

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 stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- (C) *Pesticides and herbicides*, may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
- (D) *Organic chemical contaminants*, including synthetic and volatile organic chemicals, are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.
- (E) *Radioactive contaminants*, can be naturally occurring or the result of oil and gas production and mining activities.

**Some people may be more vulnerable to contaminants in drinking water than the general population.**

**Immuno-compromised 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 from the Safe Drinking Water Hotline (800-426-4791).**

**Source Water Assessment and Protection Program** or SWAPP was created in order to protect our vital resources. SWAPP is meant to ensure that your drinking water is safe, not just at the tap, but at its source. The Department of Environmental Protection has performed a Source Water Assessment on Halifax water system in 2008. There is one potential source of contamination identified for this system with a moderate susceptibility level. Potential sources of contamination identified include underground petroleum storage tanks. The assessment results are available on the FDEP SWAPP website at [www.dep.state.fl.us/swapp](http://www.dep.state.fl.us/swapp).

If you have any questions about your utility operations or this report please feel free to call Volusia County Utilities Operations at (386) 822-6465 from 8:00 AM to 4:00 PM, Monday through Friday. As always you may also contact your County Council representative with your comments and concerns. The County Council meet on the first and third Thursday of every month at the County Administration Building, 123 W. Indiana Avenue in DeLand.



**CONSUMER CONFIDENCE**

**DRINKING WATER REPORT**



**HALIFAX PLANTATION  
WATER TREATMENT PLANT  
(PWS 3644123)**

**2008 REPORT  
PUBLISHED IN 2009**

**Conserve Water Indoors**

- The typical family uses about 70% of their water in the bathroom. This is partly because water is used at a faster “flow rate” in the bathroom than in any other parts of the home. Toilets and showers have a flow (Non low-flow) rate of about 5 to 7 gallons per minute; dishwashers and clothes washers use less than three gallons per minute.
- Verify that your home is leak free. Many homes can have hidden leaks. To check, read your water meter before and after a one-hour period when no water is being used. If the meter does not read exactly the same, there is a leak.
- Repair any leaky faucets. A dripping faucet can waste up to 2,700 gallons of water per year, which will also add to the sewer charge on your utility bill.
- Check for toilet tank leaks by adding a few drops of food coloring to the tank. If the toilet is leaking, color will appear in the water in the bowl within 30 minutes. Flush when the test is completed to prevent tank staining.
- Never use the toilet for a trash can. Dispose of tissues, insects and other such waste in the trash.
- Install a displacement device, such as a bag or bottle filled with water, to cut down on the amount needed per flush. Even better, consider purchasing low-volume toilets which use less than half the water of older models.
- Take shorter showers and replace shower heads with low-flow units. When bathing, fill the tub only one-third to one-half full.
- Operate dishwashers and clothes washers only when they are fully loaded.

**Conserve Water Outdoors**

- Keep your lawn free from weeds. Weeds are water thieves, and will rob your plants and lawn of water and nutrients.
- Don't over water your lawn. As a general rule, lawns only need watering every 5 to 7 days in the summer and every 10 to 14 days in the winter.
- Water lawns in the early morning hours when temperatures and wind speeds are lowest. This reduces loss from evaporation. (e.g. One zone flowing 15 to 25 gallons per minute uses 150 gallons to 250 gallons in 10 minutes.)
- Don't water your street, driveway or sidewalk. Position your sprinklers so water lands on plants and shrubs, not paved areas.
- Mulch to retain moisture in the soil. Mulching also helps to control weeds that compete with plants for water.
- Don't hose down your driveway or sidewalk. Use a broom to clean leaves and other debris.
- Connect a shut-off nozzle to your hose so water flows only when needed. When finished, turn it off at the faucet to avoid leaks.
- If you have a swimming pool, consider a new water-saving pool filter. A single back-flushing with a traditional filter uses from 180 to 250 gallons or more of water.
- Check the level in your pool using a grease pencil. Your pool shouldn't lose more than 1/4 inch each day. If it is losing more than this, check elsewhere for leaks.
- Plant low water use landscaping. Transform your garden into a lush desert oasis by replacing lawn and water-consuming plants with attractive native and drought-tolerant plants.
- While fertilizers promote plant growth, they also increase water consumption. Apply the minimum amount of fertilizer needed.
- Don't let the water run while washing the car. Get the car wet, then turn off the water while you soap the car down. Turn on the water again for a final rinse.
- Pick-up the phone and report significant water losses from broken pipes, open hydrants and errant sprinklers to the property owner, city or water agency.

