



Hallandale Beach
PROGRESS. INNOVATION. OPPORTUNITY.

Presented By
City of Hallandale Beach

ANNUAL WATER QUALITY REPORT

WATER TESTING PERFORMED IN 2017



Este informe contiene información muy importante sobre su agua potable.
Para recibir asistencia en traducirlo, por favor llame al teléfono 954-457-1632
o visite 630 NW 2nd Street, Hallandale Beach, FL 33009

PWS ID#: 4060573

Quality First

Once again we are pleased to present our annual water quality report. As in years past, we are committed to delivering the best-quality drinking water possible. To that end, we remain vigilant in meeting the challenges of new regulations, source water protection, water conservation, and community outreach and education while continuing to serve the needs of all of our water users. Thank you for allowing us the opportunity to serve you and your family.

We encourage you to share your thoughts with us on the information contained in this report. After all, well-informed customers are our best allies.

Sources of City Drinking Water

Drinking water can come from either groundwater sources (via wells) or surface water sources (such as rivers, lakes, and streams). The City of Hallandale Beach is supplied by groundwater from the Biscayne Aquifer. This groundwater is withdrawn by wells drilled approximately 100 feet into the aquifer. Three wells that supply Hallandale Beach with water are located within the City limits. The City is also supplied with well water from Broward County's South Regional Well Field located in Southwestern Broward County. The City of Hallandale Beach is fortunate to have groundwater rather than surface water as its source for the City's drinking water supply. Groundwater is less likely to contain contaminants than surface water sources. In case of emergencies, we have an agreement with the City of North Miami Beach to purchase water through our interconnected water mains.

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>.



Substances That Could Be in Water

The sources of drinking water (both tap water 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 dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

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 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 can also come from gas stations, urban stormwater runoff, and septic systems.

Radioactive Contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.



In order to ensure that tap water is safe to drink, the U.S. EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration (FDA) 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 contaminants does not necessarily indicate that the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at (800) 426-4791.

Community Participation

You are invited to participate in City Commission meetings and voice your concerns about your drinking water. Please call (954) 457-1300 or visit the City's Web site at <https://hallandalebeachfl.gov/calendar.aspx?CID=29,14>, to obtain meeting times and additional information.

How Is My Water Treated and Purified?

During the period covered by this Water Quality Report, the City of Hallandale Beach utilized two methods to treat its potable water supply. The two methods are used together and yield a high-quality finished water product that is very agreeable to sight and taste. The first method, called lime softening, has been used by the City for many years to treat its potable water supply. A second treatment method has been added, called membrane softening. Membrane softening treatment yields extremely high-quality water and assures that the City's drinking water supply meets, and exceeds, drinking water regulatory requirements. The City adds chlorine to its drinking water in compliance with state regulatory standards. Chlorine is added in very small amounts to prevent contamination from harmful bacteria. The City also adds fluoride to its drinking water. Fluoride is added in very small quantities recommended by the U.S. Department of Health and Human Services to effectively reduce the incidence of tooth decay.



Count on Us

Delivering high-quality drinking water to our customers involves far more than just pushing water through pipes. Water treatment is a complex, time-consuming process. Because tap water is highly regulated by state and federal laws, water treatment plant and system operators must be licensed and are required to commit to long-term, on-the-job training before becoming fully qualified. Our licensed water professionals have a basic understanding of a wide range of subjects, including mathematics, biology, chemistry, and physics. Some of the tasks they complete on a regular basis include:

- Operating and maintaining equipment to purify and clarify water;
- Monitoring and inspecting machinery, meters, gauges, and operating conditions;
- Conducting tests and inspections on water and evaluating the results;
- Maintaining optimal water chemistry;
- Applying data to formulas that determine treatment requirements, flow levels, and concentration levels;
- Documenting and reporting test results and system operations to regulatory agencies; and
- Serving our community through customer support, education, and outreach.

So, the next time you turn on your faucet, think of the skilled professionals who stand behind each drop.

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 or at www.epa.gov/lead.



Protecting Your Water

Bacteria are a natural and important part of our world. There are around 40 trillion bacteria living in each of us; without them, we would not be able to live healthy lives. Coliform bacteria are common in the environment and are generally not harmful themselves. The presence of this bacterial form in drinking water is a concern, however, because it indicates that the water may be contaminated with other organisms that can cause disease.

Although we have been fortunate to have the highest-quality drinking water, our goal is to eliminate all potential pathways of contamination into our distribution system, and this new rule helps us to accomplish that goal.

Source Water Assessment

In 2017, the Florida Department of Environmental Protection (FDEP) performed a Source Water Assessment on our system. The assessment was conducted to provide information about any potential sources of contamination in the vicinity of our wells. There are two potential sources of contamination with low to moderate susceptibility levels found for 2017. One of which are petroleum storage tanks and the others delineated within the city. The assessment results are available on the FDEP Source Water Assessment and Protection Program Web site at <https://fldep.dep.state.fl.us/swapp/>, or they may be obtained by calling Chris McShea, Chief Water Plant Operator, at (954) 457-3048.

