**Naval Facilities Engineering Command Mid-Atlantic (NAVFAC MIDLANT) Public Works Department Great Lakes** is pleased to present to you the 21st annual consumer confidence report (CCR). This report is intended to provide you with important information about your drinking water, including information on water quality, where your water comes from, and analytical results from the calendar period January 1, 2017 through December 31, 2017.

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/Centers 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 (1-800-426-4791).

**USEPA on Drinking Water**

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 at (1-800-426-4791).

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

**Sources of Drinking Water**

Sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and groundwater wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pickup substances resulting from the presence of animals or from human activity.

The Great Lakes Water Treatment Facility, operated by PWD Great Lakes, draws its water from Lake Michigan, a surface water source.

**The Public Works Department Great Lakes team** is committed to providing our customers with the highest quality drinking water possible. In fact, we have never required an exemption or variance from the drinking water regulations set by the State of Illinois or the United States Environmental Protection Agency.
### Great Lakes Regulated Contaminants Detected in 2017

<table>
<thead>
<tr>
<th>Contaminant (unit of measurement)</th>
<th>MCLG</th>
<th>MCL</th>
<th>Highest Level Detected</th>
<th>Range of Levels Detected</th>
<th>Violation?</th>
<th>Likely Source of Contamination</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Inorganic Contaminants</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nitrate (as N) (ppm)</td>
<td>10</td>
<td>10</td>
<td>0.39</td>
<td>0.39- 0.39</td>
<td>NO</td>
<td>Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits</td>
</tr>
<tr>
<td>Barium (ppm)</td>
<td>2</td>
<td>2</td>
<td>0.019</td>
<td>0.019- 0.019</td>
<td>NO</td>
<td>Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits</td>
</tr>
<tr>
<td>Fluoride (ppm)</td>
<td>4</td>
<td>4</td>
<td>0.77</td>
<td>0.77 - 0.77</td>
<td>NO</td>
<td>Erosion of natural deposits; water additive which promotes strong teeth; fertilizer discharge</td>
</tr>
<tr>
<td>Sodium (ppm)</td>
<td>n/a</td>
<td>n/a</td>
<td>8.4</td>
<td>8.4 – 8.4</td>
<td>NO</td>
<td>Erosion of naturally occurring deposits; used in water softener regeneration</td>
</tr>
<tr>
<td>Arsenic (ppb)</td>
<td>0</td>
<td>10</td>
<td>1.2</td>
<td>1.2-1.2</td>
<td>NO</td>
<td>Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes</td>
</tr>
</tbody>
</table>

### Disinfectants & Disinfection By-Products

<table>
<thead>
<tr>
<th>Contaminant</th>
<th>Limit (Treatment Technique)</th>
<th>Lowest Monthly % Meeting Limit</th>
<th>Violation?</th>
<th>Likely Source of Contamination</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chlorine (ppm)</td>
<td>MRDLG= 4 MRDL= 4</td>
<td>1.0</td>
<td>NO</td>
<td>Soil Runoff</td>
</tr>
<tr>
<td>Total Haloacetic Acids (HAA5) (ppb)</td>
<td>60</td>
<td>18.0</td>
<td>NO</td>
<td>By-product of drinking water disinfection</td>
</tr>
<tr>
<td>Total Trihalomethanes (TTHMs) (ppb)</td>
<td>80</td>
<td>34.0</td>
<td>NO</td>
<td>By-product of drinking water disinfection</td>
</tr>
</tbody>
</table>

### Lead and Copper 2017

<table>
<thead>
<tr>
<th>Contaminant (unit of measurement)</th>
<th>MCLG</th>
<th>Action Level (AL)</th>
<th>90th Percentile</th>
<th># of Sample Sites Over AL</th>
<th>Likely Source of Contamination</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead (ppb)</td>
<td>0</td>
<td>15</td>
<td>1.5</td>
<td>0</td>
<td>Corrosion of household plumbing systems; Erosion of natural deposits</td>
</tr>
<tr>
<td>Copper (ppm)</td>
<td>1.3</td>
<td>1.3</td>
<td>0.087</td>
<td>0</td>
<td>Corrosion of household plumbing systems; Erosion of natural deposits</td>
</tr>
</tbody>
</table>

### Definition of Terms:

**Definition of Terms:** The percentage of TOC removal was measured each month. We met all TOC removal requirements set by IEPA.