Volusia County Water Resources and Utilities is pleased to present the Annual Drinking Water Quality Report. This report is designed to inform our customers of the quality of the drinking water delivered to you every day. Our constant goal is to provide you with a safe and dependable supply of drinking water. The Safe Drinking Water Act (SDWA) has been the primary regulation to ensure that public health and safety is protected in drinking water supplies throughout the nation. Here in Volusia County our primary source of drinking water is the Floridan aquifer. The Floridan aquifer is a lens of water located beneath the bedrock of northeast Florida. Currently all County of Volusia water treatment plants use wells to extract ground water from the Floridan aquifer. Seven wells supply Halifax Plantation Water treatment plant (WTP) with water. The water treatment process used are reverse osmosis (membrane filtration) to remove dissolved solids, caustic soda is added for pH stabilization, aeration is used for Carbon Dioxide and Hydrogen Sulfide removal, and orthophosphate is added as a corrosion inhibitor. Chlorine is added to keep the distribution system safe from pathogenic bacteria

The Volusia County Water Resources and Utilities routinely monitors for contaminants in your drinking water according to Federal and State laws, rules, and regulations. Except where indicated otherwise, this report is based on the results of our monitoring for the period of January 1<sup>st</sup> 2008 to December 31<sup>st</sup> 2008. The results are from our most recent testing.

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

**Non-Detects (ND)** – Means not detected and indicates that the substance was not found by laboratory analysis.  
**Parts per million (ppm) or Milligrams per liter (mg/l)** - One part per million corresponds to one minute in two years or a single penny in \$10,000.

**Parts per billion (ppb) or Micrograms per liter** - One part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.

**Picocuries per liter (pCi/L)** - Picocuries per liter is a measure of the radioactivity in water.

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

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

**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.

**Maximum Residual Disinfectant Level or MRDL** - The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant

Test Results Table							
Contaminant and Unit of Measurement	Dates of Sampling (mo./yr.)	MCL Violation Y/N	Level Detected	Range of Results	MCLG	MCL	Likely Source of Contamination
Radiological Contaminants							
Alpha emitters (pCi/L)	11/2007	N	3.8	0 - 3.8	0	15	Erosion of natural deposits
Radium 226 + 228 or combined radium (pCi/L)	02/2008	N	1.8	N/A	0	5	Erosion of natural deposits
Contaminant and Unit of Measurement	Dates of Sampling (mo./yr.)	MCL Violation Y/N	Highest Monthly Percentage	MCLG	MCL	Likely Source of Contamination	
Microbiological Contaminants							
Total Coliform Bacteria	11/2007	N	1	0	For systems collecting fewer than 40 samples per month; presences of coliform bacteria in 1 sample collected during a month	Naturally present in the environment	
Inorganic Contaminants							
Barium (ppm)	02/2008	N	0.0038	N/A	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Fluoride (ppm)	02/2008	N	0.065	N/A	4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories. Water additive which promotes strong teeth when at optimum levels between 0.7 and 1.3 ppm
Nitrate (as Nitrogen) (ppm)	02/2008	N	0.012	N/A	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Sodium (ppm)	02/2008	N	51	N/A	N/A	160	Salt water intrusion, leaching from soil
Disinfectant or Contaminant and Unit of Measurement	Dates of Sampling (mo./yr.)	MCL Violation Y/N	Level Detected	Range of Results	MCLG or MRDLG	MCL or MRDL	Likely Source of Contamination
Stage 1 Disinfectants and Disinfection By-Products							
Haloacetic Acids (five) (HAA5) (ppb)	07/2008	N	10.6	8.9 - 12.4	N/A	60	By-product of drinking water disinfection.
TTHM (Total trihalomethane) (ppb)	07/2008	N	44.5	25 - 61	N/A	80	By-product of drinking water disinfection.
Chlorine (ppm)	01/2008-12/2008	N	1.6	0.4 - 2.4	MRDLG = 4	MRDL = 4.0	Water Additive used to control microbes.
Contaminant and Unit of Measurement	Dates of Sampling (mo./yr.)	AL Violation Y/N	90th Percentile Result	No. of Samples sites Exceeding the AL	MCLG	AL (Action Level)	Likely Source of Contamination
Lead and Copper (Tap Water)							
Copper (tap water) (ppm)	07/2008	N	0.35	One	1.3	1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (tap water) (ppb)	07/2008	N	1.6	None	0	15	Corrosion of household plumbing systems, erosion of natural deposits

is necessary for control of microbial contaminants. **Maximum Contaminant Level Goal** - The "Goal"(MCLG) is 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 Contaminant Level** - The "Maximum Allowed" (MCL) is 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. MCL's 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 effects.

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. Volusia County 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 and 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 (1-800-426-4791) or at [ww.epa.gov/safewater/lead](http://ww.epa.gov/safewater/lead).

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.

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.