

For immediate release

February 2009

## CONSERVING WISCONSIN'S BURIED TREASURE

Contact: Kevin Masarik, (715)346-4276, [kmasarik@uwsp.edu](mailto:kmasarik@uwsp.edu)

Stevens Point, Wis.--Groundwater Awareness Week (March 8 - 14) reminds us to pay extra attention to how much water we use.

Wisconsin relies heavily on its groundwater resources. Groundwater is the water source for 95 percent of Wisconsin communities and 100 percent of homes with wells; and it is the primary source of water for the state's agricultural industry, supplies nearly one-third of all industrial uses and half of the commercial interests that use water.

People aren't the only ones that rely on groundwater; it is a critical supply of water for our state's lake, river and wetland ecosystems--resources that not only add to the state's high quality of life, but are critical to Wisconsin's popular tourism industry.

Because groundwater is a local resource, removing groundwater more quickly than it is replaced can create local and regional water quantity issues. Pumping large amounts of water from wells too close to surface waters can reduce the amount of water that would normally flow to springs and streams--less water in these resources can negatively affect the health of aquatic ecosystems. Pumping of the deep sandstone aquifers has caused significant drawdown of the confined aquifers in parts of southeastern, northeastern, and to a lesser extent, south-central Wisconsin near Madison.

Because of the problems created from overuse of groundwater, some areas of the state have begun taking a serious look at water conservation and revisiting how water is used.

Here are some simple steps homeowners and businesses can take to reduce the amount of water they consume each day:

--Fix leaky faucets or toilets. This can save up to 20 gallons of water per day.

--Install a new, low-flow showerhead and faucet. These consume about 40 percent less water than older models.

--Upgrade to a front-load, water-efficient washing machine. This not only drastically reduces water needed for doing laundry, but also cuts down on the time needed to dry clothing.

--Install a rainbarrel or cistern. Rainbarrels collect and store rain water from the roof of your home which can then be used to water your garden or lawn. Not only do they reduce the amount of water you use from your tap, they also help reduce stormwater runoff into lakes, rivers and streams.

--Reuse water. Some homes and businesses practice water reuse, we call this "using water to its full potential". Plumbing systems can be designed to allow water from the shower or washing machine to be collected treated and stored. The water can then be used for other things such as watering the garden or flushing the toilet which don't require as high of a quality grade of water.

Ultimately using less water not only helps to conserve precious water resources-- it also saves money and decreases energy costs by reducing the amount of energy needed to pump water out of the ground and the energy used to heat water.

Visit <http://www.uwsp.edu/cnr/watersheds/gwweek.htm> for a link to the Better Homes and Groundwater brochure which contains additional information on water conservation in the home.

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## DISPELLING GROUNDWATER MYTHS

Contact: Kevin Masarik, (715)346-4276, [kmasarik@uwsp.edu](mailto:kmasarik@uwsp.edu)

Stevens Point, Wis.-- Groundwater Awareness Week, March 8-14 presents an opportunity to learn more about one of Wisconsin's most valuable natural resources.

Because groundwater is not visible, it has become a very misunderstood resource. Common misconceptions that people have about groundwater can make it difficult to understand the real issues and manage the resource wisely.

Not the mysterious subject people sometimes believe it to be, groundwater is a local resource that originates as rain and melting snow that infiltrates into the ground. Eventually this water reaches a zone where all the empty space in the soil or rocks below us are completely filled with water. The top of this zone is called the water table. All of the water below the water table is groundwater, while the geologic materials that transmit and store groundwater are referred to as aquifers. In Wisconsin our major aquifers are divided into the following categories of geologic material: sand and gravel, sandstone, dolomite, and crystalline bedrock.

Groundwater is always moving, generally very slowly, through the pore spaces or cracks in the rocks below us. The rate of movement depends mostly on the properties of the aquifer in which groundwater is contained.

Groundwater typically moves from higher elevations called recharge areas to lower elevations, often referred to as discharge areas. Examples of discharge features include our lakes, rivers, streams and wetlands – groundwater supplies much of the water to these valuable and enjoyable resources.

In addition to supplying water to surface waters, groundwater is also the source of water for nearly three-quarters of Wisconsin's residents and many of Wisconsin's most important industries. Everyone with a well on the property relies on groundwater to supply water to their home or business. The same is true for the countless cities and villages across the state that obtain their water through municipal wells.

Depending on the well's depth, the types of soil overlying the land surface, and the type of aquifer into which the well is drilled, most water pumped by wells has often only been in the ground a couple of years or maybe a couple of decades. In some areas of the state with shallow soils overlying fractured bedrock, water from the land surface may reach a well in a matter of days or even hours.

