

Annual Water Quality Report

Calendar Year
2007



Dear Resident:

Since 1998, the United States Environmental Protection Agency (USEPA) has required the Village's water plant, as a water producing and treatment agency, to conduct water quality tests and to inform residents of the test results. The Village is pleased to report that again for the year 2007, the water plant met or exceeded the USEPA standards, and did not have a violation of a contaminant level or any other water quality standard. This article will detail the water treatment process and explain the USEPA water quality standards. The Wilmette Water Plant is committed to providing you with the safest and most reliable water supply.

We encourage public interest and participation in our community's decisions affecting drinking water. Regular Village Board Meetings occur on the second and fourth Tuesdays each month starting at 7:30 pm at the Village Hall, 1200 Wilmette Avenue. Information on agendas for these meetings can be viewed at the bulletin boards located at the Metra Train Station and the Village Hall or on the Village's web site, www.wilmette.com. Detailed information on the water purification process is also available on this website. For questions about this report or to receive a copy, please contact Ray S. Ames Jr., Water Plant Superintendent, at 847-853-7531 or at amesr@wilmette.com. Further information on our community water supply's source water assessment is available on the USGS web site at <http://il.water.usgs.gov> or by calling the Groundwater section of the Illinois EPA at 217-785-4787.

The drinking water supplied by the Wilmette Water Plant meets or surpasses all Federal and State drinking-water standards.

Water Treatment Process

The Village receives its raw water from Lake Michigan. It is treated at the Wilmette Water Plant on the lakefront and pumped into the water distribution system. A stand-pipe (4 million gallons) and an underground reservoir-pumping station (3 million gallons) provide additional storage of treated water on the west side of the Village. These storage reserves are used to maintain water pressure in the distribution system.

The water plant uses a mixture of chemicals, settling basins and filters to remove all contaminants to below regulated levels. A chlorine residual is maintained throughout the plant and distribution system to prevent the growth of bacteria. Operators are on duty 24 hours a day year-round to monitor the water system. In addition, the water plant has an Illinois Department of Public Health certified laboratory for conducting bacteriological testing.

At times, the quality of the raw lake water that enters the water plant is affected by the opening of the locks operated by the Metropolitan Water Reclamation District of Greater Chicago (MWRDGC), or from runoff from the use of fertilizers and herbicides on area lawns and golf courses.

The MWRDGC owns and controls a set of locks located in Wilmette Harbor that are occasionally opened during heavy rainfall events to release sewer overflow into the lake. These contaminants, however, do not affect the quality or the safety of the finished water that is delivered to consumers.

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 intakes with no protection, only dilution, which is the reason for mandatory treatment for all surface water supplies in Illinois.

A workgroup from the Great Lakes States was organized to develop a protocol for assessing the Great Lakes. The mission of the Great Lakes Protocol was to develop a consistent procedure allowing the flexibility necessary to properly conduct source water assessments of the Great Lakes as a drinking water source. This flexibility takes into account the variability of these sources and site-specific concerns for determination of source sensitivity and susceptibility (Illinois EPA, 1999).

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Sensitivity is defined as the intrinsic ability of surface water to be isolated from contaminants by the physical attributes of the hydrologic or geologic setting. With this in mind, the degree of sensitivity becomes the prevailing factor in the susceptibility determination for intakes on the Great Lakes. Intakes located close to shore, or close to a major shipping lane will be more sensitive and thus more susceptible to potential contamination.

The sensitivity analysis determined that both Wilmette's intakes are located far enough offshore that shoreline impacts are not considered a factor on water quality. However, at certain times of the year the potential for contamination exists due to wet-weather flows from the North Shore Channel. If currents are flowing in a northerly direction, contaminants from these could migrate to Wilmette's intakes and compromise water quality. Correlation between Evanston's rainfall data, North Shore Channel discharge dates, and Wilmette's coliform data show the potential effect of these flows on Wilmette's water quality. In addition, the proximity to a major shipping lane adds to the susceptibility should there be a spill near the intakes.

Water supply officials from Wilmette are active members of the West Shore Water Producers Association. Coordination regarding water quality situations (i.e., spills, tanker leaks, exotic species, etc) is frequently discussed during the Association's quarterly meetings. Lake Michigan, as well as all the Great Lakes, has many different organizations and associations that are currently working to either maintain or improve water quality. Since the predominant land use within Illinois' boundary of Lake Michigan watershed is urban, a majority of watershed protection activities in this document is aimed at this purpose.

Water Contaminants

In order to ensure that tap water is safe to drink, the USEPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. Federal Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

The sources of drinking water (both tap 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 can dissolve naturally occurring minerals and radioactive materials, and pick up substances resulting from the presence of animals or human activity. Possible contaminants consist of:

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

- Inorganic contaminants, such as salts and metals, which may be naturally occurring or 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; and
- Radioactive contaminants, which may be naturally occurring or be the result of oil and gas production and mining activities.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the USEPA's Safe Drinking Water Hotline, 800-426-4791.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised 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 can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. USEPA/Center for Disease Control guidelines on appropriate means to lessen the risk of infection by cryptosporidium and other microbial contaminants are available from the USEPA's Safe Drinking Water Hotline, 800-426-4791.

Water Plant Improvements Completed

The Wilmette Water Plant was recently upgraded from its current capacity of 26 Million Gallons per Day (MGD) to 44 MGD. The improvements included the installation of pumps & piping, new mixing equipment, new chemical feed equipment and modifications to the finished water reservoirs to increase the treatment capacity. Also included was the installation of a new chemical feed system, sodium hypochlorite, to replace chlorine gas. These improvements have not only increased capacity but have also enhanced water quality and safety.

