

Wisconsin's



Groundwater
Directory

Wisconsin Groundwater Directory

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Introduction

Groundwater is one of Wisconsin's most valuable resources, so valuable in fact, that it is often referred to as Wisconsin's buried treasure. While it is an important resource, it is also a misunderstood resource.

Groundwater is an important part of the earth's hydrologic cycle. As precipitation falls to the land surface, much of it is used by plants or evaporates into the atmosphere, while some of it runs off into nearby lakes, rivers and streams. Some of the water from precipitation also infiltrates into the soil and rock below us. If it moves far enough down it reaches a zone where all the spaces between soil particles and cracks between rocks are filled with water. This is our groundwater.

What many people do not realize is that groundwater is always moving. It moves very slowly through the small pores found in the soil and bedrock. This moving groundwater eventually finds its way into nearby lakes and wetlands. Groundwater also supplies much of the water to rivers and streams, which is why they continue to flow even when it has not recently rained.

Who uses groundwater?

More than 70 percent of Wisconsin residents rely on groundwater to supply water for their everyday needs, including drinking water. In addition, groundwater is a critical resource for agriculture and many other industries throughout the state.

There are approximately 800,000 private wells drilled throughout the state. Even though we can't see groundwater it is always underneath us. By installing a well, and tapping into our groundwater resource we can usually find an adequate water supply to meet our everyday needs.

Why should I be concerned?

A clean and dependable supply of water is necessary to maintain a high quality of life and strong economy in Wisconsin. Because

we cannot see groundwater it is important that we pay extra attention to ensuring the quantity and quality for our future needs.

Groundwater is vulnerable and if it is not carefully monitored, managed, and protected has the potential to be depleted or degraded. While much has been done to protect our groundwater supply we increasingly face the question of how to improve groundwater quality. Wide-spread land-use activities have resulted in elevated concentrations of contaminants such as nitrate and pesticides throughout the state. Cleaning up groundwater after it is contaminated has proven difficult and expensive; therefore it is beneficial to prevent groundwater from becoming contaminated in the first place.

As populations expand and water demands increase the prospect of depleting groundwater resources is also becoming a major concern. It is important that we manage the water supply appropriately and ensure that we always have clean water in our wells, lakes, rivers, and streams.

Who protects Wisconsin's groundwater?

Managing and protecting our groundwater resources is challenging. Groundwater is not only an environmental issue, but a health and economic concern as well. Because it is a vital resource to the state, there are a variety of local, state, and federal agencies with responsibilities related to groundwater.

While some responsibilities are unique to one agency, many are performed by multiple agencies. In fact, many agencies collaborate with each other to manage our groundwater resources. While this directory focuses primarily on state agencies and affiliates, it is not a complete list. Local resources and non-profit organizations can also be valuable sources of information. All of us whose work involves groundwater encourage you to utilize these resources to learn about, protect and improve groundwater in Wisconsin.

Groundwater in Wisconsin: Who to Contact

This section provides details about which state agencies offer services related to individual groundwater related issues. Often times there are overlap amongst agencies and local groups around the state. This list is a guide for residents of Wisconsin to obtain more information and is not suggesting that these are the only sources of information on these topics. In fact, many times local agencies or non-profit groups may represent a better source of information since they are more knowledgeable about local groundwater issues.

