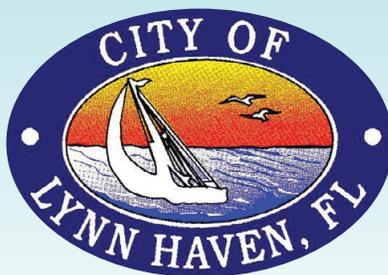


ANNUAL WATER QUALITY REPORT

REPORTING YEAR 2018



Presented By



Our Mission Continues

We are once again pleased to present our annual water quality report covering all testing performed between January 1 and December 31, 2018. Over the years, we have dedicated ourselves to producing drinking water that meets or exceeds all state and federal standards. We continue this mission following Hurricane Michael as we strive to not only restore our city but improve it as well. We look forward to the upcoming challenges as we explore new methods and technologies to bring the best-quality drinking water possible to your home. For more information about this report, or for any questions relating to your drinking water, please call Derek Rizzuto, Lead Water Operator, at (850) 265-0087.

Important Health Information

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 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>.

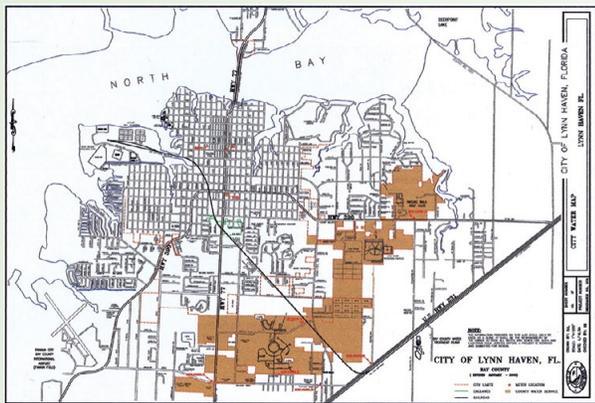


Where Does My Water Come From?

City of Lynn Haven customers are fortunate because they enjoy an abundant water supply from two sources: groundwater from the Floridan Aquifer and surface water purchased from Bay County Utilities. The map of Lynn Haven shown here is color-coded to show the area served by the two water sources. The area of Lynn Haven that is served by Bay County Water is shaded; the area served by Lynn Haven's deep wells is the unshaded portion of the map.

Five deep wells serve the majority of Lynn Haven customers. The raw water from these wells is aerated to remove excess hydrogen sulfide and stored in two central locations. The water is then chlorinated and pumped to the distribution system as needed to maintain satisfactory pressure throughout the system for daily use and fire protection.

The Bay County Water Treatment Plant draws from Deer Point Reservoir and supplies the remainder of Lynn Haven customers. Bay County uses a conventional treatment process of coagulation, flocculation, sedimentation, filtration, pH adjustment, disinfection, fluoridation, and corrosion control. The treatment process includes adding lime to complete the reaction of coagulation and adding ferric sulfate to remove particles and color. Polymer is added to assist in the coagulation process. Sodium hypochlorite is added to maintain disinfection in the distribution system. The addition of zinc orthophosphate reduces the corrosivity of the water. Fluoride, in the form of hydrofluosilicic acid, is added as a supplement to prevent tooth decay. Lime is also added at the end of the process to increase the pH. These processes are needed to meet the drinking water standards set by the U.S. EPA and the Florida Department of Environmental Protection (FDEP).



Source Water Assessment

In 2018 the 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 five wells. For the City of Lynn Haven Water System, there are six potential sources of contamination identified, with low to moderate susceptibility levels.

The FDEP also performed a source water assessment on the Bay County Water System in 2018. The assessment was conducted to provide information about any potential sources of contamination in the vicinity of the Bay County surface water intakes. The surface water system is considered to be at high risk because of many potential sources of contamination present in the assessment area. The assessment results are available on the FDEP Source Water Assessment and Protection Program website at www.dep.state.fl.us/swapp, or they can be obtained from Lynn Haven Utilities Department by calling (850) 265-0087 or from Bay County Utility Services by calling (850) 872-4785.

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. Environmental Protection Agency (EPA) prescribes regulations, which 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, which 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 U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

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.

Unregulated Contaminant Monitoring

Both Lynn Haven and Bay County Water Systems monitored for unregulated contaminants (UCs) in 2018 as part of a study to help the U.S. EPA determine the occurrence of UCs in drinking water and whether the contaminants need to be regulated. At present, no health standards or likely sources have been established for UCs. However, we are required to publish the analytical results for our UC monitoring in our annual water quality report. All detected substances are shown in the table, but if you would like a copy of all our 2018 UC data, contact the water system at the number provided in this report. Both systems will also be monitoring for UCs in 2019. These data will be published as required in our 2019 Water Quality Report. However, if you would like a copy of the results sooner, please contact us at (850) 265-6361 to get a copy as soon as we receive them. If you would like more information on the EPA's Unregulated Contaminants Rule, please call the Safe Drinking Water Hotline at (800) 426-4791.