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Regulated Contaminants Detected in 2007

Lead and Copper Test Results - 2005 Sample Date**

| Lead MCLG | Lead Action Level AL | Lead 90th percentile | # Sites Over Lead AL | Copper MCLG | Copper Action Level AL | Copper 90th Percentile | # Sites Over Copper AL | Violation? | Likely Source of Contamination |
|-----------|----------------------|----------------------|----------------------|-------------|------------------------|------------------------|------------------------|------------|--|
| 0 ppb | 15 ppb | 8.9 ppb | 2 | 1.3 ppm | 1.3 ppm | 0.315 ppm | 0 | No | Corrosion of household plumbing systems; Erosion of natural deposits |

Definitions:

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

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

Water Quality Test Results

| Regulated Contaminants | Collect Date | Highest Level | Range of Levels | Unit of Measure | MCLG | MCL | Violation? | Likely source of Contamination |
|---|--------------|---------------|-----------------|-----------------|---------|--------|------------|---|
| Disinfectants & Disinfection By-Products | | | | | | | | |
| TTHMs Total Trihalomethanes | 4/26/07 | 20.00 | 13 - 20.00 | ppb | N/A | 80 | No | By-product of drinking water chlorination |
| HAAAs Total Haloacetic Acids | 5/03/07 | 15 | <14 - 15 | ppb | N/A | 60 | No | By-product of drinking water chlorination |
| Chlorine | 12/31/07 | 1.33 | 0.75 - 1.33 | ppm | MRDLG=4 | MRDL=4 | No | Water additive used to control microbes |
| Inorganic Contaminants | | | | | | | | |
| Barium | 4/26/07 | 0.021 | N/A | ppm | 2 | 2 | No | Discharge of drilling wastes; from metal refineries; Erosion of natural deposits |
| Fluoride | 5/1/07 | 0.97 | N/A | ppm | 4 | 4 | No | Erosion of natural deposits; Water additive which promotes strong teeth; Fertilizer discharge |
| Nitrate-Nitrite | 4/16/07 | 0.59 | N/A | ppm | 10 | 10 | No | Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits |
| Nitrate (As N) | 4/16/07 | 0.59 | N/A | ppm | 10 | 10 | No | Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits |
| State Regulated Contaminants | | | | | | | | |
| Sodium* | 4/28/07 | 11 | N/A | ppm | N/A | N/A | No | Erosion of naturally occurring deposits; used in water softener regeneration |

Note: The state requires monitoring of certain contaminants less than once a year because the concentrations of these contaminants do not change frequently. Therefore, some of this data may be more than one year old. When more than one sample per year is collected, only the year is listed.

*There is not a state or federal MCL for sodium. Monitoring is required to provide information to consumers and health officials that are concerned about sodium intake due to dietary precautions. If you are on a sodium restricted diet, you should consult a physician about this level of sodium in water.

**The state requires monitoring of certain contaminants every three years because the concentrations of these contaminants do not change frequently.

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Definitions: These tables contain scientific terms and measures, some of which may require explanation.

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

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

mg/L : milligrams per liter or parts per million (ppm) - or one ounce in 7,350 gals of water.

ug/L or ppb : micrograms per liter or parts per billion - or one ounce in 7,350,000 gals of water. **N/A :** not applicable.

Avg: Regulatory compliance with some MCL's are based on running annual average of monthly samples.

Maximum Residual Disinfectant Level (MRDL): The highest level of disinfectant allowed in drinking water.

Maximum Residual Disinfectant Goal (MRDLG): The level of disinfectant in drinking water below which there is no known or expected risk to health. MRDLG's allow a margin of safety.

Turbidity - Regulated at the Water Treatment Plant

| Limit (Treatment Technique) | Collect Date | Lowest Monthly % Meeting Limit | Violation | Source |
|-----------------------------|--------------|--------------------------------|-----------|-------------|
| 0.3 NTU | 2007 | 100 | No | Soil Runoff |
| Limit (Treatment Technique) | | Highest single Measurement | Violation | Source |
| 0.3 NTU | 2007 | 0.22 | No | Soil Runoff |



Information Statement: 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.

The percentage of Total Organic Carbon (TOC) removal was measured each month and the system met all TOC removal requirements set by the IEPA.

Q & A About Wilmette's Water Supply

Q: *What is the short answer to "how's my water quality?"*

A: This water quality report contains a lot of information and data. The short answer is that of the more than 120 contaminants total, all were within the EPA's water quality standards.

Q: *Is it advisable to use water from the hot water tap for drinking, cooking or making baby formula?*

A: No. Hot water generally comes from a hot water heater that may contain impurities that should not be ingested. Some of these impurities might be metals from household plumbing that are dissolved and concentrated in the heating process.

Q: *Is bottled water safer than tap water?*

Not necessarily. Studies have shown that microbes may grow in the bottles while on the grocers' shelves. Residents do not need to buy bottled water for safety reasons if your tap water meets all federal and state drinking water standards (Wilmette's does!). Of course, in emergencies, bottled water can be a vital source of drinking water for people without water.

Q: *What is the Hardness of Wilmette water?*

A: Tap water has a hardness of 150 mg/l or 8.2 grains per gallon.



Water Plant Improvements Completed -----continued from page 2

The additional capacity is being used to supply water to the redeveloped Glenview Naval Air Station property (the Glen) and for new customers in Prospect Heights. The Village of Glenview has financed the majority of these improvements.



Wilmette Water Plant, 200 E. Lake Street