



*Water testing performed in 2009*



*Presented By:*  
CITY OF LYNN HAVEN

PWS ID#: 1030435

## Maintaining High Standards

Once again we are proud to present our annual water quality report. This report covers all testing performed between January 1 and December 31, 2009. The events of the past few years have presented many of us with challenges we could not have imagined. Yet, in spite of this we have maintained our high standards in an effort to continue delivering the best quality drinking water possible. There may be other hurdles in the future but know that we will always stand behind you and the drinking water we work diligently to provide.

We encourage you to share your thoughts with us on the information contained in this report. Should you ever have any questions, we are always available to assist you.

## 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 [www.epa.gov/safewater/hotline/](http://www.epa.gov/safewater/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. 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 Environmental Protection Agency Safe Drinking Water Hotline at (800) 426-4791.

## Where Does My Water Come From?

The City of Lynn Haven Water 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 Water. 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.

The City of Lynn Haven has five deep wells that serve the majority of Lynn Haven customers. The raw water from the 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. Bay County has a surface treatment plant that 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 the addition of 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 corrosiveness 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 as set by the United States Environmental Protection Agency (U.S. EPA) and the Florida Department of Environmental Protection (FDEP).



## Source Water Assessment

In 2009, the Department of Environmental Protection performed a Source Water Assessment report (SWAPP) on the Lynn Haven Water System. The assessments were conducted to provide information about any potential sources of contamination in the vicinity of our wells. Ten potential sources of contamination were identified for the Lynn Haven Water System, with a low to moderate susceptibility level. Also in 2009, the Department of Environmental Protection performed a Source Water Assessment on The Bay County Water System. The assessment was conducted to provide information about any potential sources of contamination in the vicinity of Bay County surface water intakes. The surface water system is considered to be at high risk because of the 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](http://www.dep.state.fl.us/swapp), or they can be obtained from Lynn Haven Utilities Department by calling (850) 265-0089 and/or from Bay County Utility Services by calling (850) 872-4785.

## Community Participation

You are invited to participate in our public forum and voice your concerns about your drinking water. We meet the second Tuesday of each month beginning at 4:00 p.m. and the fourth Tuesday of each month at 7:00 p.m. at City Hall, 825 Ohio Avenue, Lynn Haven, Florida.

## Questions?

For more information about this report, or for any questions relating to your drinking water, please call Don Francis, Lead Water Operator, at (850) 265-0087.



### Which household activity wastes the most water?

Most people would say the majority of water use comes from showering or washing dishes; however, toilet flushing is by far the largest single use of water in a home (accounting for 40% of total water use). Toilets use about 4-6 gallons per flush, so consider an ultra-low-flow (ULF) toilet, which requires only 1.5 gallons.

### Lead and 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. The City of Lynn Haven is 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/safewater/lead](http://www.epa.gov/safewater/lead).

## Sampling Results

During the past year we have taken hundreds of water samples in order to determine the presence of any radioactive, biological, inorganic, volatile organic, or synthetic organic contaminants. The tables below show only those contaminants that were detected in the water. The state requires us to monitor 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.

### PRIMARY REGULATED CONTAMINANTS

#### Microbiological Contaminants (Bay County Water)

CONTAMINANT AND UNIT OF MEASUREMENT	MCL VIOLATION (YES/NO)	DATE OF SAMPLING (MO./YR.)	THE HIGHEST SINGLE MEASUREMENT	THE LOWEST MONTHLY PERCENTAGE OF SAMPLES MEETING REGULATORY LIMITS	MCLG	MCL	LIKELY SOURCE OF CONTAMINATION
Turbidity <sup>1</sup> (NTU)	No	Jan-Dec 09	1.0	96.6	NA	TT	Soil runoff

#### Radiological Contaminants<sup>2</sup>

CONTAMINANT AND UNIT OF MEASUREMENT	MCL VIOLATION (YES/NO)	DATE OF SAMPLING (MO./YR.)	City of Lynn Haven		Bay County Water		MCLG	MCL	LIKELY SOURCE OF CONTAMINATION	
			LEVEL DETECTED	RANGE OF RESULTS	DATE OF SAMPLING (MO./YR.)	LEVEL DETECTED				RANGE OF RESULTS
Radium 226 + 228 [Combined Radium] (pCi/L)	No	Jul-08	0.9	0.8-0.9	Apr-08	0.2	NA	0	5	Erosion of natural deposits

#### Inorganic Contaminants

Arsenic (ppb)	No	Jul-08	ND	NA	June-09	0.8	NA	NA	10	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
Barium (ppm)	No	Jul-08	0.047	0.041-0.047	June-09	0.0057	NA	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Beryllium (ppb)	No	Jul-08	NA	NA	June-09	0.2	NA	4	4	Discharge from metal refineries and coal-burning factories; discharge from electrical, aerospace, and defense industries
Fluoride (ppm)	No	Jul-2008	0.6	0.5-0.6	June-09	1.3	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
Lead [point of entry] (ppb)	No	Apr-05	2	2-2	June-09	ND	NA	NA	15	Residue from man-made pollution such as auto emissions and paint; lead pipe, casing, and solder
Nickel (ppb)	No	ND	ND	NA	June-09	1	NA	NA	100	Pollution from mining and refining operations; natural occurrence in soil
Sodium (ppm)	No	Jul-08	50	30-50	June-09	6	NA	NA	160	Salt water intrusion; leaching from soil
Thallium (ppb)	No	Jul-08	ND	NA	June-09	0.7	NA	0.5	2	Leaching from ore-processing sites; discharge from electronics, glass, and drug factories

