

Annual
WaterQualityReport

Water testing performed in 2010



Presented By
JOINT POWERS WATER BOARD
ALBERTVILLE • HANOVER • ST. MICHAEL

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Quality First Quality

Once again we are proud to present our annual water quality report covering all testing performed between January 1 and December 31, 2010. As in years past, we are committed to delivering the best-quality drinking water possible. To that end, we remain vigilant in meeting the challenges of new regulations, source water protection, water conservation, and community outreach and education while continuing to serve the needs of all of our water users. Thank you for allowing us to continue providing you and your family with quality drinking water.

We encourage you to share your thoughts with us on the information contained in this report. Should you ever have any questions or concerns, we are always available to assist you.



Where Does My Water Come From?

All water delivered to Albertville, Hanover, and St. Michael residents is groundwater. Eight wells, ranging in depth from 240 to 504 feet, draw water from the Mt. Simon, Ironton Galesville, and Quaternary Buried Artesian Aquifers.

The Mt. Simon and Ironton Galesville are bedrock aquifers, while the Quaternary Aquifer is in the shallower deposits left behind by the glaciers of the last Ice Age.

What's Your Water Footprint?

You may have some understanding about your carbon footprint, but how much do you know about your water footprint? The water footprint of an individual, community, or business is defined as the total volume of freshwater that is used to produce the goods and services that are consumed by the individual or community or produced by the business. For example, 11 gallons of water are needed to irrigate and wash the fruit in one half-gallon container of orange juice. Thirty-seven gallons of water are used to grow, produce, package, and ship the beans in that morning cup of coffee. Two hundred and sixty-four gallons of water are required to produce one quart of milk, and 4,200 gallons of water are required to produce two pounds of beef.

According to the U.S. EPA, the average American uses about 100 gallons of water daily. In fact, in the developed world, one flush of a toilet uses as much water as the average person in the developing world allocates for an entire day's cooking, washing, cleaning, and drinking. The annual American per capita water footprint is about 8,000 cubic feet; twice the global per capita average. With water use increasing six-fold in the past century, our demands for freshwater are rapidly outstripping what the planet can replenish.

To check out your own water footprint, go to www.h2oconserve.org, or visit www.waterfootprint.org to see how the water footprints of other nations compare. Another interesting Web site that offers perspective on the state of water, globally and locally, can be found at www.growingblue.com.

How Is My Water Treated?

Iron and manganese are harmless minerals found in groundwater throughout Minnesota. They can cause stains on laundry and fixtures and can impart unwelcome tastes to the water. The natural groundwater here contains very high concentrations of these minerals, but they are reduced through a process of oxidation and filtration in our plant. The current water treatment includes this process, along with the addition of fluoride for healthy teeth and a corrosion inhibitor to help prevent corrosion of your household plumbing. Finally, the water is disinfected with sodium hypochlorite (bleach) in order to prevent bacteria from growing in the distribution system on the way to your home.

If you are interested in a tour of the Water Treatment Plant, we would love to have you visit! Just call our office at (763) 497-3611 to schedule a guided tour.

Tap vs. Bottled

Thanks in part to aggressive marketing, the bottled water industry has successfully convinced us all that water purchased in bottles is a healthier alternative to tap water. However, according to a four-year study conducted by the Natural Resources Defense Council, bottled water is not necessarily cleaner or safer than most tap water. In fact, about 25 percent of bottled water is actually just bottled tap water (40 percent according to government estimates).

The Food and Drug Administration is responsible for regulating bottled water, but these rules allow for less rigorous testing and purity standards than those required by the U.S. EPA for community tap water. For instance, the high mineral content of some bottled waters makes them unsuitable for babies and young children. Further, the FDA completely exempts bottled water that's packaged and sold within the same state, which accounts for about 70 percent of all bottled water sold in the United States.

People spend 10,000 times more per gallon for bottled water than they typically do for tap water. If you get your recommended eight glasses a day from bottled water, you could spend up to \$1,400 annually. The same amount of tap water would cost about 49 cents. Even if you installed a filter device on your tap, your annual expenditure would be far less than what you'd pay for bottled water.

For a detailed discussion on the NRDC study results, check out their Web site at www.nrdc.org/water/drinking/bw/exesum.asp.



Community Participation

You are invited to attend and/or participate at our regularly scheduled Water Board meetings, where you have an opportunity to hear about the water utility's current projects as well as voice questions or concerns about your drinking water. We meet the fourth Monday of each month, beginning at 6:00 p.m., at the Water Treatment Plant Board Room, 11100 50th Street NE, Albertville, MN.

Questions?

For more information about this report, or for any questions relating to your drinking water, please call Andy Ahles, Water Department Manager, or Kelly Daleiden, Utility Manager, at (763) 497-3611.

Important Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The U.S. EPA/CDC (Centers for Disease Control and Prevention) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791 or <http://water.epa.gov/drink/hotline>.

Source Water Assessment

Congress requires that states prepare source water assessments for all public water supply systems. The Joint Powers Water Board's Source Water Assessment was completed by the MN Department of Health in March 2003 and concluded that source water susceptibility was determined to be LOW. This means that the source of drinking water is covered by one or more layers of fine-grained material that probably protect it from potential sources of contamination.

Additionally, the Source Water Assessment determined that none of the contaminants regulated under the federal Safe Drinking Act for this public water supply system has been detected in the source water. A listing of these contaminants can be found at www.epa.gov/safewater.

Customers may get a copy of the completed assessment at the Joint Powers Water Treatment Plant Office. It is also available on the Internet at www.health.state.mn.us/divs/eh/water/swp/swa.



