

Hello Neighbor:

By now you have received the Linn Sanitary District's 2011 winter newsletter and the first of five Groundwater Information sheets. We hope that you have found them to be informative and interesting. If you have any questions or comments please feel free to let us know what you think.

We have received several calls from residents stating that they have their well tested once a year. Ultimately we would like to have all residents of the District test their well water once a year. You may not need to annually test for more than bacteria but additional testing is helpful especially if your water has had a history of problems.

Excessive nitrates levels (>10 mg/l of N) in drinking water can lead to health problems, especially in young children. Past testing in the Geneva Lake area has found that wells drawing water from the deep aquifer (>200 ft) can have high arsenic levels.. Although chloride levels found in groundwater are not yet a health issue in the Geneva Lake area, high chlorides can lead to aesthetic issues such as taste.

2011 Timeline of Groundwater I & E Program

- **May**.....Second information sheet mailing.
- **June**..... Third information sheet mailing.
- **July**.....Fourth information sheet mailing.
- **Late July**....1st mailing of well testing info. Meeting on well testing. Pick up bottles. Well water sampling and testing.
- **August**..... Meeting and mailing on test results. Fifth information sheet mailing.

If you re interested in receiving an electronic copy of this newsletter please complete the following and send it to: GLEA,P.O. Box 914 Williams Bay, WI 53191 or email us at glea@genevaonline.com

Name: _____

Address: _____

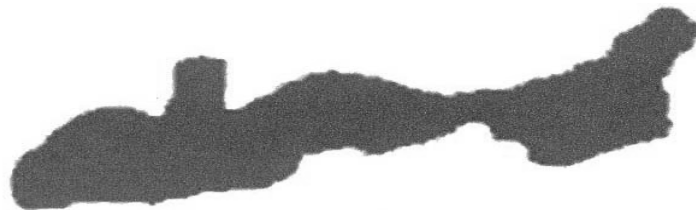
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LINN SANITARY DISTRICT

P.O. BOX 454 • LAKE GENEVA, WI 53147 • 262-245-4532

This Groundwater Information, Education and Well Testing Program is brought to you and funded by the Linn Sanitary District and the Geneva Lake Environmental Agency.



Geneva Lake Environmental Agency

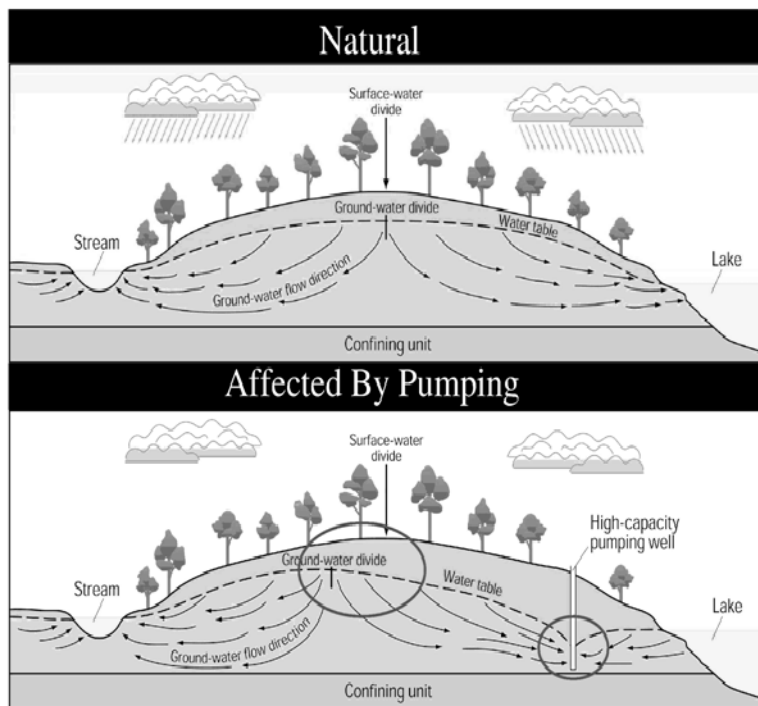
Village of Fontana • City of Lake Geneva • Town of Linn
Town of Walworth • Village of Williams Bay

GROUNDWATER IN THE GENEVA LAKE AREA- 2

Groundwater supplies most of the drinking water in the Geneva Lake area. The Geneva Lake area has two major sources of **groundwater**, the shallow sand and gravel **aquifer** and a deep sandstone **aquifer**. The shallow sand and gravel **aquifer** is also important in supplying Geneva Lake and the area springs and creeks with a considerable portion of their annual water. Land use can have a major impact on the quality of the Geneva Lake's shallow **groundwater aquifer**. It is important that the **groundwater** be managed to assure a continual safe supply of drinking water and a source of cool, clean water for the lake, springs and creeks.