Data Collection and Analysis

Groundwater Quality

- The **Department of Natural Resources** maintains the Groundwater Retrieval Network (GRN) . The GRN reports data from public and private drinking water supply wells, non-point source priority watershed projects, special groundwater studies, and the Bureau of Waste's Groundwater and Environmental Monitoring System (GEMS) landfill monitoring wells. Data covers the period from the early 1970s to present for the Public Water Supply data, 1988 to present for the Private Water Supply, priority watershed and special study data, and from the mid-1970's to present for the GEMS database. Not all programs that currently generate groundwater related data are linked into the GRN system. A subset of data is available on-line for public access at [http://prodmtex00.dnr.state.wi.us/pls/inter1/grn\\$.startup](http://prodmtex00.dnr.state.wi.us/pls/inter1/grn$.startup)
- The **Department of Natural Resources** maintains the Drinking Water System (DWS) which is used for groundwater quality analysis. Its purpose is to enforce Safe Drinking Water Act regulations covering public water systems and was created and is maintained by the DNR's Bureau of Drinking Water and Groundwater. It contains the monitoring and reporting requirements for each public water systems and their drinking water sampling results. It also includes violations for any missing requirements and exceedances of the maximum contaminant levels (MCLs). This system is used to report public water supply data to USEPA as required by the Safe Drinking Water Act. The DWS also contains information on public and private well construction and high-capacity well approvals. A subset of data is available on-line for public access at <http://www.dnr.state.wi.us/org/water/dwg/DWS.htm>
- The **Department of Agriculture, Trade, and Consumer Protection** maintains the Drinking Water Well System which contains contact and location information, well characteristics, and pesticide and nitrate sample results for over 37,000 public and private drinking water wells. DATCP also maintains the Monitoring Well System containing similar information for monitoring wells, which also tracks specific pesticide use history, soils, crop history, well construction, and precipitation and irrigation at monitored sites. **DATCP: (608)224-4502**
- The **Center for Watershed Science and Education** maintains a water quality database of private well test data from over 60,000 samples covering the state. The database primarily covers the period 1985 to present. **CWSE: (715)346-3731**
- The **U.S. Geological Survey** monitors 50 major river basins and aquifers covering nearly all 50 states. Scientists collect and interpret data about water chemistry, hydrology, land use, stream habitat, and aquatic life. More information is available on the web at <http://water.usgs.gov/nawqa/>.

Groundwater Levels and Geological Information

- The **Wisconsin Geological and Natural History Survey** maintains a searchable index of over 350,000 well construction reports (WCR). The scanned images of 1936-1987 WCRs are available to state agencies, consulting firms, and private well owners on CD-ROM. For more information visit <http://www.uwex.edu/wgnhs/wcrs.htm>. **WGNHS: (608)263-7389**
- Well construction reports filed from 1988-present are entered into a **Department of Natural Resources** database and are available on CD-ROM from DNR. **DNR: (608)266-0153 or (608)267-7605**
- The **Wisconsin Geological and Natural History Survey** in cooperation with the **U.S. Geological Survey** maintain a network of approximately 140 wells in 66 counties and provide a consistent, long-term record of fluctuations in water levels in deep and shallow aquifers. The data is available on the web at <http://wi.water.usgs.gov/public/gw/>. **WGNHS: (608)262-1705 or USGS: (608)821-3850**
- The **Wisconsin Geological and Natural History Survey** maintains a database entitled WiscLith which contains lithologic and stratigraphic descriptions of geologic samples collected from across the state. The database is searchable by location, stratigraphy, and lithology and is now available on CD-ROM. **WGNHS: (608)263-7389**

Data Sets with Groundwater Implications

- The **Department of Natural Resources'** Remediation and Redevelopment program maintains an on-line database of information on contaminated soil and groundwater clean-up activities. The database entitled BRRTS on the Web (Bureau for Remediation and Redevelopment Tracking System), includes site specific information for brownfields, leaking underground storage tanks (LUSTs), environmental repair sites, state lead cleanups, Superfund sites, and spills and abandoned containers. <http://botw.dnr.state.wi.us/botw/welcome.do> **DNR: (608)267-3532**
- The **Department of Commerce** maintains databases of underground petroleum storage tank systems and properties with petroleum contamination either in the past or currently. The database also stores information on activities associated with onsite sewage system design, installation and maintenance. **Commerce: (608)266-7874**
- The **Department of Transportation** regulates the storage of highway salts and annually updates salt storage facility records into a database and assists the DNR in locating salt storage facilities for GIS mapping applications. **DOT: (608)266-7980**

Groundwater Research

- The **UW Water Resources Institute** assists in disseminating information about DNR, DATCP, and Commerce projects funded through the Wisconsin Groundwater Research and Monitoring Program by maintaining a website (<http://www.wri.wisc.edu/wgrmp/wgrmp.htm>) that presents summaries of the results of more than 100 completed groundwater investigations funded since 1989. Copies of final reports are also available to the public on loan through the Water Resources Library. **WRI: (608)262-0905**

