

Protecting Our Drinking Water Source

Fair Oaks Ranch Utilities Organizes Source Water Protection Program

One of the most basic needs of any community is safe and clean drinking water. More than 7,000 residents rely on the quality of drinking water provided by the Fair Oaks Ranch Utilities and its' sources of water: the Trinity Aquifer and Canyon Lake. In addition, several residents rely on their own individual wells from the Trinity Aquifer.

The Texas Public Water Supply Regulatory Program is administered by the Texas Commission on Environmental Quality and has a proud legacy of public health protection that dates back to 1913. The dominant characteristic that has sustained the program through the decades has been the cooperative partnership with public water suppliers, river authorities, and groundwater districts. Texas is a nationally recognized leader in water treatment, design and operational criteria, water system operator training and certification, and source water protection, just to name a few. Protecting this vital resource is everyone's responsibility.

If our water is good, why do we need a special program to protect it? The reason is that the situation has been changing dramatically during recent decades. Our source of drinking water has the potential to be endangered by new chemicals or microbiological contaminants.

Concurrently, our ability to detect contaminants has been improving. Modern science can now identify specific chemicals in terms of one part contaminant in one billion parts of water.

One part per billion is equivalent to one kernel of corn in 12,500 bags of seed corn or one second in 32 years. In case you think such small amounts can't be very significant, keep in mind that you can get sick from a single microscopic virus.

Although we currently know a great deal about the health impacts of drinking water contamination, many questions remain. Ongoing research will no doubt provide new information which will answer some old questions and generate some new ones. Meanwhile, the citizens that rely on the Fair Oaks Ranch Utilities and the Trinity Aquifer can take steps to reduce the risks to our health.

Most of us would agree that a vaccination to prevent illness is well worth the time, expense, and inconvenience. Similarly, communities are using Source Water Protection Program methods to prevent drinking water supply contamination. Communities across the state have found that the less polluted their water is before it reaches the treatment plant, the less extensive and expensive the efforts needed to safeguard the public's health.

A Source Water Protection Program is a program that prevents the pollution of the surface and ground water that serve as sources of drinking water. The program includes

delineation of the protection area, identifying various *potential* sources of contamination that may impact the delineated area, implementation measures to manage these sources, and planning for the future.

Source Water Protection helps safeguard *community* water supplies. It is a program that belongs to and is managed by the local community. Unquestionably, communities are the key stakeholders in Source Water Protection. It is people living and working in communities who have the most to gain or lose from the quality of their drinking water.

The benefits to communities protecting their drinking water source might be best understood by describing the costs of failing to protect the source. Easily quantifiable costs of drinking water protection include treatment, remediation, finding and establishing new water supplies or providing bottled water, consulting services and staff time, legal costs of litigating against responsible parties, and conducting public information campaigns.

Communities with effective Source Water Protection Programs may also enjoy substantial savings in costs of complying with Safe Drinking Water Act regulations. This is because cleaner sources of raw water require less disinfection, which means reduced requirements for removing disinfection by-products.

Other benefits of Source Water Protection that can be expressed in economic terms are helping to maintain real estate values in areas served by protected water supplies and avoiding loss of potential tax revenues and jobs because businesses refuse to locate or remain near places with known or suspected problems. Ask yourself the question, “Who wants to move a business or industry to a town where they can look to pay tax toward a multimillion-dollar bond issue to clean up the drinking water?”

Source Water Protection can have important secondary benefits as well. The protection of surface water supplies is obviously beneficial to fish, wildlife, and recreation. We also must include the reductions in risk to human health which result from cleaner drinking water.

Source Water Protection can be effective only if every citizen and business in the area joins in. A partnership must be formed between all of the communities in the area, citizens, farmers and ranchers, and local businesses to assure that our drinking water supply remains safe.

