

Introduction



Water staff (from left): Pump Station Operator Gil Lubuguin, Water & Sewer Superintendent Brian Jack and Pump Station Operator Fred Biring.

The Village of Oak Park is proud to provide residents with this annual water quality report. This year's edition covers water tested from January 1 through December 31, 2012. The report includes drinking water facts and information on violations and contaminants detected in the drinking water supply.

The Village is dedicated to supplying drinking water that exceeds all state and federal standards. As new challenges to drinking water safety emerge, we remain vigilant in source protection, conservation and community education, while continuing to serve the needs of all water users.

Informed customers are our best allies. We welcome any questions or comments. Call 708.358.5700, or e-mail publicworks@oak-park.us.

Community Participation

Village Board meetings are held at 7:30 p.m. on the first and third Monday of each month in Village Hall, 123 Madison St. Meetings also are streamed live and archived at www.oak-park.us. Follow us at twitter.com/vopnews, be a fan at facebook.com/vopnews and sign up for news via e-mail at www.oak-park.us.

Downspout Disconnects — Storm Water Management

With the goal of reducing the chances of basement flooding during heavy rainfalls, the Village of Oak Park encourages property owners to disconnect their gutter downspouts from the municipal sewer system. Storm water from roof gutters is not a problem during normal flow days with minimal precipitation. However, during heavy rain



events or rapid snowmelts, the main sewer system can become overwhelmed by the water from gutters, sometimes causing sewage and storm water to back up into basements. Simply by eliminating the water from gutters, property owners can help reduce the chances of backups. A one-inch rainfall can produce approximately 600 gallons of water draining from your roof into your sewer. By diverting this water to rain barrels, grassy areas and rain gardens will reduce the chances of basement flooding. The Village of Oak Park offers a Sewer Backup Protection Grant Program that was established to provide financial assistance to homeowners who install systems to protect their homes from backups during heavy rain events. Information on this program can be found at www.oak-park.us.

The Department of Public Works will install storm sewer inlet restrictors in strategic locations throughout Oak Park to limit the flow of storm water into the main sewer system during heavy rain events. This will help reduce the chances of the main sewer being overwhelmed by storm water by keeping the water on the pavement for a longer period of time. Public Works will not clear blocked inlets until the storm event has ended or slowed enough for the sewer system to catch up unless a flooded street has the potential to cause serious damage to property or the traveling public.

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Annual Water Quality Report

Water testing performed in 2012

CELEBRATING 100 YEARS
OF LAKE MICHIGAN WATER!
1912 - 2012



Connecting to Lake Michigan in 1912



PWS ID#: 0312250

Lead and Drinking Water

Oak Park is required to sample for lead and copper in drinking water every three years. The last sample period was 2012. Lead levels in the drinking water remain well below the maximum contaminant level mandated by the EPA. Lead in drinking water is primarily from materials and components associated with older water service lines and home plumbing fixtures. The Village is responsible for providing high quality drinking water but cannot control the variety of materials used in plumbing components. Lead enters the water from solder, pipes or plumbing fixtures in the home. The potential for lead exposure can be minimized by flushing the tap for 30 seconds to two minutes before using water for drinking or cooking. You also can replace old plumbing fixtures with new more efficient fixtures that are lead free and improve water conservation. Look for the *WaterSense* labels on fixtures and appliances. More information on lead in drinking water, testing methods and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline at 800.426.4791 or at www.epa.gov/safewater/lead.

Water Conservation

The Village Board adopted a Water Conservation and Efficiency Plan in April 2013. The purpose of this plan is to develop an action-based framework for pursuing conservation and efficiency strategies while engaging the Village's stakeholders about the value of water. The plan incorporates water use baseline metrics, reduction goals and strategies to achieve each goal. The plan can be viewed at www.oak-park.us. You can conserve water and save money by becoming conscious of the amount of water your household is using and by looking for ways to use less whenever you can. It is not hard to conserve water, here are a few tips:

- Replace old fixtures with *WaterSense* high efficiency models
- Reduce outdoor water use
- Use your water meter to detect hidden leaks. Give the Water and Sewer Division a call to help.