Water treatment is a complex, time-consuming process.

QUESTIONS?

For more information about this report, or for any questions relating to your drinking water, please call Christian McShea, Chief Water Plant Operator, at (954) 457-3048 or send email to cmcshea@cohb.org.



BY THE NUMBERS

The number of gallons of water produced daily by public water systems in the U.S.

34
BILLION

1
MILLION The number of miles of drinking water distribution mains in the U.S.

The amount of money spent annually on maintaining the public water infrastructure in the U.S.

135
BILLION

300
MILLION The number of Americans who receive water from a public water system.

The age in years of the world's oldest water, found in a mine at a depth of nearly two miles.

2
BILLION

151
THOUSAND The number of active public water systems in the U.S.

The number of highly trained and licensed water professionals serving in the U.S.

199
THOUSAND

93 The number of federally regulated contaminants tested for in drinking water.

Tap vs. Bottled

Thanks in part to aggressive marketing, the bottled water industry has successfully convinced us all that water purchased in bottles is a healthier alternative to tap water. However, according to a four-year study conducted by the Natural Resources Defense Council, bottled water is not necessarily cleaner or safer than most tap water. In fact, about 25 percent of bottled water is actually just bottled tap water (40 percent according to government estimates).

The Food and Drug Administration is responsible for regulating bottled water, but these rules allow for less rigorous testing and purity standards than those required by the U.S. EPA for community tap water. For instance, the high mineral content of some bottled waters makes them unsuitable for babies and young children. Further, the FDA completely exempts bottled water that's packaged and sold within the same state, which accounts for about 70 percent of all bottled water sold in the United States.

People spend 10,000 times more per gallon for bottled water than they typically do for tap water. If you get your recommended eight glasses a day from bottled water, you could spend up to \$1,400 annually. The same amount of tap water would cost about 49 cents. Even if you installed a filter device on your tap, your annual expenditure would be far less than what you'd pay for bottled water.

For a detailed discussion on the NRDC study results, check out their Web site at <https://goo.gl/Jxb6xG>.

Community Water Fluoridation

The safety and benefits of fluoride are well documented. For over 70 years, U.S. citizens have benefited from drinking water containing fluoride, leading to better dental health. Drinking fluoridated water keeps the teeth strong and has reduced tooth decay by approximately 25% in children and adults.

Over the past several decades, there have been major improvements in oral health. Still, tooth decay remains one of the most common chronic diseases of childhood. Community water fluoridation has been identified as the most cost-effective method of delivering fluoride to all members of the community, regardless of age, educational attainment, or income level.

Nearly all water contains some fluoride, but usually not enough to help prevent tooth decay or cavities. Public water systems can add the right amount of fluoride to the local drinking water to prevent tooth decay.

Community water fluoridation is recommended by nearly all public health, medical, and dental organizations in the U.S. Because of its contribution to the dramatic decline in tooth decay, the Centers for Disease Control and Prevention (CDC) named community water fluoridation one of the greatest public health achievements of the 20th century. (Courtesy of CDC: cdc.gov/fluoridation)

What's a Cross-connection?

Cross-connections that contaminate drinking water distribution lines are a major concern. A cross-connection is formed at any point where a drinking water line connects to equipment (boilers), systems containing chemicals (air conditioning systems, fire sprinkler systems, irrigation systems) or water sources of questionable quality. Cross-connection contamination can occur when the pressure in the equipment or system is greater than the pressure inside the drinking water line (backpressure). Contamination can also occur when the pressure in the drinking water line drops due to fairly routine occurrences (main breaks, heavy water demand) causing contaminants to be sucked out from the equipment and into the drinking water line (backsiphonage).

Outside water taps and garden hoses tend to be the most common sources of cross-connection contamination at home. The garden hose creates a hazard when submerged in a swimming pool or when attached to a chemical sprayer for weed killing. Garden hoses that are left lying on the ground may be contaminated by fertilizers, cesspools or garden chemicals. Improperly installed valves in your toilet could also be a source of cross-connection contamination.

Community water supplies are continuously jeopardized by cross-connections unless appropriate valves, known as backflow prevention devices, are installed and maintained. We have surveyed industrial, commercial, and institutional facilities in the service area to make sure that potential cross-connections are identified and eliminated or protected by a backflow preventer. We also inspect and test backflow preventers to make sure that they provide maximum protection.

For more information on backflow prevention contact the Safe Drinking Water Hotline at (800) 426-4791.



Benefits of Chlorination

Disinfection, a chemical process used to control disease-causing microorganisms by killing or inactivating them, is unquestionably the most important step in drinking water treatment. By far, the most common method of disinfection in North America is chlorination.

