

The Wellhead

Word

Spring 2009

Protecting Groundwater Supplies Through Wellhead Protection

Windmill Run Marina

For many Oklahomans, the lake is a popular destination for weekends and holidays spent with friends and family. For Grand Lake, in the northeastern part of the state, the Fourth of July is a particularly crowded time. Lake-front property owners head out to their vacation homes with little thought to whether or not the drinking water is safe. This was the case for residents of the Windmill Run Marina, a condominium complex and marina on Grand Lake. Little did they know that the

water they were drinking and using as ice would soon make this holiday one to forget.

Windmill Run residents celebrated July 4th, 2008 with cookouts, swimming, boating and fireworks. They filled their ice chests with ice from the marina and escaped from the heat with cold glasses of water from their kitchen sinks. What they did not know was that the groundwater source that supplied the water to make the

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Where's the Money?

As a local official, paying for projects is always a primary concern. Here is a list of organizations that fund source water and wellhead protection programs.

USDA's Rural Development Utilities Service (RDUS)

The Water and Environmental Programs (WEP) offer loans, grants, and loan guarantees to rural areas and to communities with a population of 10,000 or less. RDUS funding can be used for installing, repairing, improving, or expanding drinking water, wastewater, solid waste, and storm drainage facilities as well as for land acquisition, legal fees, engineering fees, capitalized interest, equipment, initial operating and maintenance costs, and project contingencies. Projects are administered locally by state and district Rural Development offices. RDUS Emergency Community Water Assistance Grants are provided after a natural disaster to extend, repair, and perform maintenance to water infrastructure. (See www.usda.gov/rus/ for more information.)

EPA's Drinking Water State Revolving Fund

EPA awards grants to states through the drinking water state revolving fund (DWSRF). In turn, the states offer low-interest loans to drinking water systems to improve infrastructure. New Hampshire, for example, provided loans to systems to purchase land or conservation easements to protect drinking

water sources from contamination. In these cases, states must develop a process for ranking projects according to importance. Typically, the priority setting system requires that land be located within a delineated source water or wellhead protection area. Each state determines how loans are repaid. (More information can be found at www.epa.gov/safewater/dwrsf.html.)

EPA's Clean Water Act (CWA) Fund

Annually, the clean water state revolving fund (CWSRF) provides more than \$5 billion in water quality projects through low-interest or no-interest loans. It can provide 100 percent of the project cost with a repayment schedule of up to 20 years. The program provides assistance to communities, water systems, and other organizations, such as land conservation associations, for projects that protect source water and enhance water quality. In 2007, 77 percent of all loans were made to communities with populations less than 10,000. Each state decides how loans are repaid; some examples are recreational fees for fishing licenses or entrance fees, drinking water fees, wastewater user charges, fees paid by developers, and donations or dues made to nonprofit groups. Repaid money is rolled back into the CWSRF. (Visit www.epa.gov/owmitnet/cwfinance/cwsrf/ for more information.)

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Windmill Run Marina

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ice and fill their drinking glasses had been contaminated. Residents began to experience flu-like symptoms including nausea, vomiting and stomach cramps. The Oklahoma



Department of Environmental Quality (DEQ) and the Oklahoma State Department of Health (OSDH) began to investigate the situation when complaints and reports of illness were filed with both state agencies. Initially, 24 people were confirmed sick and one individual

was admitted to the hospital in critical condition.

The DEQ and the OSDH launched a collaborative investigation to determine the source of contamination. Personnel from both state agencies were dispatched to the condo complex to collect samples and interview residents and visitors. On July 8, a boil advisory was issued after samples taken from the condo complex tested positive for E Coli. More extensive testing confirmed that Norovirus was the cause of the outbreak. Noroviruses are a group of viruses that cause diarrhea and vomiting. Outbreaks have been linked to sick food handlers, contaminated shellfish or water contaminated with sewage.

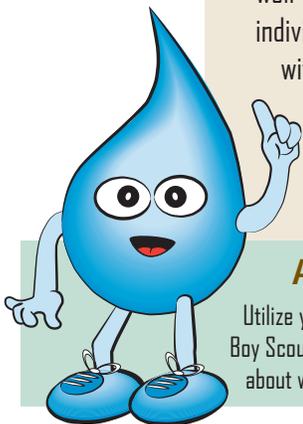
On July 25, 2008 the DEQ issued an emergency order to Windmill Run Marina requiring that the well that supplies drinking water be taken out of service after testing indicated that the well was contaminated with Norovirus. At least 62 individuals were identified with symptoms consistent with Norovirus. DEQ believes the virus is the result of sewage contaminating the well. In order to

protect public health, Windmill Run management was advised to shut down the water well and locate a water source that met all DEQ requirements.

What can be learned from the events at Windmill Run Marina? What can a well operator do to ensure the safety of his or her customers? The easiest and most crucial step is to identify potential sources of contamination (PSOC). Once PSOCs have been identified, steps can be taken to remove the threat. Remember to take into consideration topography and soil types when determining the Wellhead Protection Area. For example, Windmill Run Marina has karst topography and rocky soil. This type of terrain allows for rapid movement of water or liquids through the soil. On-site systems can pose a threat if they are not functioning properly or if they are installed in soil that is not favorable to their operation. In these instances the Wellhead Protection Area should be expanded to ensure that pollution sources are a safe distance from the wells. The incident also re-emphasizes the importance of a contingency plan. A contingency plan should identify alternate sources of water in the case of an emergency or natural disaster. Operators can use their contingency plans to assist them with assessing Wellhead Protection Areas and best management practices. By working pro-actively, operators can ensure a safe drinking water supply and help customers end their celebrations with a bang and not a bug!



