

**Collier County Annual Drinking Water Quality Report 2006
Goodland Water District**



We are pleased to present the 2006 Annual Drinking Water Quality Report. This report is designed to inform you about the quality of water that we deliver to you – every day. Our goal is to provide a safe, dependable supply of drinking water to you, our customer.

In order to ensure that your drinking water is safe to drink, the United States Environmental Protection Agency (USEPA) prescribes specific limits for the amount of certain contaminants which drinking water may contain. All drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of these small amounts of contaminants does not necessarily indicate that the water poses a health risk. More information about contaminants and their potential health effects can be obtained by calling the USEPA's Safe Drinking Water Hotline at 1-800-426-4791.

The Collier County Water Department has an extensive and continuous testing program to routinely monitor for contaminants in your drinking water in accordance with 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, 2006 to December 31, 2006. Data obtained before January 1, 2006, and presented in this report are from the most recent testing done in accordance with the laws, rules, and regulations. The Florida Department of Environmental Protection (FDEP) has performed a Source Water Assessment on our system. This assessment was conducted to provide information about any potential sources of contamination in the vicinity of the wells and surface water intakes that are the source of the water that is treated for your consumption. Potential sources of contamination identified include underground petroleum storage tank and dry cleaning facilities. The assessment results are available on the FDEP Source Water Assessment and Protection Program website at www.dep.state.fl.us/swapp.

The Collier County Water Department services Goodland by redistributing water received from Marco Island Utilities. The Marco Island Utility obtains its water from two sources; surface water from Marco Lakes is pumped to a Lime Softening Plant, and groundwater from the Hawthorn Aquifer is pumped from 15 wells (550 to 600 feet deep) to a Reverse Osmosis Plant. The water from these two treatment processes is blended, and the portion used by the Goodland Water District is treated with additional disinfectant and a phosphate corrosion inhibitor to prevent leaching of metal from pipes in your home plumbing into your water.

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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, as in the case with the Collier County Water Supply, 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, EPA prescribes regulations that 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.

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

Non-Detects (ND) – “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, which corresponds to one minute in two years or a single penny in \$10,000.

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, which corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.

Picocuries per liter (pCi/L) - 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.

“N/A”: means not applicable.

Nephelometric Turbidity Unit (NTU) – nephelometric turbidity unit is a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

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

Turbidity – Turbidity is a measure of the cloudiness of the water. Since the lime plant source water is surface water, we measure turbidity to comply with the surface water treatment requirements. Turbidity is also an indicator of filtration effectiveness. High turbidity can hinder the effectiveness of disinfectants.

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. 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.

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.