Before communities began routinely treating drinking water with chlorine (starting with Chicago and Jersey City in 1908), cholera, typhoid fever, dysentery, and hepatitis A killed thousands of U.S. residents annually. Drinking water chlorination and filtration have helped to virtually eliminate these diseases in the U.S. Significant strides in public health are directly linked to the adoption of drinking water chlorination. In fact, the filtration of drinking water plus the use of chlorine is probably the most significant public health advancement in human history.

How chlorination works:

Potent Germicide Reduction in the level of many disease-causing microorganisms in drinking water to almost immeasurable levels.

Taste and Odor Reduction of many disagreeable tastes and odors like foul-smelling algae secretions, sulfides, and odors from decaying vegetation.

Biological Growth Elimination of slime bacteria, molds, and algae that commonly grow in water supply reservoirs, on the walls of water mains, and in storage tanks.

Chemical Removal of hydrogen sulfide (which has a rotten egg odor), ammonia, and other nitrogenous compounds that have unpleasant tastes and hinder disinfection. It also helps to remove iron and manganese from raw water.

Test Results

Our water is monitored for many different kinds of substances on a very strict sampling schedule. The information in the data tables shows only those substances that were detected between January 1 and December 31, 2017. Remember that detecting a substance does not necessarily 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.

We failed to complete required sampling for synthetic organic contaminants (SOC's) on time and therefore were in violation of monitoring and reporting requirements. The monitoring period for SOC's was between 1/1/17 and 12/31/17. We scheduled the first set of samples for September 2017 and the second set for December 2017. Initial sampling occurred in September but because we did not take the second set required in December of 2017, we did not know whether the contaminants were present in your drinking water, and we are unable to tell you whether your health was at risk during that time. We did however take the second set in January 2018. We can tell you that Initial sampling as well as follow up sampling outside of the required reporting period resulted in undetectable synthetic organic contaminants.

PRIMARY REGULATED CONTAMINANTS

Inorganic Contaminants

CONTAMINANT AND UNIT OF MEASUREMENT	DATE OF SAMPLING (MO./YR.)	MCL VIOLATION (YES/NO)	LEVEL DETECTED	RANGE OF RESULTS	MCLG	MCL	LIKELY SOURCE OF CONTAMINATION
Arsenic (ppm)	08/2017	No	0.00055	NA	0.01	0.01	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
Barium (ppm)	08/2017	No	0.0019	NA	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Fluoride (ppm)	08/2017	No	0.68	NA	4	4.0	Erosion of natural deposits; discharge from fertilizer and aluminum factories; water additive that promotes strong teeth when at optimum levels between 0.7 and 1.3 ppm
Nitrate [as Nitrogen] (ppm)	08/2017	No	0.037	NA	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Sodium (ppm)	08/2017	No	19.1	NA	NA	160	Salt water intrusion; leaching from soil

STAGE 1 DISINFECTANTS / DISINFECTION BY-PRODUCTS

CONTAMINANT AND UNIT OF MEASUREMENT	DATE OF SAMPLING (MO./YR.)	MCL VIOLATION (YES/NO)	LEVEL DETECTED	RANGE OF RESULTS	MCLG	MCL	LIKELY SOURCE OF CONTAMINATION
Chloramines (ppm)	08/2017	No	1.3	1.1–1.5	4	4	Water additive used to control microbes

STAGE 2 DISINFECTANTS / DISINFECTION BY-PRODUCTS

CONTAMINANT AND UNIT OF MEASUREMENT	DATE OF SAMPLING (MO./YR.)	MCL VIOLATION (YES/NO)	LEVEL DETECTED	RANGE OF RESULTS	MCLG	MCL	LIKELY SOURCE OF CONTAMINATION
Haloacetic Acids (five) [HAA5] (ppb)	08/2017	No	10.4	8.3–10.4	NA	60	By-product of drinking water disinfection
TTHM [Total Trihalomethanes] (ppb)	08/2017	No	35.7	22.3–35.7	NA	80	By-product of drinking water disinfection

Lead and Copper (Tap water samples were collected from sites throughout the community.)

CONTAMINANT AND UNIT OF MEASUREMENT	DATE OF SAMPLING (MO./YR.)	AL EXCEEDANCE (YES/NO)	90TH PERCENTILE RESULT	NO. OF SAMPLING SITES EXCEEDING THE AL	MCLG	AL (ACTION LEVEL)	LIKELY SOURCE OF CONTAMINATION
Copper [tap water] (ppm)	07/2017	No	0.0356	0	1.3	1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead [tap water] (ppb)	07/2017	No	1.5	0	0	15	Corrosion of household plumbing systems; erosion of natural deposits

Definitions

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

LRAA (Locational Running Annual Average): The average of sample analytical results for samples taken at a particular monitoring location during the previous four calendar quarters.

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

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).