

FAYETTE COUNTY GROUNDWATER NEWS

WINTER 2005

VOLUME 4, NUMBER 4

DISTRICT OFFICE
Fayette County Groundwater
Conservation District
P.O. Box 625
254 N. Jefferson St., Room 600
La Grange, Texas 78945
Telephone: (979) 968-3135
Fax: (979) 968-3194
E-Mail: fcgcd@cvtv.net

BOARD OF DIRECTORS
Paul Kohlleppele President
Rodney Willis Vice-President
Carl Wendler Secretary
Lloyd Brunner Director
Eddie Schneider Director

OUR MISSION:

to provide for the conservation, preservation, protection, recharge, and prevention of waste of the groundwater and of groundwater reservoirs for the people of Fayette County.

Fayette County Groundwater News is a quarterly publication of the Fayette County Groundwater Conservation District. Subscriptions are free upon request.

The District offers free brochures and information sheets concerning many aspects of water conservation and protection. Just drop by the office at the above address during regular office hours.

Protect Your Water!

The Fayette County Groundwater Conservation District is conducting a well inventory throughout Fayette County. You can help by registering your water well. This will assist the District in estimating how much water the people of Fayette County need, now and for projected growth. Forms can be found on the District's website or by calling the District at (979) 968-3135.

KEEPING OUR WATERS CLEAN

About 95 percent of this country's rural residents use ground water to supply their drinking water and homestead needs. Wells should be designed to provide clean, safe water. If improperly constructed or maintained, however, wells can allow bacteria, pesticides, fertilizer or oil products to contaminate ground water. These contaminants can put family and animal health at risk.

There is no such thing as naturally pure water. In nature, all water contains some impurities. There are many contaminants that may be present in source water before it is treated. Some contaminants come from erosion of natural rock formations. Other potential sources of groundwater contamination are typically in the form of wastes (human, animal, industrial) or products (fuel, solvents, household cleaners) containing chemical elements or compounds known or suspected to be toxic or harmful to humans.

Sources of Contamination

Many of these potential sources are fairly obvious to the casual observer, such as aboveground chemical/fuel storage tanks. However, many other potential sources are not so obvious: poor well construction; underground fuel storage tanks; household cleaners; pesticide and fertilizer application, mixing, loading and storage areas; animal feeding and confinement areas; and septic systems are a few that are common to most rural residents. These potential sources, and many others, can lead to the contamination of drinking water supplies, not to mention the inconvenience and expense involved in cleaning up contamination and perhaps, in some cases, having to treat or replace drinking water wells.

Drinking water wells and supplies can become contaminated when a release, or discharge, of a waste or product (and the harmful chemicals within it) reach either the well or the aquifer supplying water to the well. Such releases frequently result from accidental spills, improper disposal, or careless use of a product. The likelihood that a release will have an impact on a drinking water well or aquifer is usually dependent upon several factors, including the distance from the release to the well; the presence or absence of protective seals around and within the well; the depth to the aquifer; the

permeability of materials that overlie the aquifer; and the direction that groundwater is moving.

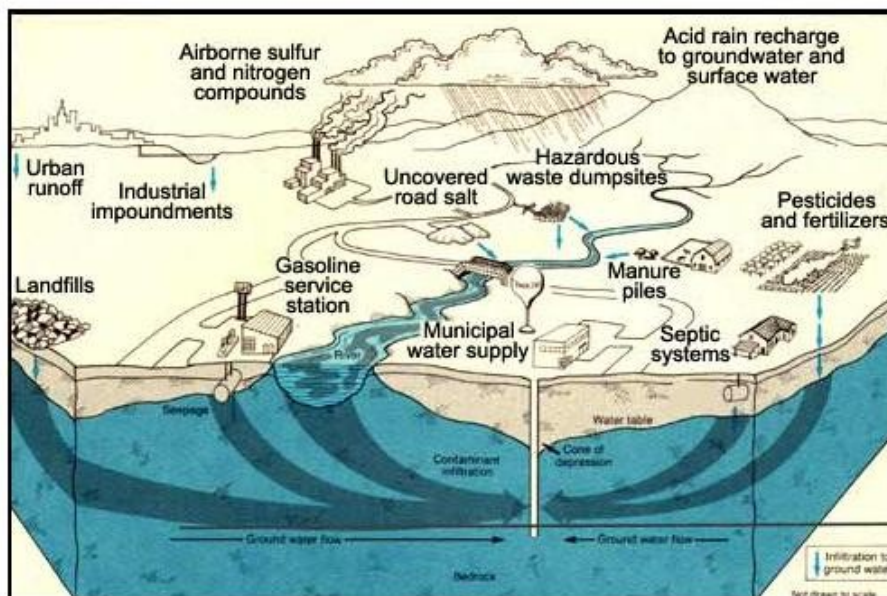
Changes in taste, appearance, odor, or color of your water might indicate that you have a contamination problem. However, many contaminants are not detectable to normal human senses at concentrations considered unacceptable for human consumption. Most contaminants can be harmful to human health at very low levels, or concentrations, and require sensitive laboratory equipment in order to detect their presence.

The condition of your well and its proximity to contamination sources determine the risk it poses to your ground water. For example, a cracked well casing may allow fertilizer, nitrates, oil or pesticides to enter the well if these materials are spilled near the well. Feedlots, animal yards, septic systems and waste storage areas also can release large amounts of bacteria, nitrates and other contaminants that could pollute well water.