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Goodland Water Quality Test Results PWS ID # 5110118							
This report shows the results of our monitoring for the period of January 1 st to December 31 st 2006. Federal and state regulations allow 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, may be more than one year old. The 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.							
Microbiological Contaminants Note: Sampled monthly throughout 2006							
**Result in the lowest monthly percentage column is the lowest monthly percentage of samples meeting the turbidity limits reported in the Monthly Operating Report							
Contaminant and Unit of Measurement	Dates of sampling (mo./yr.)	MCL Violation Y/N	The Highest Single Measurement	The Lowest Monthly Percentage of Samples Meeting Regulatory Limits	MCLG	MCL	Likely Source of Contamination
Turbidity (NTU)	1/06-12/06	Y	1.44	76.1%	N/A	TT	Soil runoff
Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system. High turbidity can hinder the effectiveness of disinfectants.							
Results in the Level Detected column for radiological contaminants, inorganic contaminants, synthetic organic contaminants including pesticides and herbicides, and volatile organic contaminants are the highest average at any of the sampling points or the highest detected level at any sampling point, depending on the sampling frequency.							
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)	2/06	N	1.1	0.0 – 1.1	0	15	Erosion of natural deposits
Radium 226 or combined radium (pCi/l)	2/06	N	1.0	0.0 –1.0	0	5	Erosion of natural deposits
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							
Barium (ppm)	12-06	N	0.010	NA	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Fluoride (ppm)	12-06	N	0.069	NA	4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Nitrite (as Nitrogen) (ppm)	12-06	N	0	NA	1	1	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Nitrate (as Nitrogen) (ppm)	12-06	N	0.22	NA	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Sodium (ppm)	12-06	N	74	NA	N/A	160	Salt water intrusion ,leaching from soil
Lead as (point of entry)(ppb)	12-06	N	0.001	NA	NA	15	Residue from man made pollution such as auto emissions and paint lead pipe, casing and solder
Mercury (inorganic) (ppb)	12-06	N	0.0001	NA	0.002	0.002	Erosion of natural deposits; discharge from refineries and factors; runoff and landfills; runoff from cropland
Cyanide (ppb)	12-06	N	0.0063	NA	2	2	Discharge from steel/metal factories discharge from plastic and fertilizer factories
Note: The result in the Level Detected column for TTHMs is the highest of the four quarterly running annual averages of results from all sampling sites.							
TTHMs and Stage 1 Disinfectant/Disinfection By-Product (D/DBP) Parameters							
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
Chloramines (ppm)	Monthly 2006	N	2.74	0.6-5.3	MRDLG =4	MRDL=4.0	Water additive used to control microbes
Haloacetic Acids (five) (HAA5) (ppb)	01,04,07,10 /06	N	13.37	5.4-26.1	N/A	MCL=60	By-product of drinking water disinfection

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TTHM (Total trihalomethanes) (ppb)	01,04,07,10 /06	N	29.5	15-50.6	N/A	MCL= 80	By-product of drinking water chlorination
The monthly TOC removal ratio is the ratio between the actual TOC removal and the TOC rule removal requirements.							
Contaminant and Unit of Measurement	Dates of sampling (mo./yr)	TT Violation Y/N	Annual Average Monthly Removal Ratio	Range of Monthly Removal Ratios	MCLG	MCL	Likely Source of Contamination
Total organic carbon (ppm)	1/06 – 12/06	N	1.07	0.7 - 1.20	N/A	TT	Naturally present in the environment

Lead and Copper (Tap Water)							
Contaminant and unit of measurement	Dates of sampling (mo./yr.)	AL Violation Y/N	90 th Percentile Result	No. of sampling sites exceeding the AL	MCLG	AL (Action Level)	Likely Source of Contamination
Copper (tap water) (ppm)	08,09/2005	N	0.28	0	1.3	1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (tap water) (ppb)	08,09/2005	N	2.3	0	0	15	Corrosion of household plumbing systems, erosion of natural deposits

On September 22, 2006, a breakdown of the Lime Softening water plant lime reactor resulted in a treatment technique violation (elevated turbidity levels). Turbidity alone 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. A precautionary boil water notice was issued until the turbidity levels returned to acceptable levels and microbiological samples were acceptable.

On September 25, 2006 a power outage at the Reverse Osmosis (RO) water plant caused a raw water main break at the pre-filters. The water main broke because the wells continued to pump water to the water plant while the RO train was shut down due to the power outage. The treatment technique violation, the failure to maintain the water plant, and the failure to provide auxiliary power resulted in an enforcement case with the Florida Department of Environmental Protection. The enforcement case was resolved through a Consent Order with the Florida Department of Environmental Protection.

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 and Center for Disease Control (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 at (800) 426-4791.

The Collier County Water Department team members would like you to understand the efforts we make to continually improve the water treatment process and protect our water resources. We are committed to ensuring the excellent quality of your water. If you have any questions or concerns about the information that we have provided, please contact the Collier County Water Department Laboratory staff at (239) 352-7007. You can also visit the Collier County Water Department web site at:

www.colliergov.net/water

Other sources of information include:

Florida Department of Environmental Protection web site at: www.dep.state.fl.us/water

United States Environmental Protection Agency Safe Drinking Water Hotline at 1-800-426-4791

United States Environmental Protection Agency Office of Water web site at: www.epa.gov/safewater

The American Water Works Association web site at: www.awwa.org