2006 Annual Drinking Water Quality Report
Collier County Water Department

Message from the Collier County Water Department Management Team

The Water Department Management Team is pleased to present to you this Annual Water Quality Report. This Report is designed to inform you about the high quality water and services that we deliver to you every day. Our constant goal is to provide to you a safe and dependable supply of drinking water.

The Water Department Management Team has a combined total of 147 years of water utility management and operations experience. That vast experience is called on every day to ensure that the water that is delivered to your faucet – the water that you drink, the water that you use to prepare food and for cooking, the water that you bathe in, and the water that you use to prepare your baby's formula – meets every drinking water quality standard.

Many of the customers that receive their drinking water from the Collier County Water Department are not aware that since 1999, some of the water that they drink daily is produced using reverse osmosis, a process that produces very high quality water from brackish (salty) groundwater. Currently, 16 million gallons per day of the system's 40 million gallon per day capacity uses reverse osmosis to produce drinking water, and by mid-2008 an additional 12 million gallons per day of reverse osmosis water treatment capacity will be completed. This additional capacity will result in over half of our drinking water being produced by reverse osmosis.

The Collier County Water Department has received two awards during the past year that recognize the utility's commitment to excellence. The Florida Department of Environmental Protection awarded their Plant Operations Excellence Award to the North County Regional Water Treatment Plant Operations Team; there were only five drinking water facilities that received this recognition in the State of Florida. Additionally, the Florida Section of the American Water Works Association recognized the North County Regional Water Treatment Plant as the Most Improved Water Treatment Plant in Florida.

During the past year, members of the Management Team have been recognized by their peers for outstanding accomplishments and service to the Water Industry. Steve Messner, Plant Manager, received the Robert O. Vernon Award from the American Membrane Technology Association, an award that is presented bi-annually to one person nationally for outstanding achievement and contribution to education in membrane water treatment technology. Paul Mattausch, Director of the Water Department, was elected to the position of Region V Chair of the Florida Section, American Water Works Association; he has previously served as the Chair of the Michigan Section, AWWA, and currently serves on two national committees with the American Water Works Association.

The Management Team of the Collier County Water Department is committed to the protection of the health, safety, and welfare of you and your family. We recognize that you expect the best quality drinking water at the best price possible. It is our desire to provide the level of service that you expect from us, and that you don't ever have to think twice about using your tap water for drinking, cooking, bathing, and yes, even preparing the baby's formula.

The Source Water for Collier County

The source of water for the Collier County Water System is groundwater pumped from three wellfields located in the Golden Gate Estates. The North Hawthorn Wellfield has 17 wells that provide water to the North County Regional Water Treatment Plant. The South Hawthorn Wellfield has 19 wells that provide water to the South County Regional Water Treatment Plant. The Golden Gate Tamiami Wellfield has 34 wells that provide water to both treatment plants.

The Department of Environmental Protection has performed a Source Water Assessment on our system. These assessments were conducted to provide information about any potential sources of contamination in the vicinity of our wells. Potential sources of contamination identified include underground petroleum storage tanks, injection well and industrial wastewater treatment plant. 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 has an extensive and continuous testing program to routinely monitor 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 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.

Other Sources of Information:

Florida Department of Environmental Protection: *www.dep.state.fl.us*

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

United States Environmental Protection Agency
Office of Water: *www.epa.gov/OW*

The American Water Works Association: *www.awwa.org*

Phone numbers:
If you have any questions about this report or concerning your water utility, please contact us at the numbers below:
Collier County Utility Billing and Customer Service: 239-403-2380
Collier County Water Department Laboratory: 239-352-7007
Collier County Water Department Emergency Line: 239-732-2558

Definitions
In the table below, 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.
Action Level (AL): The concentration of a contaminant that, if exceeded, triggers treatment or other requirements that a water system must follow.
"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.
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
Contaminant-Any physical, chemical, biological or radiological substance in the water.
Violation-Violation occur when detected limits are greater than Maximum Contaminant Levels or Action Levels set by the EPA
90th Percentile- The analytical result that is greater than or equal to 90% of the results
THMs- Trihalomethanes; a group of chlorinated organic chemicals that include Chloroform, Bromoform, Bromodichloromethane.

This report shows the results of our monitoring for the period of January 1 to December 31, 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

Contaminant and Unit of Measurement	Dates of sampling (mo./yr.)	MCL Violation Y/N	Highest Monthly Number of Positive Samples	MCLG	MCL	Likely Source of Contamination
Total Coliform Bacteria	Monthly 2006	N	1.6% during (06/06)	0	For systems collecting at least 40 samples per month: presence of coliform bacteria in 5% or more of monthly samples.	Naturally present in the environment
Contaminant and Unit of Measurement	**Dates of sampling (mo./yr.)**	**MCL Violation Y/N**	**Total Number of Positive Samples for the Year**	**MCLG**	**MCL**	**Likely Source of Contamination**
Fecal coliform and *E.coli*	Jun 2006	N	2	0	0	Human and animal fecal waste

Radiological Contaminants

Conntminant and Unit of Measurement	Dates of sampling (mo./yr.)	MCL violation Y/N	Level Detected	Range of Results	MCLG	MCL	Likely Source of Contamination
Alpha emitters (pCi/l)	3,6,9,12-2005	N	1.7	ND-1.7	0	15	Erosion of natural deposits
Radium 226+228 or combined radium (pCi/L)	3,6,9,12-2005	N	1.1	ND-1.1	0	5	Erosion of natural deposits

