Town of Highland Beach

Water Quality Report

2009

Annual Water Quality Report

The Town of Highland Beach is pleased to present our Water Quality Report for 2009. Publication of this report allows us the opportunity to keep you informed about the excellent water services we have delivered over the past year.

Our goal has always been to provide our residents with a safe and dependable supply of drinking water. The source of Highland Beach's drinking water is wells drawn from the Floridan Aquifer.

In October 2004, the Town's new Reverse Osmosis Water Treatment Plant went on-line, and became the sole source of our treated drinking water. The most significant difference that residents may have noticed at the tap since we began using the reverse osmosis process is the disappearance of the "yellowish" color - our water is now crystal clear. Also, our water is now "softer". In fact, the hardness (mineral content) has been reduced by approximately 90%. Lastly, our total trihalomethanes (TTHMs) have been reduced by approximately 90% (see the chart on the inside of this report for more information on TTHMs).

Our method of water treatment utilizes chlorine as a disinfectant. The water is now so pure that a slight chlorine residual may be more noticeable than it has been in the past. The Town is now adding calcium to the water, which further improves the taste.

The Town of Highland Beach is confident that the new reverse osmosis water plant will supply our residents with safe, reliable water, meeting all regulations, for many years in the future. We want our valued customers to be informed about their water utility. Residents are encouraged to attend Town Commission meetings, which are held at 1:30 p.m. on the first and last Tuesday of each month at Town Hall, 3614 S. Ocean Boulevard.

If you have any questions or concerns about the information contained in this report, or would like to learn more about your water utility, please call Jack Lee, Public Works Director, or Joe Sterlicchi, Water Plant Superintendent, at 243-2084.

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Definitions

In this table you will find many terms and abbreviations you might not be familiar with. To help you better understand these terms, we have provided the following definitions:

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

Maximum Contaminant Level or MCL - 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.

Maximum Residual Disinfectant Level or MRDL - 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.

Maximum Contaminant Level Goal or MCLG - 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.

Maximum Residual Disinfectant Level Goal or MRDLG - 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.

N/A - Not applicable.

ND - "ND" means not detected and indicates that the substance was not found by laboratory analysis.

Parts per billion (ppb) or Micrograms per liter (µg/1) – one part by weight of analyte to 1 billion parts by weight of the water sample.

Parts per million (ppm) or Milligrams per liter (mg/1) – one part by weight of analyte to 1 million parts by weight of the water sample.

Our Monitoring Process

The Town of Highland Beach Water Treatment plant routinely monitors for many contaminants in your drinking water according to Federal and State Laws. However, only those detected are included in the table below. As water travels over the land or underground it can pick up substances or contaminants such as microbes, inorganic and organic chemicals, and radioactive substances.

Photographer: Tina Valant

Highland Beach Water Tower

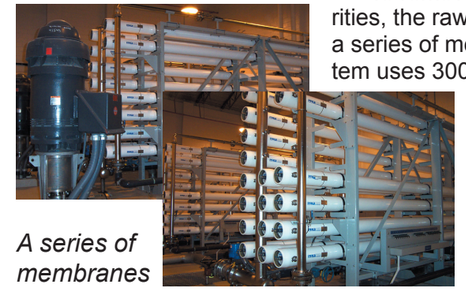
All drinking water, including bottled drinking water, may be reasonably expected to contain at least small amounts of some contaminants. It's important to remember that the presence of these contaminants does not necessarily pose a health risk.

The state allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data, though representative, are more than one year old.

How Is Our Water Treated?

Highland Beach's water plant uses the process of reverse osmosis to treat our water. The water plant utilizes the Floridan aquifer, and draws water from wells that are 1,200 feet deep. Although the water is very pristine, it is high in salinity (salt content).

To remove the salinity and other impurities, the raw well water passes through a series of membranes (filters). The system uses 300 horse power pumps that force the water through the membranes at very high pressures, in excess of 350 pounds per square inch (psi). An anti-scalant is used in order to protect the membranes from a build up of solids that would result in clogging, and phosphate is used as a corrosion inhibitor as protection for the piping.



