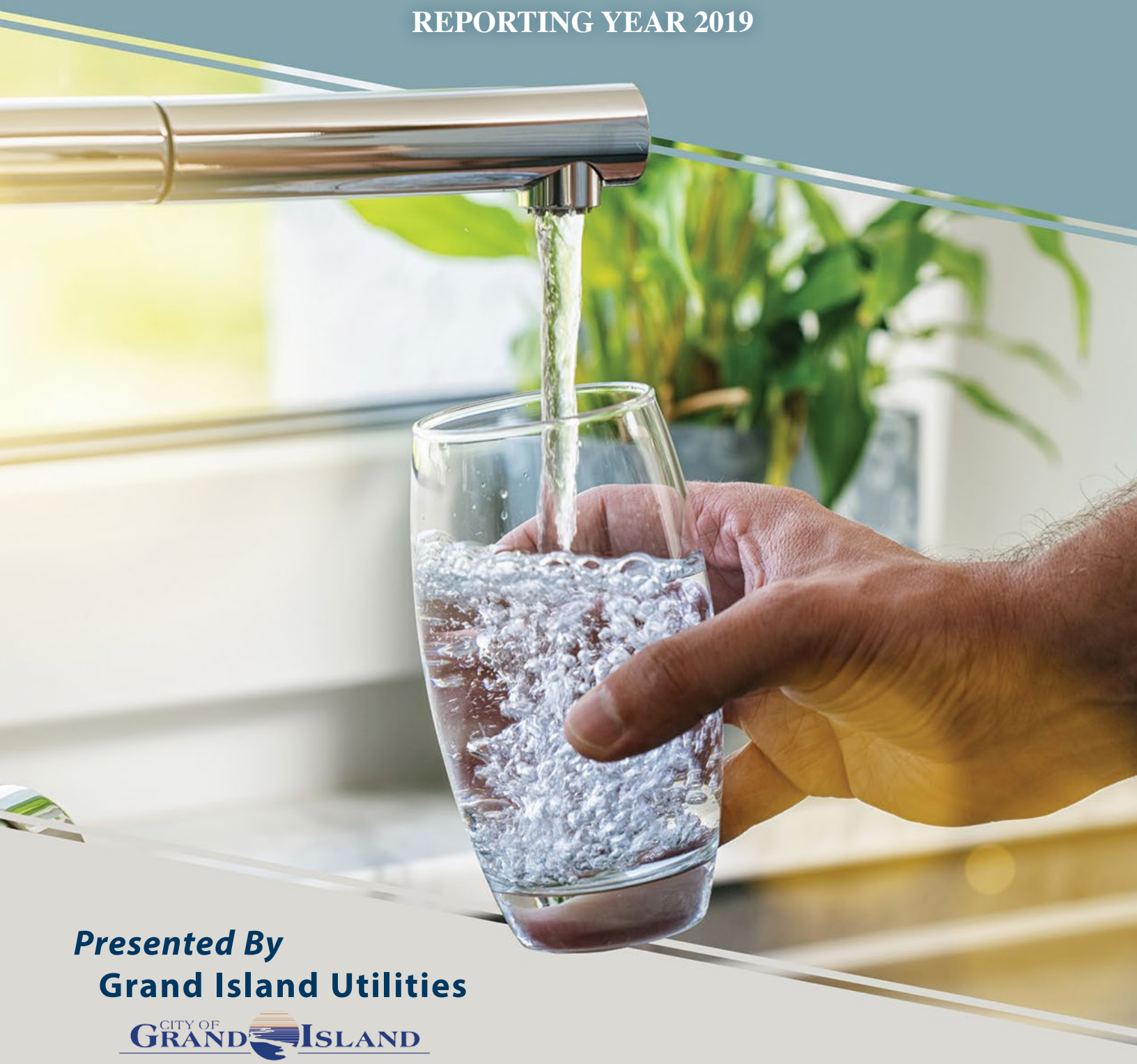
# ANNUAL WATER QUALITY REPORT

**REPORTING YEAR 2019**



***Presented By***

**Grand Island Utilities**

CITY OF GRAND ISLAND

PWS ID#: NE 31-07902

## Our Mission Continues

The City of Grand Island is once again pleased to present the annual water quality report covering all testing performed between January 1 and December 31, 2019. Over the years, Grand Island Utilities has been dedicated to producing drinking water that meets all state and federal standards. We continually strive to adopt new methods for delivering the best-quality drinking water to you. As new challenges to drinking water safety emerge, the Utilities Department remains vigilant in meeting the goals of source water protection, water conservation, and community education while continuing to serve the needs of all our water users.

## Source Water Assessment

The Nebraska Department of Environmental Quality (NDEQ) has completed the Source Water Assessment for our water. Included in the assessment are a Wellhead Protection Area map, potential contaminant source inventory, vulnerability rating, and source water protection information. To view the Source Water Assessment or for more information, you may contact the NDEQ at (402) 471-6988 or go to www.deq.state.ne.us.

