

Otter Lake (Parent Source) Source Water Assessments

We want our valued customers to be informed about their water quality. If you would like to learn more, please feel welcome to attend any of our regularly scheduled meetings. The source water assessment for our supply has been completed by the Illinois EPA. If you would like a copy of this information, please stop by the Otter Lake Water Commission office or call (217) 965-1566. To view a summary version of the completed Source Water Assessments, including: Importance of Source Water; Susceptibility to Contamination Determination; and documentation / recommendation of Source Water Protection Efforts, you may access the Illinois EPA website at <http://www.epa.state.il.us/cgi-bin/wp/swap-fact-sheets.pl>.

Otter Lake is utilized by the Otter Lake Water Commission (Facility # 1175200) to provide water to eight communities in Christian, Sangamon and Macoupin Counties and the surrounding rural areas. This facility draws water from Otter Lake through one surface water intake (IEPA #58059). The water is obtained via two 700 and one 1,400 gallon per minute pumps located on an elevated fill roadway bisecting the lake. The supply provides approximately 1.5 million gallons per day to 467 service connections and an estimated population of 16,996. Eight facilities purchase water from the Commission, including Auburn (1670050), Divernon (1670450), Girard (1170450), Pawnee (1670850), Thayer (1671250), Virden (1171100), Nilwood (1170750) and Tovey.

Illinois EPA considers all surface water sources of public water supply to be susceptible to potential pollution problems. Hence the reason for mandatory treatment of all public water supplies in Illinois. Mandatory treatment includes coagulation, sedimentation, filtration and disinfection. Primary sources of pollution in Illinois lakes can include agricultural runoff, land disposal (septic systems) and shoreline erosion.

2012 Regulated Contaminants Detected

Lead and Copper

Definitions:

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

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

Lead and Copper								
	Date Sampled	MCLG	Action Level (AL)	90th Percentile	# Sites Over AL	Units	Violation	Likely Source of Contamination
Lead	6/11/2010	0	15	0	0	ppb	N	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems.
Copper	6/11/2010	1.3	1.3	0.202	0	ppm	N	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems.

Water Quality Test Results

Here are a few definitions and scientific terms to know which will help you understand the information in the contaminant detection tables.

Maximum Contaminant Level Goal or MCLG	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.
Maximum Contaminant Level or MCL	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.
Treatment Technique (TT)	A required process intended to reduce the level of a contaminant in drinking water.
Action Level (AL)	The concentration of a contaminant that triggers treatment or other required actions by the water supply.
Maximum Residual Disinfectant Level Goal or MRDLG	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.
Maximum Residual Disinfectant Level or MRDL	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.
ppb	Micrograms per liter or parts per billion – or one ounce in 7,350,000 gallons of water.
na	Not applicable.
NTU	Nephelometric Turbidity Units.
Avg	Regulatory compliance with some MCLs are based on running annual average of monthly samples.
ppm	Milligrams per liter or parts per million – or one ounce in 7,350 gallons of water.

Otter Lake (Parent Source) Regulated Contaminants - 2012

Disinfectants & Disinfection Byproducts	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Chloramines	12/31/2012	2	1.5 – 2.15	MRDLG = 4	MRDL = 4	ppm	N	Water additive used to control microbes.
Chlorite		0.36	0 – 0.36	0.8	1	ppm	N	By-product of drinking water disinfection.
Haloacetic Acids (HAA5)		33	10.42 – 45.6	No goal for the total	60	ppb	N	By-product of drinking water disinfection.

Not all sample results may have been used for calculating the Highest Level Detected because some results may be part of an evaluation to determine where compliance sampling should occur in the future.

Total Trihalomethanes (TTHM)		33	10.42 – 45.6	No goal for the total	60	ppb	N	By-product of drinking water disinfection.
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Not all sample results may have been used for calculating the Highest Level Detected because some results may be part of an evaluation to determine where compliance sampling should occur in the future.

Inorganic Contaminants	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Arsenic		1	0.781 – 0.781	0	10	ppb	N	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes.
Barium		0.0408	0.0408 – 0.0408	2	2	ppm	N	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Fluoride		1	1.04 – 1.04	4	4.0	ppm	N	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories.
Nitrate (measured as Nitrogen)		0.472	0.472 – 0.472	10	10	ppm	N	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
Sodium		13	11 – 29			ppm	N	Erosion from naturally occurring deposits: Used in water softener regeneration.

Synthetic Organic Contaminants Including Pesticides and Herbicides	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Atrazine		0.334	0 – 0.334	3	3	ppb	N	Runoff from herbicide used on row crops.

Turbidity
Turbidity is a measurement of the cloudiness of the water caused by suspended particles. We monitor it because it is a good indicator of water quality and the effectiveness of our filtration system and disinfectants.

	Limit (Treatment Technique)	Level Detected	Violation	Likely Source of Contamination
Highest Single Measurement	1 NTU	0.39 NTU	N	Soil runoff.
Lowest Monthly % Meeting Limit	0.3 NTU	98.72 %	N	Soil runoff.

Total Organic Carbon
The percentage of Total Organic Carbon (TOC) removal was measured each month and the system met all TOC removal requirements set, unless a TOC violation is noted in the violations section.

Inorganic Contaminants	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Cryptosporidium	11/09/2009	0.5	0.5 – 0.5	0	TT	ppm	N	Human and animal fecal waste.

Cryptosporidium is a microbial parasite found in surface water throughout the U.S. Although filtration removes cryptosporidium the most commonly used filtration methods cannot guarantee 100 percent removal. Our monitoring of source water and/or finished water indicate the presence of these organisms. Current test methods do not enable us to determine if the organisms are dead or if they are capable of causing disease. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. However, immuno-compromised people are at greater risk of developing life-threatening illness. Immuno-compromised individuals are encouraged to consult their doctors regarding appropriate precautions to avoid infection. Cryptosporidium must be ingested to cause disease and it may be spread through means other than drinking water.