A series of membranes filter the water inside the Highland Beach Reverse Osmosis Water Plant.

Before the finished water enters the distribution system, acid and sodium hydroxide are added for pH adjustment, and chlorine is used as a disinfectant. The end result is that Highland Beach residents enjoy very pure water that is crystal clear.

Why are Contaminants Present in Our 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:

(A) **Microbial contaminants**, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.

(B) **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.

(C) **Pesticides and herbicides**, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.

(D) **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.

(E) **Radioactive contaminants**, which can be naturally-occurring or be the result of oil and gas production and mining activities.

F) **Lead**, 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. The Town of Highland Beach is responsible for providing high quality drinking water, but 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 http://www.epa.gov/safewater/lead.

Test Results Table

Lead and Copper (Tap Water)

Contaminant and Unit of Measure	Dates of Sampling (mo./yr.)	AL Exceedance Y/N	Percentile Result 90th	Percentile Result 95th	No. of Sampling Sites Exceeding the AL	MCLG	AL (Action Level)	Likely Source of Contamination
Copper (ppm)	7/09	N	0.101	0.106	0	1.3	1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives.
Lead (ppb)	7/09	N	2.3	2.9	0	0	15	

Inorganic Contaminants

Contaminant and Unit of Measure	Dates of Sampling (mo./yr.)	MCL Violations Y/N	Level Detected	Range of Results	MRDLG or MCLG	MRDL or MCL	Likely Source of Contamination
Fluoride (ppm)	4/08	N	0.043	N/A	N/A	2.0	Erosion of natural deposits. Discharge from fertilizer and aluminium factories.
Sodium (ppm)	4/08	N	63	N/A	N/A	160	Salt water intrusion; leaching from soil.
Nitrite (ppm)	12/09	N	0.011	N/A	N/A	1.0	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.

Stage 1 Disinfectants and Disinfection By-Products

Trihalomethanes (ppb)	4/08, 8/08	N	3.35 (Annual Avg.)	0.20 - 6.50	N/A	80	By-product of drinking water disinfection.
Chlorine (ppm)	Monthly	N	1.0 (Annual Avg.)	0.8 - 1.3	4	4.0	Water additive used to control microbes.

Town of Highland Beach
3614 South Ocean Blvd.
Highland Beach, FL 33487

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Water Dept. Hours
Monday - Friday
8:30 a.m. to 4 p.m.

Water Quality Questions
Contact: Jack Lee, Director of Public Works or Joe Sterlicchi, Water Plant Superintendent
561/243-2084
www.ci.highland-beach.fl.us

Additional Contacts
Environmental Protection Agency's Safe Drinking Water Hotline:
800/426-4791
www.epa.gov

Palm Beach County Public Health Unit:
561/837-5900

Florida Department of Health:
904/791-1599

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How Do We Ensure the Highest Quality of Water?

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.

All 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 1-800-426-4791.

MCLs are set at very stringent levels. To understand the possible health effects described for many regulated constituents, a person would have to drink 2 liters of water every day at the MCL level for a lifetime to have a one-in-a million chance of having the described health effect.

In our continuing efforts to maintain a safe and dependable water supply it may be necessary to make improvements in your water system. The costs of these improvements may be reflected in the rate structure. Rate adjustments may be necessary in order to address these improvements.

In 2009 the Department of Environmental Protection performed a Source Water Assessment on our system and a search of the data sources indicated no potential sources of contamination near our wells. The assessment results are available on the FDEP Source Water Assessment and Protection Program website at www.dep.state.fl.us/swapp.

> "We at the Highland Beach Water Treatment Plant work around the clock to provide top quality water to every tap," said Jack Lee Public Works Director. "We ask that all our customers help us protect our water sources, which are the heart of our community, our way of life and our children's future. Please call our office if you have any questions."

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised 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. EPA/CDC guidelines on appropriate means to lessen the risk of infection by cryptosporidium and other microbiological contaminants are available for the State Drinking Water Hot Line 800-426-4791.