Because groundwater is a local resource, any chemicals or nutrient sources that are spilled or applied to the land's surface have the potential to contaminate the groundwater supply below. With so much of the state relying on groundwater, it is important that we do our best to protect the quality of this vital resource.

Whether it's applying fertilizer to our lawns or crops, dumping chemicals down our septic systems, or spreading manure or other bio-solids on fields; we should all take special precautions to minimize the effects of these practices on groundwater quality. This is particularly true near wells that supply water to homes, businesses and municipalities. Wellhead protection (limiting or restricting the types of land-uses allowed near wells), is an important tool that communities can use to protect their groundwater supply.

For teachers looking to celebrate groundwater awareness week in the classroom, the award winning Wisconsin Groundwater Study guide is available online. The study guide contains a number of lessons and worksheets that can be used to help students better understand Wisconsin's buried treasure.

For teachers looking to access the study guide or anyone else just looking to learn more about groundwater, please visit the following website for Wisconsin specific groundwater resources:

<http://www.uwsp.edu/cnr/watersheds/gweek.htm>.

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## CELEBRATE GROUNDWATER AWARENESS WEEK BY PROPERLY FILLING AND SEALING UNUSED WELLS

Contact: Kevin Masarik, (715)346-4276, [kmasarik@uwsp.edu](mailto:kmasarik@uwsp.edu)

Stevens Point, Wis.--The week of March 8-14 is Groundwater Awareness Week-- a perfect time to talk about important things that landowners can do to protect groundwater on their property.

Groundwater is the principal water supply for nearly three-quarters of Wisconsin residents and virtually all rural landowners. Because people with wells generally rely on groundwater for their drinking water, it's important that potential sources of groundwater contamination are identified and corrected.

Unused wells left open and unattended are direct conduits to groundwater and are a common cause of groundwater contamination in rural areas. Anything that is dumped down the well or allowed to flow into an unused well is recharged directly into the groundwater aquifer and bypasses the natural filtering of pollutants that would take place as water infiltrates through the soil.

Because it can be costly and time consuming to clean-up groundwater once it has become contaminated, the most practical thing to do is to properly fill and seal any unused wells that are present on your property.

Everyone should check their property for unused wells. If you have an unused well on your property, contact a licensed well driller or pump installer to have it properly filled and sealed as soon as possible. If you know of any neighbors with unused wells, try convincing them to do the same.

Anytime you drill a new well on your property to replace an existing well, the old well should be properly filled and sealed. Similarly, anytime you are thinking about purchasing a piece of property, you should inspect the land for unused wells and require that any are properly filled and sealed before the time of sale.

Special procedures have been developed to ensure that unused wells are filled and sealed in a manner that will prevent future contamination. Not following the recommended procedures may fail to correct the problem and may even make it worse.

For more information on how to properly abandon an unused well go online at <http://dnr.wi.gov/org/water/dwg/forms/wellabandonment.pdf> to view a copy of

“Answers to Your Questions about Well Abandonment” or try contacting your local Land Conservation Department who may be able to provide assistance with properly filling and sealing unused wells.

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## SPRING IS A GOOD TIME TO TEST WELL WATER

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Groundwater is vital to all of us living in Wisconsin, and the coming of spring represents an important time for our groundwater resources. You can celebrate Groundwater Awareness Week (March 8 -14) by having your well water tested.

This time of year is especially critical for individuals who rely on well water or a private well for their drinking water supply. While all groundwater originates as precipitation, melting snow and spring rains generally provide the largest contribution of groundwater recharge to our aquifers each year. Because recharge during this time can occur rapidly, bacterial contamination of wells often occurs during these periods of the year. This is especially true for wells located in karst regions, areas where soil layers are thin or absent and bedrock is highly fractured. Some well owners may actually notice their well water change appearance or odor after large rain events or snowmelts.

Coliform bacteria tests are an easy way to determine whether your water supply is bacteriologically safe to drink. Coliform bacteria are common in soils and are not generally considered harmful to health, however; they are also found in human and animal waste. For this reason a coliform bacteria test is used as an indication of the sanitary condition of a water supply. A sanitary water supply or properly constructed well should not contain any coliform bacteria; their presence in well water indicates a pathway for other potentially dangerous pathogens such as *E. coli*, a type of fecal coliform, to enter the water supply. If pathogens are in fact present, a variety of illnesses could occur from drinking the water. You should be testing your well water annually for coliform bacteria or any time you notice a sudden change in color, odor or taste; think of it like going to the doctor for a check-up.

In addition to coliform bacteria, there are a number of other contaminants that well owners should consider testing for. Some of these include human related contaminants such as nitrate and pesticides or naturally occurring contaminants such as arsenic.