Celebrating 100 Years of Lake Michigan Water

2012 marks the 100 year anniversary of the Village of Oak Park receiving Lake Michigan water. The Village established a connection at North Boulevard and Euclid Avenue completing the transfer from private ownership to a municipal operated water system in 1912. This allowed high quality Lake Michigan water to flow into the homes of Oak Park residents, alleviating concerns of waterborne diseases such as typhoid and cholera. The Village of Oak Park continually strives to maintain an abundant flow of high quality water that meets and exceeds all federal and state regulations for the enjoyment and benefit of the residents. The average daily pumpage in 1912 was about 400,000 gallons per day for its 20,000 residents. Today we pump an average of 5.1 million gallons per day for our 52,000 residents. The going rate for water in 1912 was about \$0.07 per 1,000 gallons of water. Today, Oak Park's water rate is \$6.35 per 1,000 gallons. Oak Park must continually adjust water rates to remain fiscally responsible for the maintenance of the water system and to account for increases in water rates from the City of Chicago. Since 2008, the cost for purchasing water from the City of Chicago has risen 85% and is due to increase by 15% in both 2014 and 2015.

Where Does My Water Come From?



Lake Michigan is the sole source of drinking water for the Village of Oak Park. Water arrives pretreated

via pipelines from the City of Chicago's Jardine Water Purification Plant, which is the largest water treatment plant in the world. Water received from Chicago is stored in four underground reservoirs totaling 12.5 million gallons. The water in the reservoirs remains in constant motion to maintain freshness. Only a small amount of chlorine needs to be added before pumping the water into the Village's system of 105 miles of water mains. To ensure purity, water samples are routinely gathered throughout the water system, from the source, right to your home. A state-certified lab tests the samples using equipment that can measure substances down to one part in one billion!

2012 Violation Summary

We are proud to report that no violations were received in the 2012 sampling year.

What's in My Water?



The City of Chicago Department of Water Management routinely monitors our drinking water for contaminants according to federal and state laws. The Village of Oak Park collects 60 bacteriological samples each month along with quarterly disinfectant bi-product

sampling. The tables at right illustrate substances detected in our water for the period of January 1 through December 31, 2012. Although all of the substances listed are under the Maximum Contaminant Level (MCL) set by the U.S. EPA, we feel it is important that you know exactly what was detected and how much of the substance was present in the water.

The Illinois EPA requires the Village 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.

Substances That Might Be in Drinking 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 bottled and tap 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 use;
- **Organic Chemical Contaminants**, including synthetic and volatile organic chemicals, which are bi-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.

Important Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population. 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 for 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 microbial contaminants are available from the Safe Drinking Water hotline at 800.426.4791.

REGULATED SUBSTANCES

SUBSTANCE (UNITS OF MEASURE)	YEAR SAMPLED	MCL (MRDL)	MCLG (MRDLG)	Village of Oak Park		City of Chicago		VIOLATION	TYPICAL SOURCE
				AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH		
Barium (ppm)	2012	2	2	NA	NA	0.0204	0.0194 - 0.0204	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Chlorine (ppm)	2012	4	4	0.8	0.7032 - 0.909	0.8	0.7505 - 0.8543	No	Water additive used to control microbes
Flouride (ppm)	2012	4	4	NA	NA	0.85	0.84 - 0.85	No	Water additive which promotes strong teeth; Erosion of natural deposits; Discharge from fertilizer and aluminum factories
Haloacetic Acids* [HAA] (ppb) <small>*Highest Running Annual Average Computed</small>	2012	60	NA	14	6.64 - 20.3	NA	NA	No	By-products of drinking water disinfection
TTHMs [Total Trihalo-methanes] (ppb)	2012	80	NA	33	20.15 - 49.8	NA	NA	No	By-products of drinking water disinfection
Total Coliform Bacteria (% positive samples)	2012	5% of monthly samples are positive	0	ND	NA	ND	NA	No	Naturally present in the environment
Total Nitrate + Nitrite (ppm)	2012	10	10	NA	NA	0.34	0.34 - 0.34	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion from natural deposits
Turbidity (NTU) (Highest single measurement)	2012	TT=1NTU max	NA	NA	NA	0.69	NA	No	Soil runoff
Turbidity %<0.3 NTU (lowest monthly % of samples meeting limit)	2012	TT	NA	NA	NA	99.7%	99.7% - 100%	No	Soil runoff

Tap water samples were collected for lead and copper analysis from sample sites throughout the Village of Oak Park

SUBSTANCE (UNITS OF MEASURE)	YEAR SAMPLED	AL	MCLG	AMOUNT DETECTED (90th %TILE)	SITES ABOVE AL/TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2012	1.3	1.3	0.111	0/30	No	Corrosion of household plumbing systems; erosion of natural deposits; Leaching from wood preservatives
Lead (ppb)	2012	15	0	ND	0/30	No	Corrosion of household plumbing systems; Erosion of natural deposits

OTHER SUBSTANCES (CITY OF CHICAGO RESULTS)

SUBSTANCE (UNITS OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
Sodium ¹ NA (ppm)	2012	7.07	6.88 - 7.07	Erosion of naturally occurring deposits; Used in water softener regeneration
Sulfate SO ₄ (ppm)	2012	17.6	13.4 - 17.6	Erosion of naturally occurring deposits
Hardness CaCO ₃ (mg/L)	2012	138	120 - 180	The 120 - 180 range is considered to be "hard" water. Hard water is the result of Calcium and Magnesium naturally dissolved in water. The term "hard" water is typical of the lack of suds from soap in water.