Substances That Could Be in Water

To ensure that tap water is safe to drink, the U.S. EPA prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of these contaminants does not necessarily indicate that the water poses a health risk.

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals, in some cases, radioactive material, and substances resulting from the presence of animals or from human activity. Substances that may be present in source water include:

Microbial Contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, or wildlife;

Inorganic Contaminants, such as salts and metals, which can be naturally occurring or may result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming;

Pesticides and Herbicides, which may come from a variety of sources, such as agriculture, urban stormwater runoff, and residential uses;

Organic Chemical Contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production and may also come from gas stations, urban stormwater runoff, and septic systems;

Radioactive Contaminants, which can be naturally occurring or may be the result of oil and gas production and mining activities.

For more information about contaminants and potential health effects, call the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

Lead in Home Plumbing

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. We are responsible for providing high-quality drinking water but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at www.epa.gov/safewater/lead.



Sprinkling Restrictions in Effect for 2011

Conserve and Save Money. Calendar Sprinkling is Mandatory May 1 through September 30.

- ODD addresses may water on ODD days only
- EVEN addresses may water on EVEN days only
- The day **BEGINS** at MIDNIGHT and **ENDS** at MIDNIGHT
- You **CANNOT** sprinkle between 10 a.m. and 7 p.m. **EVER**

Exceptions:

- *New sod and seed is exempt for 60 days only, but you **MUST** notify the Water Dept. at (763) 497-3611; exemption can only be claimed once every three years, except under extenuating circumstances.*
- *Kids **CAN** run in the sprinkler at any time, but **DO NOT** leave the sprinkler running or unattended or you will be subject to a fine.*
- A violation will cost \$75 the first time and goes up by \$25 for each additional violation.
- Feel free to **HAND** water vegetables, flowers, and trees that need it.

Watering Tips to Save You Time AND Money

- Automatic sprinklers should have a timer and a moisture sensor.
- Have your sprinkler heads adjusted so they don't water the sidewalks, driveway, house, or street.
- Water **ONLY** when the grass shows signs of stress. (Grass that is under stress doesn't spring back after you step on it.)
- Watering a little heavier and less frequently will allow roots to grow deeper, and they will be more resilient and less susceptible to drier conditions.
- If you do not have an automatic sprinkler, you can purchase a hose timer for very little money at the local hardware store.
- **PLEASE**, do not sprinkle in the **RAIN!**
- If you can, always water during the night hours; there is less wind, less evaporation, better soaking down to grow deeper roots.
- Delay starting watering in the spring to allow the roots to grow deeper.
- Let the grass grow a little longer; it will hold water better and dry out more slowly.
- There is nothing wrong with letting the lawn go dormant in dry weather; it will turn green when it gets wet again.

Thank you for your cooperation and efforts to be a smart consumer!

Sampling Results

During the past year, we have taken hundreds of water samples in order to determine the presence of any radioactive, biological, inorganic, volatile organic, or synthetic organic contaminants. The table below shows only those contaminants that were detected in the water. The state allows us to monitor for certain substances less than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

We are in exceedance of the action level for copper. While copper in the drinking water comes from corrosion of individual household plumbing and not from the source water, we treat the water at our treatment plant to minimize the potential for corrosion once it gets to your home. In response to the sampling results this year, we performed a corrosion control study and have taken actions to make the water less likely to absorb materials such as copper from your plumbing. Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's Disease should consult their personal doctor.

REGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Alpha Emitters (pCi/L)	2010	15	0	3.9	NA	No	Erosion of natural deposits
Chlorine (ppm)	2010	[4]	[4]	1.21	0.8–1.5	No	Water additive used to control microbes
Combined Radium (pCi/L)	2010	5.4	0	1.6	NA	No	Erosion of natural deposits
Fluoride (ppm)	2010	4	4	1.3	1.2–1.3	No	State of Minnesota requires all municipal water systems to add fluoride to the drinking water to promote strong teeth; Erosion of natural deposits; Discharge from fertilizer and aluminum factories
Haloacetic Acids [HAA] (ppb)	2010	60	NA	18.7	NA	No	By-product of drinking water disinfection
TTHMs [Total Trihalomethanes] (ppb)	2010	80	NA	49.9	NA	No	By-product of drinking water disinfection

Tap water samples were collected for lead and copper analyses from sample sites throughout the community

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	MCLG	AMOUNT DETECTED (90TH%TILE)	SITES ABOVE AL/TOTAL SITES	EXCEEDANCE	TYPICAL SOURCE
Copper (ppm)	2010	1.3	1.3	1.37	4/30	Yes	Corrosion of household plumbing systems; Erosion of natural deposits
Lead (ppb)	2010	15	0	2.1	0/30	No	Corrosion of household plumbing systems; Erosion of natural deposits

UNREGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
Sodium (ppm)	2009	10	NA	Erosion of natural deposits
Sulfate (ppm)	2009	7.94	NA	Erosion of natural deposits

Definitions

AL (Action Level): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

MCL (Maximum Contaminant Level): The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

MCLG (Maximum Contaminant Level Goal): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

MRDL (Maximum Residual Disinfectant Level): The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

MRDLG (Maximum Residual Disinfectant Level Goal): The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

NA: Not applicable.

pCi/L (picocuries per liter): A measure of radioactivity.

ppb (parts per billion): One part substance per billion parts water (or micrograms per liter).

ppm (parts per million): One part substance per million parts water (or milligrams per liter).