Anyone that has questions concerning private well water quality or water testing is encouraged to visit the DNR's new website which contains answers to some of the most common questions concerning well water and well testing in Wisconsin. Simply do an internet search for "What's wrong with my water?" and access to this informative resource will be right at your fingertips.

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## CELEBRATE GROUNDWATER AWARENESS WEEK

Contact: Kevin Masarik, (715)346-4276, [kmasarik@uwsp.edu](mailto:kmasarik@uwsp.edu)

Stevens Point, Wis. – Groundwater meets the daily water demands of nearly three-quarters of Wisconsin's residents. And it provides almost all of the water for the state's agricultural industry--irrigation, livestock and dairy operations. In addition, groundwater is the primary source of water for Wisconsin's lakes, streams and wetlands.

Groundwater Awareness Week, March 8-14 reminds us of the tremendous value of Wisconsin's groundwater resources.

Groundwater is a vital resource to everyone in our state and it is critical that we work to conserve the quality and quantity of those resources to maintain our high quality of life in Wisconsin. Groundwater quality has always been a concern for us in Wisconsin; recently communities around the state have become increasingly concerned about groundwater quantity and the effects concentrated groundwater withdrawals on surrounding water resources.

Despite statewide efforts to protect groundwater, it is important to remember that groundwater is a local resource. Local people are the ones who can choose whether to conserve, protect or pollute it. We all need to do a better job of learning about and making others in our community more aware of our local groundwater resource.

- Anyone looking for activities to promote better groundwater quality or use water more efficiently in their home or business can look to a Wisconsin Department of Natural Resources brochure entitled "Better Homes and Groundwater".
- Teachers or educators looking to celebrate groundwater awareness week in the classroom can download the award winning Wisconsin Groundwater Study Guide. This booklet contains 12 groundwater related activities and handouts for various grade levels.

Both the brochure and study guide are available online at the following website: <http://www.uwsp.edu/cnr/watershes/gweek.htm>.

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## WEB SITE HELPS WISCONSIN PLAN FOR GROUNDWATER PROTECTION

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Stevens Point, Wis.--Wisconsin relies heavily on its groundwater--95 percent of communities in the state and nearly 1 million additional residents with private wells use groundwater for their daily needs.

A new web site provides easy access to information about Wisconsin's groundwater to assist local governments in protecting this vital resource and to help owners of private wells tap into safe drinking water supplies.

The site, located at <http://wi.water.usgs.gov/gwcomp/> can play a key role in learning about local groundwater quality and quantity during National Groundwater Awareness Week, March 8-14.

"Clean, adequate water supplies are an important foundation for healthy citizens and a healthy economy," said Charles Dunning, Assistant Director of the U.S. Geological Survey (USGS) Wisconsin Water Science Center. "We are pleased to offer information that is so important to people throughout this state."

"This web site gives local governments valuable county-by-county information and tools to help them do a better job of protecting this resource in their comprehensive planning processes," says Lynn Markham, Land Use Specialist from the University of Wisconsin-Extension Center for Land Use Education.

The site incorporates select groundwater data and policy information from 16 federal, state and local agencies. Maps and other easy-to-use formats provide data for each of Wisconsin's 72 counties on sources of drinking water, groundwater-protection policies, money spent on cleanup, groundwater use, susceptibility of groundwater to pollutants and groundwater quality.

Real examples of how communities have protected their drinking water supplies through land use planning are included in the web site. Some communities have maintained forested or other natural land uses in groundwater-well-recharge areas to minimize contamination threats.

In other examples, communities have recognized that the quality of their groundwater depends on how food is grown within their community. As a result, they have adopted incentives for farmers to grow organic crops or those that don't require heavy fertilizer use.

“The web site is an invaluable tool for the nearly 1 million people in Wisconsin who get their drinking water from private wells,” Markham says. “It doesn’t tell them what’s in their well specifically, but provides very useful information on the general quality of water in their region. This information is important for people to consider before buying land if they plan to drill a well.”

While Wisconsin has one of the most comprehensive groundwater protection and research programs in the nation and groundwater standards for more than 130 substances to protect public health and welfare, contamination of groundwater is still a concern.

Up to 40 percent of private wells in some areas of the state show detectable levels of contaminants that present a human health concern. Nitrate, for example, has been found in more than 11 percent of private wells, and pesticides or their breakdown products have been identified in 38 percent of private wells.

The web site was developed jointly by the Center for Land Use Education at UW-Stevens Point and the USGS Wisconsin Water Science Center. Funding for this project came from the Wisconsin Department of Natural Resources and the UW System through the Wisconsin Groundwater Coordinating Council. Additional funding was provided by the USGS Cooperative Water Program.

For more information about USGS, visit <http://www.usgs.gov/ousgshomepage> For more about the University of Wisconsin-Extension visit <http://www.uwex.edu/>

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