Studies have shown that although it can vary slightly during different seasons, **groundwater** moves toward Geneva Lake on all sides of the lake except the extreme eastern end of the lake. On the eastern end the lake water **recharges** the **groundwater**.

Groundwater entering the soil as far south as the state line and as far west as the Big Foot Prairie eventually moves into the Geneva Lake area and is available for pumping by wells or discharging to Geneva Lake, its creeks or springs. In these **recharge** areas rain water soaks into the ground, moves through the soil's or rock's **pores** and enters the **water table** of the shallow sand and gravel **aquifer**. The deep sandstone **aquifer** is **recharged** even further west out on the Big Foot Prairie.



Groundwater is constantly moving from upland **recharge** areas to lowland **discharge** areas. The speed of groundwater movement is dependent upon several factors; size and number of air spaces in the ground, **connectivity of the air spaces**, rates of **discharge** and **slope**.

Just as surface water has **watersheds** or divides that send the water moving in specific directions, so does groundwater. Geneva Lake's **ground watershed** covers more area than its **surface watershed**. **Soil composition**, geology and pumping can result in different ground watershed than surface watershed. **Groundwater watersheds** can also be altered by changing withdrawal or pumping rates. Due to the pumping of high capacity wells on the west end of Geneva Lake, the lake's ground watershed has move further west since the pre-settlement days.

An important step in protecting **groundwater** supplies is to understand where the groundwater is coming from and where in it is going. Just as important is managing the land use in these areas.

Glossary of Terms

Aquifer: An area in the ground where all open air spaces between the soil and rocks particles are filled with water.

Connectivity of the air spaces: The linking of spaces between the soil particles.

Discharge area: An area where an aquifer comes to the ground's surface as a spring, creek or seepage.

Groundwater: Water that is found in the spaces or void between rocks and soil particles.

Impervious shale: A rock made of very tightly packed particles that does not let water pass through.