**Unit of Measurement Definitions:**
- ppm: Parts per million, or milligrams per liter (or one ounce in 7,350 gallons of water).
- ppb: Parts per billion, or micrograms per liter (or one ounce in 7,350,000 gallons of water).
- NTU: Nephelometric Turbidity Unit, used to measure cloudiness in drinking water.
- mrem: Millirems per year. A measure of radiation absorbed by the body.

**Definition of Terms (continued):** Level I & II assessments may be required if a positive coliform sample is detected during routine sampling.

- **Level 1 Assessment:** is a study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in the water system.
- **Level 2 Assessment:** A very detailed study of the water system to identify potential problems and determine (if possible) why an E. coli MCL violation has occurred and why total coliform bacteria have been found in the water system on multiple occasions.
- **Turbidity:** 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.
- **Average:** Regulatory compliance with some MCLs are based on a running annual average of monthly samples.

**Likely Source of Contamination:**
- Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
- Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
- Erosion of naturally occurring deposits; used in water softener regeneration
- Runoff from orchards; Runoff from glass and electronics production wastes
- Corrosion of household plumbing systems; Erosion of natural deposits
- Soil Runoff
- Corrosion of household plumbing systems; Erosion of natural deposits
- Water additive used to control microbes
- By-product of drinking water disinfection
Coliform Bacteria Sampling

<table>
<thead>
<tr>
<th>Maximum Contaminant Level Goal (MCLG)</th>
<th>Total Coliform Maximum Contaminant Level MCL</th>
<th>Highest No. of Positive Samples</th>
<th>Fecal Coliform or E. Coli Maximum Contaminant Level</th>
<th>Total No. of positive E. Coli or Fecal Coliform samples</th>
<th>Violation</th>
<th>Likely source of contamination</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1 positive monthly sample</td>
<td>1</td>
<td>SEE BELOW</td>
<td>0</td>
<td>NO</td>
<td>Naturally present in the environment</td>
</tr>
</tbody>
</table>

Revised Total Coliform Rule Information

Water treatment and the delivery of treated water to consumers has received heightened public attention recently. Regulatory bodies such as the Environmental Protection Agency and the Illinois Environmental Protection Agency review treatment processes, look for new contaminants, and other related issues that can be added or modified to better protect public health. A part of this process involves reviewing current regulations. As new technologies or better analytical methods are developed regulatory bodies amend regulations imposed on public water supplies. As of calendar year 2016, IEPA instituted the Revised Total Coliform Rule, (RTCR). Coliform testing is a routine analytical procedure that checks for fecal bacteriological contamination. The goal is to disinfect treated water to render these bacterium harmless if consumed. That is why the maximum contaminant level goal is established at zero. When reviewing this consumer confidence report you may notice that PWD Great Lakes had one positive sample. However this is not a violation because the repeat sampling was negative. Possible causes for positive samples vary. These include but are not limited to false positives, sample collection error, or lab error. When a positive sample occurs supplies must repeat the sampling process at the positive site. Additional sampling must accompany the repeat sample. These include sampling of one service connection upstream and one downstream. If the repeat samples are negative the sample site is cleared. If repeat samples indicate the presences of bacteria, the water supply must issue a boil order and continue repeat sampling until the samples are negative for contaminants. Utilizing Level I or Level II assessment processes, supplies must attempt to identify the source of contamination and if identified, attempt to rectify the cause.