Preventing ground water contamination is very important. Once ground water is contaminated, it is very difficult to restore it to its original condition. Most options are costly, and could involve treating the water, drilling a new well or obtaining water from another source. A contaminated well also can affect neighboring wells, posing a serious health threat to others.

Well Location

Whether a well taps water just below the ground or hundreds of feet deep, its surface location is a crucial safety factor. Locating a well in a safe place takes careful planning. Such factors as where the well is in relation to surface drainage, how the land is used, where chemical mixing and storage areas are located, and the direction of ground water flow must be considered. A well downhill from a livestock feeding facility, a leaking tank or a septic system has a



greater risk of contamination than a well on the uphill side of these potential pollution sources.

States encourage proper well location by requiring minimum separation distances from sources of potential pollution, thus using the natural protection provided by soil. When no distances are specified, provide as much separation as possible between a well and any potential contamination source. This is especially necessary if your property is on highly permeable soils or thin soil overlying limestone bedrock, or if the contamination source or activity presents a high risk of contamination.

Simply separating a well from a contamination source may reduce the chance of pollution, but it does not guarantee that the well will be safe. Wells located in the path of polluted water have a high risk of contamination from overland flow washing into an improperly sealed well.

Well Construction

Poor well design can cause ground water contamination by allowing precipitation and storm runoff to reach the water table without filtering through soil. Wells located in pits and wells without grout or caps can allow surface water to carry bacteria, pesticides, fertilizer or oil products into your drinking water supply. Proper well design and construction reduces the risk of pollution by sealing the well from anything that might enter from the surface.

Well Age and Type

Well age is an important factor in predicting the likelihood of contamination. A well constructed more than 50 years ago is likely to be near the center of the property; generally it is a relatively shallow well and is probably surrounded by many potential contamination sources. Older well pumps are more likely to leak lubricating oils, which can get into the well. Older wells also are more likely to have thinner casing that may be corroded through.

Dug wells pose the highest risk of drinking water contamination because they are shallow and often poorly protected from

surface water. Shallow wells draw from the ground water nearest the land surface, which may be polluted by surrounding activities. Depending on how deeply the well casing extends below the surface, rain and surface water soaking into the soil may carry pollutants into the well bore.

Unused and Abandoned Wells

Many farms and ranches have unused wells. Wells at old home sites or old windmills are common. If not properly plugged, these abandoned or unused wells can provide a direct conduit for surface water carrying pollutants to ground water, or these abandoned wells can allow contaminants to move from one aquifer to another. As an example, one improperly sealed well in Texas was buried with only a stone covering the top of the casing. This well caused severely contaminated drinking water to be pumped from another well on the same property. The unused well was near a livestock corral and a septic tank. It allowed animal waste to directly enter the ground water. Just as unused wells pose a threat to ground water, large open wells pose safety hazards for small children and animals.

Household Waste

You may be surprised to learn that a number of

the products you use at home contain hazardous or toxic substances. Products like motor oil, pesticides, leftover paints or paint cans, mothballs, flea collars, weedkillers, household cleaners, and even a number of medicines contain materials that can be harmful to ground water and to the environment in general.

Improper use of hazardous products may cause toxic health problems. Improper storage may allow chemicals to leak, causing potentially dangerous chemical reactions, toxic health effects or ground water contamination. Improper disposal may allow these chemicals to enter drinking water through surface water or ground water.

Carefully consider how to use products safely. Recycle or reuse them when possible, and dispose of remaining products in a way that will not pose a risk to your drinking water.

Excerpted from 'Reducing the Risk of Ground Water Contamination by Improving Wellhead Management and Conditions'; Publication B-6024, and from 'Reducing the Risk of Ground Water Contamination by Improving Hazardous Waste Management'; Publication B-6028, B. L. Harris, D. W. Hoffman & F. J. Mazac, Jr., Texas Agricultural Extension Service, Texas A&M University System.

For more information on how to protect your drinking water, contact the District Office or visit our website.



TIPS FOR PROTECTING YOUR WATER



- ♣ Septic tanks should be at least 50 feet from water supply wells, leach fields should be at least 100 feet away.
- ♣ Animal barns or yards should be located at least 50 feet away from wells.
- ♣ Fertilizers should be stored at least 100 feet from wells. Fertilizer mixing and loading should be done at least 200 feet from wells.
- ♣ Petroleum products in underground and/or above ground tanks should be located at least 100 feet away from wells.
- ♣ Pesticides should be stored at least 100 feet from wells. Pesticide mixing and loading should be done at least 200 feet from wells.
- ♣ Water-tight silos (glass-lined silo with concrete floor and drain) should be at least 50 feet from wells. Earthen trench or pit silos should be at least 250 feet from wells.
- ♣ Dispose of chemicals properly. Take used motor oil to a recycling center.
- ♣ Limit the amount of fertilizer used on plants.
- ♣ Don't pour it down the drain! Don't put it in the trash! Don't dump it on the ground!

Source: Wyoming Department of Environmental Quality



Fayette County Groundwater Conservation District
 P.O. Box 625
 254 N. Jefferson St., Room 600
 La Grange, Texas 78945

Place
Stamp
Here

Visit us on the web at www.fayettecountygroundwater.com