Well Construction, Permitting, Abandonment and Compensation

- The **Department of Natural Resources** regulates well construction under the Well Codes which are based on the premise that a properly located, constructed, installed and maintained well and water system should provide safe water without the need for treatment. For well codes on the web go to <http://dnr.wi.gov/org/water/dwg/code.htm>.
DNR: (608)266-0821
- Some county ordinances approved by the WI Department of Natural Resources require that a “well permit” be obtained prior to construction. Check with your **local health department or zoning office** for more information regarding local ordinances or special considerations for well construction in your area. http://dhfs.wisconsin.gov/DPH_Ops/LocalHealth/
- Many people do not have basic information related to the construction of their personal well. The **Wisconsin Geological and Natural History Survey** is able to locate and provide copies of well construction reports to individual homeowners. <http://www.uwex.edu/wgnhs/well.htm>
WGNHS: (608)262-7430
- The **Department of Natural Resources** is responsible for the regulation of high capacity wells. When the operation of a high capacity well is anticipated to have an adverse impact on the quality or quantity of water available to a public utility well, the Department is obligated to deny approval or limit operation of the well. **DNR: (608)266-0821**
- Unused and improperly abandoned wells represent a significant threat to groundwater quality. The **Department of Natural Resources** provides information and guidance on properly abandoning wells after they are removed from service. See their website at <http://dnr.wi.gov/org/water/dwg/forms/wellabandonment.pdf>. **DNR: (608)266-0821**
- The **Department of Natural Resources** provides financial assistance for private well owners who decide to replace, reconstruct, or treat a contaminated private water supply. More information is available at <http://dnr.wi.gov/org/water/dwg/wellcomp.htm>.
DNR: (608)266-0821

Drinking Water Supply and Testing

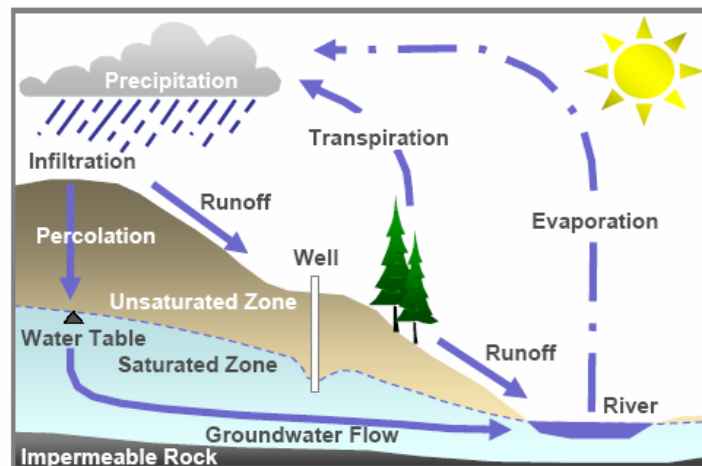
- The **Department of Health and Family Services** recommends health-based enforcement standards for substances found in drinking water supplies and develops risk guidance for non-routine chemical contamination incidents. It also serves as a primary resource for information about the health risks posed by drinking water contaminants, and are charged with investigating suspected cases of water-borne illness. **DHFS: (608)266-7480**
- The **State Lab of Hygiene** helps to protect the health of drinking water consumers by providing analytical expertise, research, and educational services to the scientific and regulatory community. **SLOH: (608)224-6202**

Youth Education

- The **UW Environmental Resource Center** develops and coordinates a number of national youth water education initiatives related to groundwater, provides access to a database of more than 140 water-related curricula (<http://www.uwex.edu/erc/ey paw>), and aims at protecting and improving local water quality by encouraging youth to investigate local issues, plan, and complete a service project. **ERC: (608)262-0020**
- The **UW Water Resources Institute** developed the Wisconsin's Water Library for Kids online. The library features books with aquatic themes; many that have won awards or appeared on best books lists. Besides fiction and non-fiction books, the Website also has ideas and resources for story hours. Any Wisconsin resident can check out books online and pick them up at their local public library. Access online at <http://www.aqua.wisc.edu/waterlibrary>