Community Participation

You are welcome to attend commission meetings to voice your concerns. We meet the second Tuesday of each month at 4:00 p.m. and the fourth Tuesday of each month at 6:00 p.m.

Test Results

Our water is monitored for many different kinds of substances on a very strict sampling schedule, and the water we deliver must meet specific health standards. 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. We are pleased to report that your drinking water met or exceeded all federal and state requirements on sampling events.

The state recommends monitoring for certain substances less 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.

In an effort to protect our customers, Bay County issued a Mandatory Boil Water Notice on October 10, 2018, due to the potential damage expected by Hurricane Michael. Due to the severity of Hurricane Michael, Bay County Water Treatment Facility suffered extensive damage. As staff from Bay County Utilities worked to reestablish water service after Hurricane Michael, the turbidity on October 15, 2018, didn't meet the requirements, resulting in a treatment technique standard violation for October. The issue was resolved by the next day, and all turbidity samples since October 15 have met the required treatment technique standards. Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.

PRIMARY REGULATED CONTAMINANTS

Microbiological Contaminants

CONTAMINANT AND UNIT OF MEASUREMENT	MCL VIOLATION (YES/NO)	City of Lynn Haven			Bay County			MCLG	MCL	LIKELY SOURCE OF CONTAMINATION
		DATES OF SAMPLING (MO./YR.)	THE HIGHEST SINGLE MEASUREMENT	THE LOWEST MONTHLY PERCENTAGE OF SAMPLES MEETING REGULATORY LIMITS	DATES OF SAMPLING (MO./YR.)	THE HIGHEST SINGLE MEASUREMENT	THE LOWEST MONTHLY PERCENTAGE OF SAMPLES MEETING REGULATORY LIMITS			
Turbidity¹ (NTU)	Yes ²	NA	NA	NA	January–December 2018	1.86	81.6	NA	TT	Soil runoff

Radioactive Contaminants

CONTAMINANT AND UNIT OF MEASUREMENT	MCL VIOLATION (YES/NO)	City of Lynn Haven			Bay County			MCLG	MCL	LIKELY SOURCE OF CONTAMINATION
		DATES OF SAMPLING (MO./YR.)	LEVEL DETECTED	RANGE OF RESULTS	DATES OF SAMPLING (MO./YR.)	LEVEL DETECTED	RANGE OF RESULTS			
Radium 226 + 228 [Combined Radium] (pCi/L)	No	July 2011	0.8	ND–0.8	April 2017	1.5	NA	0	5	Erosion of natural deposits

Inorganic Contaminants

CONTAMINANT AND UNIT OF MEASUREMENT	MCL VIOLATION (YES/NO)	City of Lynn Haven			Bay County			MCLG	MCL	LIKELY SOURCE OF CONTAMINATION
		DATES OF SAMPLING (MO./YR.)	LEVEL DETECTED	RANGE OF RESULTS	DATES OF SAMPLING (MO./YR.)	LEVEL DETECTED	RANGE OF RESULTS			
Barium (ppm)	No	February 2017	0.03	0.03–0.03	April 2018	0.0065	NA	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Fluoride (ppm)	No	February 2017	0.47	0.45–0.47	April 2018	0.73	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
Mercury [inorganic] (ppb)	No	February 2017	0.6	ND–0.6	April 2018	ND	NA	2	2	Erosion of natural deposits; discharge from refineries and factories; runoff from landfills; runoff from cropland
Nickel (ppb)	No	February 2017	ND	NA	April 2018	ND	NA	NA	100	Pollution from mining and refining operations; natural occurrence in soil
Nitrate [as nitrogen] (ppm)	No	March 2018	ND	NA	April 2018	0.068	NA	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Sodium (ppm)	No	February 2017	36	36–36	April 2018	4.3	NA	NA	160	Saltwater intrusion; leaching from soil