## Where Does My Water Come From?

The source of drinking water used by the City of Grand Island is groundwater from the sand and gravel aquifer that underlies the area. This water is pumped from wells maintained by the City.

## Important Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons such as those with cancer undergoing chemotherapy, those 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.

## Community Participation

If you would like to observe or participate in the decision-making processes that affect drinking water quality, please attend the regularly scheduled City Council meetings at City Hall, 100 East 1st Street.

## Safeguard Your Drinking Water

Protection of drinking water is everyone's responsibility. You can help protect your community's drinking water source in several ways:

- Eliminate excess use of lawn and garden fertilizers and pesticides – They contain hazardous chemicals that can reach your drinking water source.
- Pick up after your pets.
- If you have your own septic system, properly maintain your system to reduce leaching to water sources or consider connecting to a public water system.
- Dispose of chemicals properly; take used motor oil to a recycling center.
- Volunteer in your community. Find a watershed or wellhead protection organization in your community and volunteer to help. If there are no active groups, consider starting one. Use the U.S. EPA's Adopt Your Watershed Web site to locate groups in your community.
- Organize a storm drain stenciling project with others in your neighborhood. Stencil a message next to the street drain reminding people "Dump No Waste – Drains to River" or "Protect Your Water". Produce and distribute a flyer for households to remind residents that storm drains dump directly into your local water body.

## QUESTIONS?

For more information about this report, or for any questions relating to your drinking water, please call Timothy Luchsinger, Utilities Director, at (308) 389-0280.

## 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 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. 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 at (800) 426-4791 or at www.epa.gov/safewater/lead.

## 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 that 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 groundwater 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.

## Monitoring Information

The City of Grand Island is required to test for the following contaminants: Coliform Bacteria, Antimony, Arsenic, Asbestos, Barium, Beryllium, Cadmium, Chromium, Copper, Cyanide, Fluoride, Lead, Mercury, Nickel, Nitrate, Nitrite, Selenium, Sodium, Thallium, Alachlor, Atrazine, Benzo(a)pyrene, Carbofuran, Chlordane, Dalapon, Di(2-ethylhexyl) phthalate, Diquat, 2,4-D, Endothall, Endrin, Ethylene dibromide, Glyphosate, Heptachlor, Heptachlor epoxide, Hexachlorobenzene, Hexachlorocyclopentadiene, Lindane, Methoxyclor, Oxamyl (Vydate), Pentachlorophenol, Picloram, Polychlorinated biphenyls, Simazine, Toxaphene, Dioxin, Silvex, Benzene, Carbon Tetrachloride, o-Dichlorobenzene, Para-Dichlorobenzene, 1,2-Dichlorethane, 1,1-Dichloroethylene, Cis-1,2-Dichloroethylene, Trans-1,2-Dichloroethylene, Dichloromethane, 1,2-Dichloropropane, Ethylbenzene, Monochlorobenzene, 1,2,4-Trichlorobenzene, 1,1,1-Trichloroethane, 1,1,2-Trichloroethane, Trichloroethylene, Vinyl Chloride, Styrene, Tetrachloroethylene, Toluene, Xylenes (total), Gross Alpha (minus Uranium & Radium 226), Radium 226 plus Radium 228, Sulfate, Chloroform, Bromodichloromethane, Chlorodibromomethane, Bromoform, Chlorobenzene, m-Dichlorobenzene, 1,1-Dichloropropene, 1,1-Dichloroethane, 1,1,2,2-Tetrachlorethane, 1,2-Dichloropropane, Chloromethane, Bromomethane, 1,2,3-Trichloropropane, 1,1,1,2-Tetrachloroethane, Chloroethane, 2,2-Dichloropropane, o-Chlorotoluene, p-Chlorotoluene, Bromobenzene, 1,3-Dichloropropene, Aldrin, Butachlor, Carbaryl, Dicamba, Dieldrin, 3-Hydroxycarbofuran, Methomyl, Metolachlor, Metribuzin, Propachlor.

## Test Results

The City's water is monitored for many different kinds of substances on a very strict sampling schedule, and the water delivered must meet specific health standards. In these tables, only those substances that were detected in our water are shown. Remember that detecting a substance does not mean the water is unsafe to drink; our goal is to keep all detects below their respective maximum allowed levels.

The state recommends monitoring for certain substances less often 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.