#### Synthetic Organic Contaminants Including Pesticides and Herbicides

Dalapon (ppb)	No	Jul-08	ND	NA	Jan-Dec-09	0.74	ND-1.7	200	200	Runoff from herbicide used on rights of way
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Stage 1 Disinfectants and Disinfection By-Products <sup>3</sup>				City of Lynn Haven				Bay County Water				
CONTAMINANT AND UNIT OF MEASUREMENT	MCL VIOLATION (YES/NO)	DATE OF SAMPLING (MO./YR.)	DATE OF SAMPLING (MO./YR.)	ANNUAL AVERAGE MONTHLY RATIO OR LOWEST ANNUAL AVERAGE MONTHLY REMOVAL RATIO	LEVEL DETECTED	RANGE OF RESULTS	DATE OF SAMPLING (MO./YR.)	LEVEL DETECTED	RANGE OF RESULTS	MCLG OR [MRDLG]	MCL OR [MRDL]	LIKELY SOURCE OF CONTAMINATION
Chlorine (ppm)	No	Jan-Dec09	Jan-Dec 09	1.4 RAA	1.2-1.5	1.2-1.5	Jan-Dec 09	1.4RR	1.2-1.5	[4]	[4.0]	Water additive used to control microbes
Halocetic Acids (five) [HAA5] <sup>1</sup> (ppb)	No	Jan-Dec 09	Jan-Dec 09	18.7	4.6-45.2	13.53-139	Jan-Dec 09	49.1	13.53-139	NA	60	By-product of drinking water disinfection
TTM [Total trihalomethanes] <sup>5</sup> (ppb)	No	Jan-Dec 09	Jan-Dec 09	32.4	5.6-62.4	17.7-158	Jan-Dec 09	59.6	17.7-158	NA	80	By-product of drinking water disinfection
City of Lynn Haven												
Bay County Water												
CONTAMINANT AND UNIT OF MEASUREMENT	TT VIOLATION (YES/NO)	DATE OF SAMPLING (MO./YR.)	DATE OF SAMPLING (MO./YR.)	ANNUAL AVERAGE MONTHLY RATIO OR LOWEST ANNUAL AVERAGE MONTHLY REMOVAL RATIO	RANGE OF MONTHLY REMOVAL RATIOS	DATE OF SAMPLING (MO./YR.)	ANNUAL AVERAGE MONTHLY RATIO OR LOWEST ANNUAL AVERAGE MONTHLY REMOVAL RATIO	RANGE OF MONTHLY REMOVAL RATIOS	MCLG	MCL	LIKELY SOURCE OF CONTAMINATION	
Total Organic Carbon <sup>6</sup> (ppm)	No	NA	NA	NA	NA	Jan-Dec 09	1.16	0.96-1.98	NA	TT	Naturally present in the environment	
Lead and Copper (Tap water samples were collected from sites throughout the community)												
CONTAMINANT AND UNIT OF MEASUREMENT	AL EXCEEDED (YES/NO)	DATE OF SAMPLING (MO./YR.)	90TH PERCENTILE RESULT	NO. OF SAMPLING SITES EXCEEDING THE AL	RANGE OF MONTHLY MCLG	AL (ACTION LEVEL)	LIKELY SOURCE OF CONTAMINATION					
Copper [tap water] (ppm)	No	Aug-07	0.59	1	1.3	1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives					
Lead [tap water] (ppm)	No	Aug-07	4	0	0	15	Corrosion of household plumbing systems; erosion of natural deposits					

<sup>1</sup> 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 result in the Lowest Monthly Percentage column of the contaminant table is the lowest monthly percentage of samples meeting the turbidity limits reported in the Monthly Operating Report.

<sup>2</sup> Results in the Level Detected column for radiological contaminants, inorganic contaminants, and synthetic organic contaminants including pesticides and herbicides are the highest average at any of the sampling points or the highest detected level at any sampling point, depending on the sampling frequency.

<sup>3</sup> For chlorine, the level detected is the the highest running annual average (RAA), computed quarterly, of monthly averages of all samples collected. For halocetic acids or THMs, the level detected is the highest RAA, computed quarterly, of quarterly averages of all samples collected, if the system is monitoring quarterly, or the average of all samples taken during the year, if the system monitors less frequently than quarterly. Range of Results is the range of individual sample results (lowest to highest) for all monitoring locations, including Initial Distribution System Evaluation (IDSE) results as well as Stage 1 compliance results.

<sup>4</sup> In 2009, The City of Lynn Haven conducted Stage 2 Halocetic acid testing per the U.S. EPA's mandate. The results are as follows: Amount detected: 16.28 ppb, Low Range: 8.5 ppb, High Range: 43.6 ppb

<sup>5</sup> In 2009, The City of Lynn Haven conducted Stage 2 Trihalomethane testing per the U.S. EPA's mandate. The results are as follows: Amount detected: 24.38 ppb, Low Range: 1.4 ppb, High Range: 36.4 ppb

<sup>6</sup> The monthly TOC removal ratio is the ratio between the actual TOC removal and the TOC rule removal requirements.

## Definitions

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

**IDSE (Initial Distribution System Evaluation):** An important part of the Stage 2 Disinfection Byproducts Rule (DBPR). The IDSE is a one-time study conducted by water systems to identify distribution system locations with high concentrations of trihalomethanes (THMs) and haloacetic acids (HAAs). Water systems will use results from the IDSE, in conjunction with their Stage 1 DBPR compliance monitoring data, to select compliance monitoring locations for the Stage 2 DBPR.

**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.