Stage 1 Disinfectants and Disinfection By-Products

		City of Lynn Haven			Bay County						
CONTAMINANT AND UNIT OF MEASUREMENT	MCL VIOLATION (YES/NO)	DATES OF SAMPLING (MO./YR.)	LEVEL DETECTED	RANGE OF RESULTS	DATES OF SAMPLING (MO./YR.)	LEVEL DETECTED	RANGE OF RESULTS	MCLG OR [MRDLG]	MCL OR [MRDL]	LIKELY SOURCE OF CONTAMINATION	
Chlorine (ppm)	No	January–December 2018	1.41	1.2–1.7	January–December 2018	0.88	0.60–1.10	[4]	[4.0]	Water additive used to control microbes	
		City of Lynn Haven			Bay County						
CONTAMINANT AND UNIT OF MEASUREMENT	TT VIOLATION (YES/NO)	DATES OF SAMPLING (MO/YR)	LOWEST RUNNING ANNUAL AVERAGE, COMPUTED QUARTERLY, OF MONTHLY REMOVAL RATIOS	RANGE OF MONTHLY REMOVAL RATIOS	DATES OF SAMPLING (MO./YR)	LOWEST RUNNING ANNUAL AVERAGE, COMPUTED QUARTERLY, OF MONTHLY REMOVAL RATIOS	RANGE OF MONTHLY REMOVAL RATIOS	MCLG	MCL	LIKELY SOURCE OF CONTAMINATION	
Total Organic Carbon ³ (ppm)	No	NA	NA	NA	January–December 2018	1.54	1.00–2.30	NA	TT	Naturally present in the environment	

Stage 2 Disinfectants And Disinfection By-Products

		City of Lynn Haven			Bay County					
CONTAMINANT AND UNIT OF MEASUREMENT	MCL VIOLATION (YES/NO)	DATES OF SAMPLING (MO./YR.)	LEVEL DETECTED	RANGE OF RESULTS	DATES OF SAMPLING (MO./YR.)	LEVEL DETECTED	RANGE OF RESULTS	MCLG	MCL	LIKELY SOURCE OF CONTAMINATION
Haloacetic Acids (five) [HAA5]–Stage 2 (ppb)	No	January–December 2018	21.6	5.7–34.7	January–December 2018	33.1	3.2–49.3	NA	60	By-product of drinking water disinfection
TTHM [Total trihalomethanes]–Stage 2 (ppb)	No	January–December 2018	66.69	8.4–66.2	January–December 2018	39.9	4.6–68.4	NA	80	By-product of drinking water disinfection

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

		City of Lynn Haven			Bay County					
CONTAMINANT AND UNIT OF MEASUREMENT	AL EXCEEDANCE (YES/NO)	DATES OF SAMPLING (MO./YR.)	90TH PERCENTILE RESULT	NO. OF SAMPLING SITES EXCEEDING THE AL	DATES OF SAMPLING (MO./YR.)	90TH PERCENTILE RESULT	NO. OF SAMPLING SITES EXCEEDING THE AL	MCLG	AL (ACTION LEVEL)	LIKELY SOURCE OF CONTAMINATION
Copper [tap water] (ppm)	No	July 2017	0.25	0	August 2017	0.37	0	1.3	1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead [tap water] (ppb)	No	July 2017	1.6	1	August 2017	0.7	0	0	15	Corrosion of household plumbing systems; erosion of natural deposits

UNREGULATED CONTAMINANT MONITORING RULE - PART 4 (UCMR4)

		City of Lynn Haven			Bay County		
CONTAMINANT AND UNIT OF MEASUREMENT	DATES OF SAMPLING (MO./YR.)	AVERAGE RESULT	RANGE OF RESULTS	DATES OF SAMPLING (MO./YR.)	AVERAGE RESULT	RANGE OF RESULTS	
Bromide (ppm)	May–December 2018	0.190	0.110–0.270	June–December 2018	0.0169	0.012–0.023	
HAA5 (ppb)	May–December 2018	3.97	1.91–6.60	June–December 2018	30.69	12.13–56.61	
HAA6Br (ppb)	May–December 2018	2.42	1.04–4.50	June–December 2018	6.24	3.80–8.61	
HAA9 (ppb)	May–December 2018	3.41	2.81–4.29	June–December 2018	36.87	18.11–65.91	
Manganese (ppm)	May–December 2018	ND	NA	June–December 2018	0.345	0.003–1.02	
Total Organic Carbon [TOC] (ppm)	May–December 2018	ND	NA	June–December 2018	8.82	6.58–11.30	

¹ Turbidity is a measure of the cloudiness of the water. It is monitored because it is a good indicator of the effectiveness of the filtration system. High turbidity can hinder the effectiveness of disinfectants. The treatment technique standard requires that 95 percent of the turbidity readings be at 0.3 NTU or less.

² This is a Bay County violation only.

³ The monthly TOC removal ratio is the ratio of actual TOC removal and the TOC rule removal requirements.

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 which, if exceeded, triggers treatment or other requirements which a water system must follow.

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.

NTU (Nephelometric Turbidity Units): Measurement of the clarity, or turbidity, of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

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).

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