Uranium (µg/L)	3,6,9,12-2005	N	4.6	ND-4.6	0	30	Erosion of natural deposits

Inorganic Contaminants

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
Arsenic (ppb)	4/05	N	0.22	ND-0.22	N/A	10	Erosion of natural deposits; runoff from orchards; run off from glass and electronics production wastes
Barium (ppm)	4/05	N	0.0016	0.0001-0.0016	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Fluoride (ppm)	Monthly 2006	N	0.88	0.72-1.06	5	5	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Nitrate (as Nitrogen) (ppm)	4/06	N	0.008	0.008	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Selenium (ppb)	4/05	N	0.50	ND-0.50	50	50	Discharge from petroleum and metal refineries; erosion of natural deposits; diecharge from mines.
Sodium (ppm)	4/05	N	53	32-53	N/A	160	Salt water intrusion, leaching from soil
Thallium (ppb)	4/05	N	0.4	0.3-0.4	0.5	2	Leaching from ore processing sites; discharge from electronics, glass, and drug factories

Volatile Organic Contaminants

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
Dichloromethane (ppb)	3,6,9,12-2006	N	0.87	ND-0.87	0	2	Discharge from pharmaceutical and chemical factories

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 Disinfectant/Disinfection By-Product (D/DBP) Parameters							
Chloramines (ppm)	Monthly 2006	N	3.62	0.6-5.5	MRDLG = 4	MRDL = 4	Water additive used to control microbes
Haloacetic Acids (five) (HAA5) (ppb)	1,4,7,10-2006	N	10.28	ND-24.0	NA	MCL = 60	By-product of drinking water disinfection
TTHM [Total trihalomethanes] (ppb)	1,4,7,10-2006	N	26.43	5.4-54.72	NA	MCL = 80	By-product of drinking water disinfection

Contaminant and Unit of Measurement	Dates of sampling (mo./yr.)	AL Violation 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)	11/2005	N	0.0521	0	1.3	1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (tap water) (ppb)	11/2005	N	1.1	0	0	15	Corrosion of household plumbing systems, erosion of natural deposits

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.

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).

How Hard is My Water?

Our consumers may have an interest in hardness of their water. Excessive hardness in the water contributes to scaling in water heaters and on cooking utensils, and can require the use of more soap and detergents. As water moves through soil and rock, it dissolves very small amounts of minerals and holds them in solution. Calcium and magnesium dissolved in water are the two most common minerals that make water "hard."

General guidelines for classification of the hardness of water are: 0 to 60 mg/L (milligrams per liter) of hardness is classified as soft water; 61 to 120 mg/L as moderately hard water; 121 to 180 mg/L as hard water; and more than 180 mg/L as very hard water. When you purchase a new dishwasher or washing machine, the manufacturer recommends the quantity of soap or detergent to use based on the hardness of the water.

The range of hardness of water delivered to your home by the Collier County Water Department in 2006 was 22 to 58 mg/L, or 1.3 to 3.4 grains per gallon, with an average hardness of 42 mg/L.

Cross-connection Control for Backflow Prevention

A cross connection is any connection between the potable (drinking) water supply and any other source of water. The existence of any connection between the drinking water supply and any other source of water, such as a private well or an irrigation system that uses irrigation quality (reclaimed) water, is prohibited. It is against the law to make any such connection.

Backflow is a reverse flow situation that can occur when hydraulic conditions (pressures) within a water system deviate from "normal" conditions, possibly allowing contaminated water to enter into the drinking water distribution system through a cross connection.

What causes Backflow? Backflow is possible in two situations: backsiphonage and backpressure.

Backsiphonage – When there is a sudden reduction in water pressure in the public drinking water distribution system, such as during fire fighting or when a water main breaks, water flow can potentially be reversed. This could create a suction effect, possibly drawing contaminated water into the drinking water system.

Backpressure – Backpressure is created when the pressure in a private non-drinking water system, such as in a recirculating system containing soap, acid, or antifreeze, or a pressurized irrigation system that uses other than potable water, exceeds the pressure in the public drinking water system that it is connected to. This could force contaminated water to enter the public drinking water system.

How can Backflow be prevented? Any potential connection between the drinking water and any other source of water has the potential to contaminate the drinking water supply. Some of the common things that we do around the house and yard can create a cross connection; without the proper vacuum breaker installed, leaving a garden hose submerged in a swimming pool is a cross connection; a short hose attached to the faucet in a utility sink is a cross connection just waiting to happen; attaching a pesticide or weed-killer mixing sprayer to the end of a hose has the potential to contaminate the drinking water; and connecting an irrigation system to both irrigation quality (reclaimed) water and the drinking water system is a cross connection. Changes to the plumbing on any property or in any structure where any other source of water exists should be done only by a licensed plumber.

To prevent the possibility of backflow, Collier County adopted the "Collier County Cross-connection Control/Backflow Prevention Ordinance" (Ordinance 97-33). This ordinance requires the installation of backflow prevention assemblies as part of any water service connection. The Collier County Water Department maintains a Cross-connection Control and Backflow Prevention Section to administer the requirement of Ordinance 97-33, including the installation, maintenance, repair, and testing of backflow prevention assemblies.