Possible Source Water Contaminants

Contaminants 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 and wildlife.
- Inorganic contaminants, such as salts and metals, which can be naturally occurring or result from urban storm water 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 storm water runoff, and residential uses.
- Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems.
- Radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.

Lead in Drinking Water

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 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. Removal of your aerator for cleaning will also aid in lead reduction.** 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 [http://www.epa.gov/safewater/lead](http://www.epa.gov/safewater/lead). As part of our ongoing concern for the health risks these contaminants pose, PWD Great Lakes has a corrosion control program, implemented testing beyond state imposed sampling, and are committed to consumer education.

Source Water Assessment Summary

The 1996 amendments to the Safe Drinking Water Act require that state agencies conduct source water assessments for all public water supplies in their state. The source water assessment process includes potential contaminant source inventories, and determining the susceptibility of the source waters to contamination. The Illinois Environmental Protection Agency (IEPA) conducted this assessment for the Naval Station Great Lakes’ (NAVSTA) water source in May 2003. According to the assessment, our water intake has a low sensitivity to potential contamination and therefore greater protection from shoreline contaminates due to mixing and dilution. Although there are no potential contaminant sources within the noted critical assessment zone, there are several within the immediate source water area. However, it should be stressed that treatment employed by PWD Great Lakes is protective of their consumers, as demonstrated by our finished water history. Although the potential for contamination is small we do not dismiss the possibility of contamination. We will continue to implement our protective measures that include an open dialogue with neighboring municipalities, review of current treatment techniques compared to new technologies, and a rigorous sampling program to ensure public safety.
There were NO DRINKING WATER VIOLATIONS Recorded for THE GREAT LAKES WATER PLANT DURING 2017!

Contact Us!

Water Plant Supervisor & Individual/Group Tours:
Denzel Jines
(847) 688-2121 x139

Water Plant Operators:
24 hours
(847) 688-2121 x138

Water Complaints:
PWD Great Lakes Service Desk
24 hours
(847) 688-4820

We want our valued customers to know that we take their water quality seriously. If you have water-related concerns, questions, or comments let us know by calling the numbers listed above. We are working hard everyday to ensure the integrity of our source water, treatment plant, and distribution system. We will continue to adopt new and proven technologies to ensure we are delivering the safest and esthetically pleasing drinking water possible.

PWD Great Lakes is continually updating and developing long-term strategies to improve the treatment plant, distribution system, sewage collection system, and equipment. Some equipment deployed in the sewage collection system have useful working lives of several decades. As part of our modernization plan we built a new station away from the lake front which will provide decades of reliable service.

Water Conservation Tips
- Check all faucets, shower heads, and toilets for leaks
- Utilize water saving devices like low flow shower heads and low flow toilets
- Utilize low water use washing machines
- Turn the water off when brushing your teeth
- Use the refrigerator to defrost frozen food in place of running warm water over food items
(SanDiego Water, 2018)

Tips on Reducing Exposure From Lead in Residential Plumbing
- Allow water to flow from the tap after turning it on for a minute to two minutes before filling a glass
- After periods of time longer than 8-16 hours of stagnation flush faucets used for drinking
- Replace old plumbing fixtures in residential homes. Brass contains a small amount of lead so flushing can reduce and eliminate the potential for leaching.

Unregulated Contaminant Sampling UCMR4 2018

Unregulated contaminant sampling is part of the 1996 Safe Drinking Water Act (SDWA) amendments. The amendment requires that a list of no more than 30 unregulated contaminants be developed every five years. The results of these samples aid protection agencies with the future development of regulatory requirements. If a contaminant is found in elevated levels that pose risks when consumed, new regulatory requirements are developed to keep the public safe. Detection does not necessarily indicate a risk. Extensive testing is performed to determine if a contaminant poses a risk to the public and at what threshold it may pose a risk after a lifetime of exposure. The fourth iteration of UCMR sampling has begun. We began sampling in 2019.