**REGULATED SUBSTANCES**

| SUBSTANCE (UNIT OF MEASURE) | YEAR SAMPLED | MCL [MRDL] | MCLG [MRDLG] | AMOUNT DETECTED | RANGE LOW-HIGH | VIOLATION | TYPICAL SOURCE |
|---|---|---|---|---|---|---|---|
| **Arsenic** (ppb) | 2017 | 10 | 0 | 3.29 | 1.16–3.29 | No | Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes |
| **Atrazine** (ppb) | 2019 | 3 | 3 | 0.282 | 0.08–0.282 | No | Runoff from herbicide used on row crops |
| **Barium** (ppm) | 2017 | 2 | 2 | 0.0914 | 0.0914–0.0914 | No | Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits |
| **Combined Radium** (pCi/L) | 2017 | 5 | 0 | 0.762 | 0.604–0.762 | No | Erosion of natural deposits |
| **Fluoride** (ppm) | 2017 | 4 | 4 | 0.578 | 0.578–0.578 | No | Erosion of natural deposits; Water additive that promotes strong teeth; Discharge from fertilizer and aluminum factories |
| **Haloacetic Acids [HAAs]** (ppb) | 2019 | 60 | NA | 6.56 | 4.64–8.48 | No | By-product of drinking water disinfection |
| **Nitrate** (ppm) | 2019 | 10 | 10 | 5.0 | 0.412–5.0 | No | Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits |
| **TTHMs [Total Trihalomethanes]** (ppb) | 2019 | 80 | NA | 39.5 | 30.8–48.2 | No | By-product of drinking water disinfection |
| **Total Coliform Bacteria** (# positive samples) | 2019 | TT | NA | 2 | NA | No | Naturally present in the environment |
| **Uranium** (ppb) | 2019 | 30 | 0 | 26.7 | 15.3–26.7 | No | Erosion of natural deposits |

**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 %ILE) | SITES ABOVE AL/TOTAL SITES | VIOLATION | TYPICAL SOURCE |
|---|---|---|---|---|---|---|---|
| **Copper**[1] (ppm) | 2019 | 1.3 | 1.3 | 0.647 | 0/30 | No | Corrosion of household plumbing systems; Erosion of natural deposits |
| **Lead** (ppb) | 2019 | 15 | 0 | 1.6 | 0/30 | No | Corrosion of household plumbing systems; Erosion of natural deposits |

## OTHER REGULATED SUBSTANCES

| SUBSTANCE (UNIT OF MEASURE) | YEAR SAMPLED | MCL [MRDL] | MCLG [MRDLG] | AMOUNT DETECTED | RANGE LOW-HIGH | VIOLATION | TYPICAL SOURCE |
|---|---|---|---|---|---|---|---|
| **Chlorobenzene** (ppb) | 2019 | 100 | 100 | 0.99 | 0.6–0.99 | No | Discharge from chemical and agricultural chemical factories |
| **Combined Uranium** (pCi/L) | 2017 | 20 | 0 | 15.2 | 11.7–15.2 | No | Erosion of natural deposits |
| **Gross Alpha [excluding Radon and Uranium]** (pCi/L) | 2015 | 15 | 0 | 0.9 | 0.7–0.9 | No | Erosion of natural deposits |
| **Gross Alpha** (pCi/L) | 2018 | 15 | 0 | 6.02 | 6.02–6.02 | No | Erosion of natural deposits |
| **Radium 226** (pCi/L) | 2017 | 5 | 0 | 0.604 | 0.604–0.604 | No | Erosion of natural deposits |
| **Radium 228** (pCi/L) | 2017 | 5 | 0 | 0.762 | 0.762–0.762 | No | Erosion of natural deposits |

## SECONDARY SUBSTANCES

| SUBSTANCE (UNIT OF MEASURE) | YEAR SAMPLED | SMCL | MCLG | AMOUNT DETECTED | RANGE LOW-HIGH | VIOLATION | TYPICAL SOURCE |
|---|---|---|---|---|---|---|---|
| **Copper**[2] (ppm) | 2016 | 1.0 | NA | 0.3 | 0.000–0.3 | No | Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives |
| **pH** (Units) | 2016 | 6.5–8.5 | NA | 7.56 | 6.97–7.56 | No | Naturally occurring |

## UNREGULATED AND OTHER SUBSTANCES

| SUBSTANCE (UNIT OF MEASURE) | YEAR SAMPLED | AMOUNT DETECTED | RANGE LOW-HIGH | TYPICAL SOURCE |
|---|---|---|---|---|
| **Hardness** (grains/gal) | 2016 | 20.1 | 16.4–20.1 | Minerals in groundwater |
| **Sulfate** (ppm) | 2018 | 233 | 224–233 | Runoff/leaching from natural deposits; Industrial wastes |

[1] In households
[2] In City wells

## Definitions

**90th %ile:** The levels reported for lead and copper represent the 90th percentile of the total number of sites tested. The 90th percentile is equal to or greater than 90% of our lead and copper detections.

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

**grains/gal (grains per gallon):** Grains of compound per gallon of water.

**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

**ND (Not detected):** Indicates that the substance was not found by laboratory analysis.

**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).

**SMCL (Secondary Maximum Contaminant Level):** These standards are developed to protect aesthetic qualities of drinking water and are not health based.

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