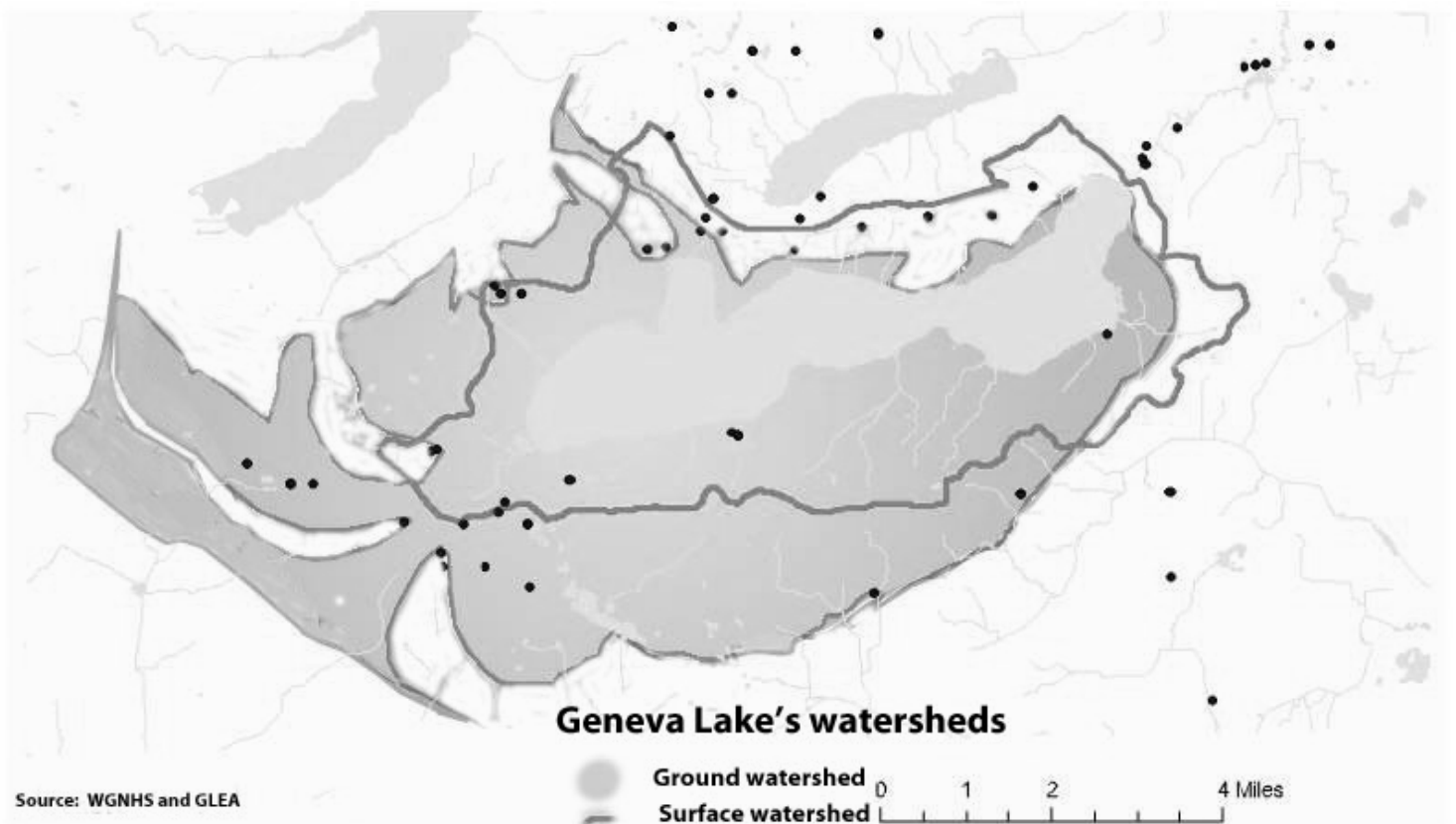
Pores: Air spaces between soil or rock particles.

Recharge : The process of an aquifer receiving water from the surface.

Soil composition: What is in the soil such as clay, silt, sand or gravel.

Watershed: An area where all the water that is under it or drains off of it goes to the same place.

Water table: The top of an aquifer where all the spaces between the soil and rock are filled with water.

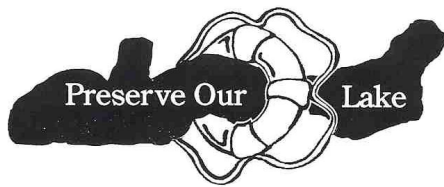


Did you know??

- It takes 10 gallons of water to make one can of soda.
- You can survive for nearly a month without food, but only 5-7 days without water.
- 30% of the earth's usable fresh water is groundwater.
- At birth, 80% of a baby's weight is water.
- In 2003 Americans spent more than 7 billion dollars on bottled water.

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GENEVA LAKE ENVIRONMENTAL AGENCY

PLEASE OPEN AND READ

IMPORTANT INFORMATION ON
GROUNDWATER AND YOUR DRINKING
WATER WELL.

For more information on Groundwater visit:

- Central Wisconsin Groundwater Center
<http://www.uwsp.edu/cnr/gndwater/>
- Wisconsin Department of Natural Resources (WDNR)
<http://dnr.wi.gov/org/water/dwg/>
- United States Geological Survey (USGS)
<http://water.usgs.gov/ogw/>
- Wisconsin Geological and Natural History Survey (WGNHS)
<http://www.uwex.edu/wgnhs/>
- United States Environmental Protection Agency (USEPA)
<http://www.epa.gov/>
- University Of Wisconsin—Extension
<http://www.uwex.edu/>
- Geneva Lake Environmental Agency (GLEA)
<http://www.genevaonline.com/~glea/>
- Linn Sanitary District (LSD)
<http://www.townoflinn.com/Sanitary.htm>
- Wisconsin State Lab of Hygiene (WSLH) for testing
<http://www.slh.wisc.edu>

