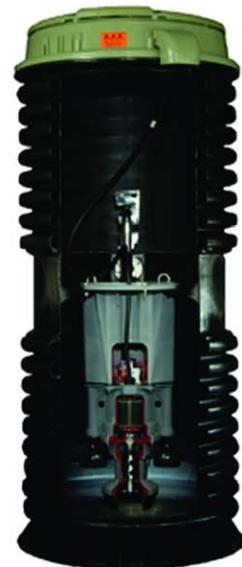


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located upon the city rights-of-way. With a history of leaking underground storage tanks and some improper disposal of dry-cleaning fluids, the city has experienced a number of investigations as to the sources of these problems. Recognizing that these wells used for investigation and remediations have the potential to contribute to the existing problems if not properly plugged, the code establishes a funding source to ensure that plugging happens. A cash deposit to fund the proper plugging of any such well in the city rights-of-way is to be made before a permit can be issued. Additionally, to protect the quality of the water in the distribution system, the transfer of ownership of properties served by the Hays Water System is not to be completed without a cross-connection inspection.

Russell County has recognized that Wilson Lake, a federal facility managed by the U.S. Army Corps of Engineers, could be a tremendously important water

supply for their community in the future. At the present time, the quality of the water is impacted by naturally occurring salts and sulfate, but as demand increases, the water stored in the reservoir may become an alternative for uses not needing high quality water in their processes. Additionally, the city of Russell has a water right permit for the municipal and recreational uses of water from Fossil Lake, which is located just south of the city. Because the value of these surface water supplies can be jeopardized by human activities, Russell County has found it worthwhile to establish overlay zoning called Lake Protection Districts.

Because surface water impoundments are the primary focus of protection, erosion control is a primary concern. Temporary provisions during construction and proper maintenance of vegetation afterward to control erosion must be done. Within the districts, the following activities are prohibited:

solid waste disposal, underground storage of petroleum and refined petroleum products, discharge of industrial wastewater, de-icing chemical and road salt storage, snow dumps, confined animal feeding operations and kennels, automotive service and repair shops, salvage yards, and the creation of impervious surfaces totaling more than 20% of a tract or parcel.

These examples show that regulations, for the sake of the safety and prosperity of local citizens, can be drafted, adopted, and implemented. While education and persuasion can be effective, consideration should be given to using some regulation to accomplish those things that lead to meaningful protection of our state's water resources. While there may be some costs, and not just financial ones, water system personnel and community leaders should ask themselves and each other if the system can afford to replace the water system's lake or well field at a moment's notice?

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