Fair Oaks Ranch Utilities Focuses on Safe Drinking Water

Protecting the water you drink is critical; it is literally the source of all life. Fair Oaks Ranch Utilities depends upon the Trinity Aquifer as a key source of drinking water. It's a safe supply of water. But it's important that we implement a program to assure it stays safe.

That's why our local community has taken a proactive approach in developing and implementing a Source Water Protection Program that fits our local needs. The Source Water Protection Program is voluntary; it is designed to assist communities in protecting their drinking water sources and is linked to the Texas Commission on Environmental Quality's drinking water protection program.

The Texas Commission on Environmental Protection has contracted with several consulting firms (Atkins, LBG-Guyton, and Laura Raun Public Relations) to assist Fair Oaks Ranch Utilities who rely upon the Trinity Aquifer in protecting the local drinking water supply. After meeting with local officials, the consultants began an inventory of *potential* sources of contamination that exist within the area of influence around the city's public water supply wells.

The utility also assisted the consultants in the source water protection inventory. Several areas of *potential* concern have been identified including oil and gas activities, petroleum storage tanks, auto repair facilities, and improperly functioning septic systems.

A good example of a *potential* source of contamination is used motor oil that could be illegally dumped. One gallon of used motor oil can contaminate one million gallons of fresh water. Think about that a bit!

The inventoried sources were then evaluated on a site-specific basis to determine the threat, if any, to the drinking water supply. The results of the inventory effort were then published in a report written specifically for Fair Oaks Ranch Utilities.

Based upon the recommendations made within the report, the local government can decide what management practices might work best for their community. Best management practices can range from public education activities to ordinances prohibiting certain activities within source water protection areas.

The program seeks to increase public awareness, inform the public of the steps each citizen can take to protect the integrity of drinking water sources, and elevate citizens' level of participation in the effort.

Potential Threats to the Safety of Our Drinking Water

Instead of remediation, added chemical treatment, and investment in new technologies after a contamination event, *protecting the water source* from contamination can be much more cost effective. If harmful pathogens and chemicals are kept out of the aquifers, lakes, and rivers that we use as drinking water then the risk to human health is lowered significantly. This first barrier – source water protection – is not the only barrier to safeguard human health against waterborne contaminant threats. Yet it is an important first step that can save money and decrease risks to human health.

As individual citizens, we all have an important role to play in the protection of our drinking water. Protecting our drinking water begins at home. How do your personal

habits affect our drinking water? The first question to ask yourself is “Where does your drinking water come from?” While it does come from the faucet, the actual answer is the Trinity Aquifer and Canyon Lake.

You may be surprised to learn that the way we dispose of products we use in our home or farm can contribute to the contamination of our community’s drinking water. You may be even more surprised to learn that a number of the products we use at home contain hazardous or toxic substances.

The truth is, products like motor oil, pesticides, left-over paints or paint cans, flea collars, weed killers, household cleaners, and even a number of medicines contain materials that can be harmful to our drinking water.

The average American disposes of approximately one pound of this type of waste each year. Although the amount of any of these substances that you pour down your drain, put in your trash, or dump on the ground or into a lake may seem insignificant to you, try multiplying it by the number of people in the surrounding cities and towns.

Don’t Pour It Down the Drain! Anything you pour down your drain or flush down your toilet will enter your septic system or your community’s sewer system. Using this method to dispose of products that contain harmful substances can affect your septic system’s ability to treat human wastes.

Once out of sight, these harmful substances can eventually contaminate both ground and surface water. In addition, most community wastewater treatment plants are not designed to treat many of these substances. Thus, they can eventually be discharged into surface water and/or irrigated onto golf course land and cause contamination.

Don’t Put It in the Trash! In general, community landfills are also not equipped to handle hazardous materials. As rain passes through the landfill, the water can become contaminated by these products and eventually carry them into the groundwater and surface water.

Don’t Dump It on the Ground! Hazardous wastes that are dumped on or buried in the ground can contaminate the soil and either leach down into the groundwater or be carried into a nearby body of surface water by runoff during rainstorms.

