



DUNES COMMUNITY DEVELOPMENT DISTRICT **2016 Annual Drinking Water Quality Report**

This report shows our water quality results and explains what they mean. It also provides important information about your water and how it relates to your health. The information in this report is based primarily on 2016 facts and figures. However, the U.S. Environmental Protection Agency (EPA) does not require us to perform all tests every year. When necessary, some data was obtained from prior years. As directed by the agencies that regulate our industry, only values from these tests that exceeded specified criteria are included. We will notify you immediately if there is any reason for concern about our water.

The Dunes Community Development District (Dunes CDD) started providing you with water from its reverse osmosis water treatment plant on August 15, 2007 and has continued to do so throughout 2016. Plant capacity is currently 1,440,000 gallons per day. It is expected that this capacity will meet the anticipated needs of the community at build-out. The Dunes CDD currently maintains an interconnection with the City of Palm Coast water system for emergencies and planned maintenance activities. This interconnect was activated and Palm Coast water was supplied during the period of February 29 – March 3, 2016 during planned shutdown for routine maintenance of a 750,000 gallon ground storage tank. The City of Palm Coast's Drinking Water Quality report is available on their website at www.palmcoastgov.com.

Water treated by the Dunes CDD's water treatment plant is a brackish groundwater supply withdrawn from three Floridan Aquifer wells approximately 300 ft deep and is treated by a reverse osmosis (RO) treatment process. The RO process removes salt and minerals from the water. After RO treatment, the water is aerated to remove dissolved gases carbon dioxide and hydrogen sulfide that are present in the groundwater but are not removed in the RO process. Chlorine in the form of sodium hypochlorite (commonly known as bleach) is used for disinfection purposes and to maintain a chlorine residual in the water distribution system. After RO treatment, aeration and disinfection, a stabilization process is utilized, adding a small amount of minerals and alkalinity to improve water quality in the water distribution system. In 2016 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 six potential sources of contamination identified for this system with a low susceptibility level. The assessment results are available on the FDEP Source Water Assessment and Protection Program website at www.dep.state.fl.us/swapp.

The following information is provided on the hardness of the water:

Total Hardness: 45 ppm or 2.6 grains per gal.
Calcium Hardness 35 ppm or 2.0 grains per gal.

If you have any questions about this report or concerns about your water utility, please contact the Dunes CDD

office at 386-445-9045. You may also visit the Dunes CDD website at www.dunescdd.org or call the EPA Safe Drinking Water Hotline at 1-800-426-4791. We want our valued customers to be informed about their water utility. If you would like to learn more, please call us for information about the next opportunity for public participation in decisions about your drinking water.

HOW DO I READ THIS?

It's easy. The table shows the results of our water-quality analyses. As you can see by the table, our system had no violations. We're proud that your water meets or exceeds all Federal and State requirements. The column marked "Level Detected" shows the highest results from the last time tests were performed. "Likely Sources" shows where this substance usually originates. Descriptions below explain other important details. In this table you may find unfamiliar terms and abbreviations. To help you better understand these terms we've provided the following definitions:

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 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.*

"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 by weight of analyte to 1 million parts by weight of the water sample.*

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

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

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

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 is necessary for control of microbial contaminants.*

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” means not applicable

WHAT CAN I EXPECT TO FIND IN MY DRINKING 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 stormwater 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 stormwater 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 stormwater runoff, and septic systems.
- (E) **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 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 Environmental Protection Agency’s Safe Drinking Water Hotline at 1-800-426-4791.**

2016 ANNUAL DRINKING WATER QUALITY TEST RESULTS

Dunes CDD 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 monitoring for the period of January 1 to December 31, 2016 for the **Dunes CDD - PWS ID # 2184259**. In 2015 our system sampled Volatile Organic Contaminants (VOCs) from midway through treatment instead of at the entry point to distribution, as required. This incurred a monitoring violation, but the sample results as well as the results from samples taken from the correct location early in 2016 showed no detection of any contaminants. The Environmental Protection Agency (EPA) requires monitoring of over 80 drinking water contaminants. Those contaminants listed in the table below are the only contaminants detected in your drinking water.

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
Inorganic Contaminants							
Antimony (ppb)	1/2014	N	0.081	N/A	6	6	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder
Barium (ppm)	1/2014	N	0.0018	N/A	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Lead (point of entry) (ppb)	1/2014	N	0.079	N/A	0	15	Residue from man-made pollution such as auto emissions and paint; lead pipe, casing, and solder
Fluoride (ppm)	4/2014	N	0.073	N/A	4	4.0	Erosion of natural deposits; discharge from fertilizer and aluminum factories. Water additive which promotes strong teeth when at the optimum level of 0.7 ppm

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
Inorganic Contaminants							
Nickel (ppb)	1/2014	N	0.84	N/A	N/A	100	Nickel has been shown to damage the heart and liver in laboratory animals when the animals are exposed to high levels over their lifetimes. The Florida Department of Environmental Protection (FDEP) has set the drinking water
Sodium (ppm)	1/2014	N	78	N/A	N/A	160	Salt water intrusion, leaching from soil

Stage 1 Disinfectants and Disinfection By-Products							
For chlorine, the level detected is the the highest running annual average (RAA), computed quarterly, of monthly averages of all samples collected. The range of results is the range of results of all the individual samples collected during the past year.							
Disinfectant or Contaminant and Unit of Measurement	Dates of sampling (mo./yr.)	MCL or MRDL Violation Y/N	Level Detected	Range of Results	MCLG or MRDLG	MCL or MRDL	Likely Source of Contamination
Chlorine (ppm)	01/2016 – 12/2016	N	1.41	0.60 – 1.94	MRDLG = 4	MRDL = 4.0	Water additive used to control microbes

Stage 2 Disinfectants and Disinfection By-Products							
During 2016, the system had only annual results and all of these results were below the MCL.							
Disinfectant or Contaminant and Unit of Measurement	Dates of sampling (mo./yr.)	MCL or MRDL Violation Y/N	Level Detected	Range of Results	MCLG or MRDLG	MCL or MRDL	Likely Source of Contamination
Haloacetic Acids (five) (HAA5) (ppb)	07/2016	N	4.07	NA	NA	MCL = 60	By-product of drinking water disinfection
TTHM [Total Trihalomethanes] (ppb)	07/2016	N	16.54	NA	NA	MCL = 80	By-product of drinking water disinfection

Contaminant and Unit of Measurement	Dates of sampling (mo./yr.)	AL Exceeded (Y/N)	90th Percentile Result	No. of sampling sites exceeding the AL	MCLG	AL (Action Level)	Likely Source of Contamination
Lead and Copper (Tap Water)							
Copper (tap water) (ppm)	07/2015	N	0.049	0	1.3	1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives

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. Dunes CDD 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>

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. **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 (1-800-426-4791).**