Operators help ensure that pollution sources are a safe distance from the wells.



As of October 2008 the Wellhead Word Newsletter is issued on a Quarterly Basis.

Utilize your community's resources to get the word out on protecting source water. Mobilize the efforts of your local organizations such as, the Boy Scouts, School Organizations, and Social Clubs. Work to inform your friends and neighbors about the importance of wellhead protection and about what you can do as a community to identify potential contaminants.

Where's the money?

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EPA's Non-Point (319) Source Implementation Grants

These grants are awarded to states and tribes for implementing nonpoint source projects and programs, including best management practices installation for animal wastes, pesticide and fertilizer control, stream bank restoration, and lake protection/restoration. Grantees, except for tribes, are required to provide 40 percent of the total cost of the project. (For more information, see www.epa.gov/owow/nps/cwact.html.)

EPA's five Star Restoration Grant Program

This program provides modest challenge grants (from \$5,000 to \$20,000) to community-based groups for restoring wetlands and streams. The National Association

of Counties, the National Fish and Wildlife Foundation, and the Wildlife Habitat Council have joined together with EPA for this effort. Funding for the program is provided by EPA's Office of Wetlands, Oceans and Watersheds, and by the National Marine Fisheries Service's Community-based Restoration Program for selected projects in coastal areas. More than 300 projects have been funded to date. (To learn more, go to www.epa.gov/owow/wetlands/restore/5star/.)

For more information about funding water and wastewater projects, call Robin Anderson, program associate with the National Environmental Services Center, at (800) 624-8301 ext. 5562.

Spotlight on Success

The City of Yukon recently completed substantial implementation of the Wellhead Protection Program thanks in part to the partnership developed between the City and the Local DEQ Environmental Specialist,

Jennifer Robbins. Jennifer assisted the community with identifying potential sources of contamination within the Wellhead Protection Area, such as, the welding shop located within close proximity to one of the City's wells. She explained the importance of maintaining an inventory of the materials at the facility in the case of possible contamination. The City in turn issued letters to local businesses in the vicinity of their wells and followed up with face-to-face meetings with businesses located within the Wellhead Protection Area. She also worked closely with them in developing the public awareness and outreach material that runs on the local public access channel. The City regularly features information for safely discarding of household hazardous waste and informs citizens that improper disposal can lead to contamination of their drinking water. She also offers friendly reminders twice a year to ensure that the City's contingency plan remains current as personnel change and best management practices are modified. The City of Yukon is another example of a successful Wellhead Protection Program in action.



Who Can I Contact for More Information about Wellhead Protection Education?

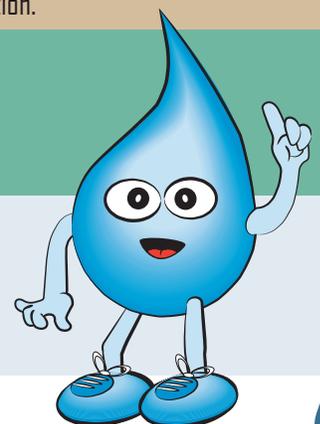
- Your local DEQ office.
- Oklahoma City Groundwater Support.

H2O JOE SAYS CONTACT YOUR LOCAL DEQ OFFICE FOR COPIES OF:

- THE WELLHEAD WORD NEWSLETTER
- BILL INSERTS
- FACT SHEETS
- POWER POINT PRESENTATIONS



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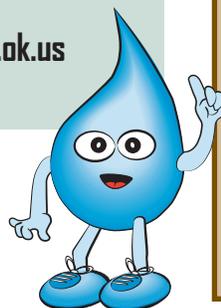


Environmental Complaints and Local Services Wellhead Protection Contacts

For more information about the Wellhead Protection Program contact your local DEQ office or Oklahoma City Groundwater Support Unit.

Groundwater Support
Oklahoma City:
(405) 702-6100
Matt Pace
Amber McIntyre
Lynne Moss

Web Site
www.deq.state.ok.us



Local Offices

Ada.....	(580) 332-3157	Miami.....	(918) 540-0150
Alva	(580) 327-2649	Oklahoma City.....	(405) 702-6100
Ardmore.....	(580) 226-2554	Ponca City	(580) 762-1907
Bartlesville.....	(918) 333-2734	Poteau	(918) 647-5734
Burns Flat.....	(580) 562-4394	Purcell	(405) 527-8738
Chouteau.....	(918) 476-8588	Tulsa.....	(918) 293-1600
Claremore	(918) 341-7179	Sallisaw	(918) 790-2498
Duncan.....	(580) 255-6068	Shawnee.....	(405) 275-7967
Durant.....	(580) 920-2037	Stillwater	(405) 372-7387
Enid.....	(580) 234-0997	Tahlequah.....	(918) 456-5714
Guymon.....	(580) 338-1357	Valliant.....	(580) 933-5566
Henryetta.....	(918) 652-0446	Wagoner.....	(918) 485-8873
Jay.....	(918) 253-4656	Wheatland.....	(405) 745-7120
Lawton	(580) 357-9733	Wilburton	(918) 465-5218
McAlester.....	(918) 423-3482	Woodward.....	(580) 256-0641



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Oklahoma City, OK 73101-1677