Outreach Education and Training

- The **University of Wisconsin-Extension Basin Educator Program** provides land and water resource education and evaluation throughout the state's 22 major river basins. The program works to support local conservation professionals such as county Extension agents, Land Conservation Department staff, and NRCS staff. (<http://clean-water.uwex.edu/bassites.html>) **UWEX: (608)262-8756**
- The **Center for Watershed Science and Education** provides groundwater education and technical assistance to citizens and governments of Wisconsin. Programs range in breadth from answering citizen questions, helping communities with wellhead protection planning, describing the extent and causes of groundwater nonpoint pollution in Wisconsin, and working on groundwater policy. (<http://www.uwsp.edu/cnr/gndwater>) **CWSE: (715)346-4270**
- The **Wisconsin Geological and Natural History Survey** participates in groundwater educational meetings in counties where county mapping or other hydrogeologic studies are in progress. (<http://www.uwex.edu/wgnhs/>) **WGNHS: (608)262-1705**
- The **Department of Natural Resources** conducts training for professionals and educational workshops for Wisconsin residents on a variety of important natural resource issues throughout the state including groundwater. (<http://dnr.wi.gov/education/>) **DNR: (608)266-2621**



Groundwater Activities by Agency

Department of Agriculture, Trade and Consumer Protection

The Department of Agriculture, Trade and Consumer Protection manages pesticides and pesticide practices to assure that established groundwater standards for contaminants are not exceeded. It also regulates storage, handling, use, and disposal of pesticides, and the storage of bulk quantities of fertilizer.

- *Regulates pesticide use and cleanup*
- *Inspects fertilizer and pesticide storage facilities*
- *Inspects water supplies of food processors and Grade A dairy farms*
- *Licenses water bottlers*
- *Educates food and agricultural interests about groundwater*
- *Researches where pesticides have entered groundwater*
- *Oversees farm nutrient management*
- *Certifies laboratories that perform bacteriological testing of drinking water*

Department of Commerce

The Department of Commerce regulates flammable and combustible liquids and hazardous substance liquids and is also responsible for safeguarding public health and the waters of the state relative to the construction, installation and maintenance of plumbing.

- *Inspects and keeps records on underground storage tanks*
- *Enforces septic system regulations*
- *Approves home water treatment devices*
- *Runs the Brownfield Grant Program*
- *Educates business and landowners about tank laws*

Department of Natural Resources

The Department of Natural Resources has statutory authority as the central unit of state government to protect, maintain and improve the quality and management of the waters of the state, ground and surface, public and private. It also establishes the groundwater quality standards and has specific groundwater related regulatory programs.

- *Regulates sewage lagoons, municipal and industrial wastewater systems.*
- *Regulates landfills, solid waste and hazardous waste disposal*
- *Regulates environmental consequences of mining*
- *Responds to hazardous spills*
- *Regulates public drinking water systems and well drilling*
- *Sets drinking water and groundwater quality standards*
- *Monitors groundwater, samples well water*
- *Issues permits for animal waste management*
- *Administers the land recycling (Brownfield) program*
- *Educates school children and adults about groundwater*
- *Certifies laboratories that perform chemical tests on drinking water*

Department of Transportation

The Department of Transportation regulates the storage of highway salt to protect the waters of the state from harm due to contamination by dissolved chloride.

- *Conducts road salt and groundwater research*
- *Regulates road salt storage*

Department of Health and Family Services

The Department of Health and Family Services recommend health based enforcement standards for substances found in groundwater and specifies the protocol for developing the recommended standards.

- *Holds public meetings on contaminated water supplies*
- *Recommends enforcement standards for substances of health concern*
- *Investigates health effects from contamination*
- *Inspects water supplies at restaurants, hotels, motels and campgrounds*

Wisconsin Geological and Natural History Survey

The Wisconsin Geological and Natural History Survey performs basic and applied groundwater research and provides technical assistance, maps and other information and education to aid in the management of groundwater resources.

- *Maps and inventories groundwater resources and geological formations*
- *Writes technical reports and assists regulatory agencies*
- *Monitors groundwater levels and water quality*
- *Educates about hydrology and groundwater resources*

University of Wisconsin System

The University of Wisconsin System has research, teaching and outreach responsibilities and work with state and federal agencies and other partners to solve groundwater resource issues.