¹Sodium is not currently regulated by the U.S. EPA. However, the State of Illinois has set an MCL for this contaminant for supplies serving a population of 1,000 or more. The purpose of unregulated contaminant monitoring is to assist the U.S. EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted.

Definitions

AL (Action Level): The concentration of a contaminant that triggers treatment or other required action by the water supply.

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 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 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.

ND: Not detected.

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).

Turbidity: Turbidity is a measure of the cloudiness of the water. The City of Chicago monitors it because it is a good indicator of water quality and the effectiveness of filtration system and disinfectants.

TT (Treatment Technique): A required process intended to reduce the level of a contaminant in drinking water.

Source Water Assessment



The Illinois EPA considers all surface water sources of community water supply to be susceptible to potential pollution problems. The very nature of surface water allows contaminants to migrate into the intake with no protection other than dilution. This is the reason for mandatory treatment for all surface water supplies in Illinois. Chicago's offshore intakes are located at a distance great enough that shoreline impacts are not usually considered a factor on water quality. At certain times of the year, however, the potential for contamination exists due to wet-weather flows and river reversals. In addition, the placement of the crib structures may serve to attract waterfowl, gulls, and terns that frequent the Great Lakes area, thereby concentrating fecal deposits at the intake thus

compromising the source water quality. Conversely, the shore intakes are highly susceptible to stormwater runoff, marinas, and shoreline point sources due to the influx of groundwater to the lake. Chicago has taken extraordinary steps to ensure a safe source of drinking water in the area, from building of the offshore cribs and the introduction of interceptor sewers to the lock-and-dam system of Chicago's water ways and the city's Lakefront Zoning Ordinance. The City now looks to the Department of Water Management, the Department of Environment, and the Metropolitan Water Reclamation District of Greater Chicago (MWRDGC) to ensure the safety of the city's water supply. Also, Lake Michigan has a variety of organizations and associations that are currently working to either maintain or improve water quality. Further information on our community water supply's Source Water Assessment Program is available by calling the City of Chicago, Department of Water Management, at 312.744.6635.

2012 Voluntary Monitoring and Cryptosporidium

The City of Chicago has continued monitoring for Cryptosporidium, Giardia and E. coli in its source water as part of its water quality program. To date, Cryptosporidium has not been detected in these samples, but Giardia was detected in one raw lake water sample collected in September 2010. Treatment processes have been optimized to provide effective barriers for removal of Cryptosporidium oocysts and Giardia cysts in the source water, effectively removing these organisms in the treatment process. By maintaining low turbidity through the removal of particles from the water, the possibility of Cryptosporidium and Giardia organisms getting into the drinking water system is greatly reduced. 2013 marks the 20 year anniversary of the largest waterborne disease outbreak in documented United States history. In 1993 over a span of two weeks, 25% or 400,000 of the 1.61 million residents of the City of Milwaukee, Wisconsin became ill with symptoms of stomach cramps, diarrhea, fever and dehydration caused from the pathogen Cryptosporidium. The cause of the outbreak was determined that the pathogen passed through the water treatment plant originating from a sewage outflow from a wastewater treatment plant two miles upstream in Lake Michigan. The outbreak was linked to over 100 deaths mostly among the elderly and immunocompromised people. The City of Chicago remains diligent in their monitoring and treatment processes to ensure that an outbreak like this does not happen again. For more information on Cryptosporidium, please visit www.cdc.gov/parasites/crypto/.

In 2012, the Chicago Department of Water Management (CDWM) continued monitoring for hexavalent chromium, also known as Chromium-6. USEPA has not yet established a standard for Chromium-6, a contaminant of concern which has both natural and industrial sources. Please address any questions or concerns to CDWM's Water Quality Division at 312.742.7499. Data reports on the monitoring program for chromium-6 are posted on the City of Chicago's website which can be accessed at: www.cityofchicago.org/city/en/depts/water/supp_info/water_quality_resultsandreports/chromium-6.