How do I Dispose of it? While the City does not provide for the disposal of hazardous materials such as batteries, oil, gasoline, etc. As part of an initiative with Waste Management you may be eligible for free household hazardous materials pickup depending on your location. All city residents are asked to call 1-800-449-7587 for more information. Be prepared to provide your address. More information is available at the following website: wmatyourdoor.com.

Disposal of some hazardous materials may also be available through local county services. Contact your county of residence to learn more. County links and additional

resources are provided on the city website at the following page - <http://www.fairoaksranchtx.org/index.aspx?nid=167>.

What Else Can I Do? Get informed and get involved! Communities can make a difference. If you think one person can't change the system, help form a group. You, alone or as a part of a group, can help educate your family, friends, and neighbors about the importance of safe drinking water in your community.

Abandoned Water Wells – A Threat to Drinking Water Supplies

Have you ever dropped stones into the casing of an old well and listened to the sound it makes? Maybe you have leaned over the opening to hear the echo of your own voice bounce back from the mysterious darkness below? These are just two examples of the phenomena that arouse a child's curiosity and make abandoned wells as intriguing and as dangerous as a discarded icebox with the door still attached.

It's only natural for a person to assume no one would ever fall into this deserted well, as the odds are high against this happening. But it can and has happened numerous times in Texas. Abandoned wells are also a direct conduit to our ground water – a threat to our drinking water.

A large number of rural residents, in addition to the Fair Oaks Ranch Utilities, depend upon ground water as a source of drinking water.

A functioning water well serves as a channel for bringing ground water to the surface. An abandoned well, likewise, serves as a funnel for carrying contaminants from the surface to the ground water below. Each year many wells are abandoned without being properly plugged when they are replaced with new wells or when homes are connected to community water systems.

An abandoned well's potential for adversely affecting drinking water quality will depend on its original use, the local geology, land use, and the type of well construction. An improperly sealed well is often simply covered by a board or a sheet of metal in an unsuccessful attempt to ensure that the well does not become a hazard.

Ground water normally moves only a few feet per year, and is filtered in the process. But an abandoned well will circumvent the natural filtration process, and can transfer large amounts of contaminants directly into the aquifer.

Therefore, abandoned wells are found everywhere – on farms, industrial sites, and even in urban areas. Properly plugging the well restores the ground water protection originally provided by soil and rock that were present before the well was drilled. Properly plugging the well also eliminates the possibility of injury, death, or property damage due to falls or sudden collapse of an old well.

Abandoned wells are a threat that can no longer be ignored. Texas law requires that abandoned wells be plugged within 90 days. It's not easy to convince everyone to plug their abandoned wells. Proper well plugging takes time and money. The exact costs vary with well depth, diameter, and the geology of the area. But spending the money to plug an abandoned well may prevent contamination of *your* drinking water. And it might prevent a serious accident involving *your* family or friends.

Various state agencies have sought funding for a number of years in an effort to help relieve the burden of cost to the landowner. However, there is currently no funding available.

If someone is reported to the state agency regarding having an abandoned well, the state will issue a letter stating that the well must be properly plugged.

To report an abandoned well or obtain information on plugging abandoned wells, contact the Texas Department of Licensing and Regulation's Water Well Drillers and Pump Installers Program at 800-803-9202 or at abandoned.well@license.state.tx.us.

Summing it all up!

Source Water Protection is not just a Utility Company's responsibility but rather it is everyone's responsibility. Preserving the quality of this limited resource will take an ongoing effort but it will be well worth it to ensure clean, healthy water for our needs and for the generations that follow. Learn about your options when disposing your hazardous wastes and dispose them properly. Remember that although it may be more convenient to throw your used motor oil on the ground, proper disposal may be easier than you think once you know which resources are available to you. The more educated everyone is in water safety, the better off we and our water supplies will be.