UW-Campuses

- *Researches the occurrence, effects and prevention of groundwater pollution*
- *Educates students and working professionals about groundwater issues*
- *Maintains water resource references*

UW Water Resources Institute

- *Maintains water resources library*
- *Promotes groundwater research, training, and information dissemination*
- *Provides database of water experts throughout the state*

Center for Watershed Science and Education

- *Analyzes water from private wells*
- *Educates homeowners and local government about groundwater issues*
- *Provides community outreach*
- *Conducts applied research about groundwater*

State Lab of Hygiene

- *Analyzes water from private wells*
- *Researches virus and pathogen occurrence in groundwater*
- *Provides educational and outreach activities related to drinking water*

Other UW-Extension Programs

- *UW-Environmental Resource Center*
- *Basin Educator Program*
- *Nutrient and Pest Management Program*
- *Farm and Home Environmental Management Program*

Groundwater Resource Contact Information

**Center for Watershed Science and Education-
Groundwater Center (CWSE)**

College of Natural Resources
University of Wisconsin-Stevens Point
800 Reserve St.
Stevens Point, WI 54481
(715)346-4270
www.uwsp.edu/cnr/gndwater/

**Department of Agriculture, Trade &
Consumer Protection (DATCP)**

2811 Agriculture Dr.
Madison, WI 53718
(608)224-4519
<http://datcp.state.wi.us/index.jsp>

**Department of Health & Family Services-
Environmental Health Resources (DHFS)**

PO Box 2659
Madison, WI 53701-2659
(608)266-1120
<http://dhfs.wisconsin.gov/eh/>

**University of Wisconsin-Environmental
Resources Center (UWERC)**

1545 Observatory Dr.
Madison, WI 53706-1289
(608)262-0020
www.uwex.edu/erc

University of Wisconsin-Extension (UWEX)

Community Natural Resource & Economic
Development
625 Extension Bldg
432 N Lake Street
Madison WI 53706-1498
Phone: (608) 262-1748
<http://www.uwex/ces/cnrd/>

**University of Wisconsin-Water Resources
Institute (WRI)**

1975 Willow Drive, 2nd Floor
Madison, WI 53706-1177
(608) 262-0905
www.wri.wisc.edu

**Wisconsin Department of Natural Resources
(DNR)**

Drinking Water & Groundwater
101 S. Webster St.
Madison, WI 53707
(608)266-0821
<http://www.dnr.wi.gov/org/water/dwg/>

**Wisconsin Geological & Natural History
Survey (WGNHS)**

3817 Mineral Point Rd.
Madison, WI 53705
(608)262-1705
<http://www.uwex.edu/wgnhs/>

**Wisconsin Land & Water Conservation
Department (WLCD)**

One Point Place, Suite 101
Madison, WI 53719
(608)833-1833
<http://wlwca.org/>

Wisconsin State Lab of Hygiene (SLOH)

465 Henry Mall
Madison, WI 53706
(608)262-1293
<http://www.slh.wisc.edu>

State Agency Regional Offices

State agencies have regional offices located throughout Wisconsin. To contact regional staff in your area a list of contacts by region has been provided.

Wisconsin Department of Natural Resources

Northern

- Spooner – (715)635-2101
- Rhinelander – (715)365-8900

West Central

- Eau Claire – (715)839-3700

Northeast

- Green Bay – (920)492-5800

Southeast

- Milwaukee – (414)263-8500

South Central

- Fitchburg – (608)275-3266

Wisconsin Department of Health and Family Services

Northern

- Green Bay – (920)448-5223

Northeast

- Rhinelander – (715)365-2700

Southeastern

- Milwaukee – (414)227-4860

Southern

- Madison – (608)243-2351

Western

- Eau Claire – (715)836-5362

Local Agencies

There are many local resources available to assist in groundwater related issues. Many town and county boards develop and implement groundwater management plans to protect local groundwater resources. Consulting your areas local leaders may help provide information on groundwater protection efforts that are currently in use or being planned.

The following list of local organizations may be able to help answer questions you have about groundwater issues in your neighborhood.

- City and county planning and zoning departments
- Municipal water suppliers
- City and county health departments
- Wisconsin Land and Water Conservation Districts
- County UW-Extension offices

Many of these offices can be found in your local telephone directory under county or town government or located on the internet.

Wisconsin Counties

http://www.wisconsin.gov/state/core/wisconsin_counties.html

