2012 Drinking Water
Quality Report

ECUA
EMERALD COAST UTILITIES AUTHORITY

ECUA routinely monitors your drinking water according to Federal and State laws, rules and regulations, generally more frequently than the law prescribes.

We are very pleased to provide you with this year's Annual Water Quality Report.

We want to keep you informed about the excellent water and services we have delivered to you over the past year. Our goal is and always has been, to provide to you a safe and dependable supply of drinking water.

Where Does My Water Come From?

The sources of drinking water for both tap water and bottled water throughout our country 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. It also 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 byproducts 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.

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 (EPA) Safe Drinking Water Hotline at (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 persons, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC (Centers for Disease Control) 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.

ECUA has 32 wells distributed throughout its service area that pump water from the Sand-and-Gravel Aquifer.

In general, ECUA customers receive water from the wells (two to five) located closest to their residence. Each well is considered a separate treatment plant, where water quality parameters are adjusted to comply with operating standards. Granular Activated Carbon (GAC) filters are installed on eleven (11) wells for iron or organic contamination removal. Calcium Hydroxide (lime) is

Table of System-Wide Averages

Averaged Concentration shown in Table is the averaged sample results for ECUA's entire water system.

Volatile Organic Contaminants (VOC)	MCL	Averaged Concentration Entire ECUA Water System
Tetrachloroethylene (ppb)	3	0.36
1,1-Dichloroethylene (ppb)	7	0.05
Trichloroethylene (ppb)	3	0.08

Inorganic Contaminants	MCL	Averaged Concentration Entire ECUA Water System
Antimony (ppb)	6	0.015*
Barium (ppm)	2	0.046*
Cyanide (ppb)	200	1.13*
Fluoride (ppm)	4	0.25*
Mercury (ppb)	2	0.05*
Nitrate (as Nitrogen) (ppm)	10	1.5
Sodium (ppm)	160	5.094*

*Represents 2011 sample data due to sampling schedule. Sampling is every three years.

You can help prevent groundwater contamination by observing a few key guidelines:

- Recycle used motor oil by returning it to stores or garages that accept and recycle the oil.
- Follow label instructions when using and disposing of pesticides, paints, or other household chemicals.
- If you are an ECUA residential sanitation customer, take advantage of our once-per-month free collection of Household Hazardous Waste.
- **Learn more about this convenient service at www.ecua.fl.gov.**

added for pH adjustment; Phosphoric Acid is added for corrosion control in the distribution system and Chlorine is added for disinfection. Fluoride is added at select wells, as a source of fluoride treatment.

The recharge area for ECUA wells is limited to the area of Escambia County, south of Cantonment. Because the Sand-and-Gravel Aquifer does not have a confining layer above it, virtually everything that falls on the ground has the potential to reach the main producing zone of the aquifer and affect the quality of our water supply. This concern is referenced in the NORTHWEST FLORIDA WATER MANAGEMENT DISTRICT Public Information Bulletin 87-2, March 1990 and again, in the Escambia County 2004 Grand Jury Report on Groundwater Contamination.

ECUA is well aware of this threat to the groundwater and over the years has worked with Escambia County and the City of Pensacola in strengthening their Wellhead Protection Ordinances.

ECUA employees work continually to provide our customers with the highest quality water possible, but we need your help too. The Sand-and-Gravel Aquifer is a high-quality, prolific source of water for our community.

ECUA monitors your drinking water for total coliform bacteria on a regular basis. Total coliform bacteria are generally not harmful themselves, are naturally present in the environment, and are used as an indicator that other bacteria may be present. This is a process that we take very seriously and implement carefully each month.

In order to ensure the safety of tap water, EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. FDA (Food & Drug Administration) regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

The System-Wide Test Results table, included in this report, presents the results of compliance monitoring for the period of January 1 through December 31, 2012. As authorized and approved by EPA, the State has reduced monitoring requirements for certain contaminants to less often than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. Some of our data, though representative, is more than one year old.

In reviewing the table, you will see that the ECUA Drinking Water System is within full compliance, with no excursion of the Maximum Contaminant Level (MCL) encountered in 2012. One specific parameter that shows the excellent quality of the ECUA water is the data in the DISINFECTANTS/ DISINFECTION PRODUCTS Table, which shows the low level of byproduct generated in our water. These values, which are well below the MCL for these analytes, reflect the low chlorine demand of the water.

The Lead and Copper results presented were collected in 2011. The results reported showed the ECUA Water System to be in full compliance with the Lead and Copper Rule.

We are pleased to report that our drinking water meets all State and Federal requirements.

We've provided the following definitions to help you better understand certain terms and abbreviations with which you might not be familiar.

Maximum Contaminant Level Goal (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.

Maximum Contaminant Level (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 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.

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

Not Detected (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 (µg/l): 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, a quadrillionth of a curie per liter.

Initial Distribution System Evaluation (IDSE): 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.

What are Precautionary Boil Water Notices and Why Do We Issue Them?

Occasionally, drinking water distribution systems experience disruptions caused by main breaks or planned maintenance, and require the issuing of a Precautionary Boil Water Notice, (PBWN). ECUA makes every effort possible to keep our customers informed as to the quality of our water. The status of all PBWN's can be obtained any time of day by visiting www.ecua.fl.gov, calling the ECUA Alert Line at (850) 476-5110, or ECUA Water SCADA at (850) 969-3343.

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 Emerald Coast Utilities Authority 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 **www.epa.gov/safewater/lead**.

If you have any questions about this report or concerning your water utility, please contact The ECUA QA/QC Manager at 969-6689. We encourage our valued customers to be informed about their water utility. If you want to learn more, please attend any of our regularly scheduled meetings. ECUA Board and Committee meetings are held in the boardroom of the ECUA Administration Building, 9255 Sturdevant St., Pensacola, FL 32514. For a complete schedule of meetings, please contact the Executive Assistant to the Board, Ms. Linda Iversen, at (850) 969-3302, or visit us on-line at www.ecua.fl.gov.

The ECUA Water Quality Report for 2013 will be published by July 1, 2014.

2012 Drinking Water Quality
System-Wide Test Results Table

MICROBIOLOGICAL CONTAMINANTS						
Contaminant and unit of measurement	**Dates of sampling**	**MCL Violation**	**Highest Monthly %**	**MCLG**	**MCL**	**Likely source of contamination**
Total coliform bacteria	Jan-Dec 12	No	2.2%	0	For systems collecting at least 40 samples per month: presence of coliform bacteria in >5% of monthly samples	Naturally present in the environment

Contaminant and unit of measurement	**Dates of sampling**	**MCL Violation**	**Total Number of Positive Samples for the Year**	**MCLG**	**MCL**	**Likely source of contamination**
Fecal coliform and *E.coli* in the distribution system (positive samples)	Jan-Dec 12	No	1	0	0	Human and animal fecal waste

Contaminant and unit of measurement	**Dates of sampling**	**MCL Violation**	**Level Detected**	**Range of Results**	**MCLG**	**MCL**	**Likely source of contamination**
RADIOACTIVE CONTAMINANTS (FOR WELL-SPECIFIC DATA, SEE TABLE 1)*							
Alpha emitters (pCi/l)	Jan 08 & Apr 11	No	6.0	ND - 6.0	0	15	Erosion of natural deposits
Radium 226+228 (pCi/l)	Jan 08 & Apr 11	No	4.4	0.11 - 4.4	0	5	Erosion of natural deposits
INORGANIC CONTAMINANTS (FOR WELL-SPECIFIC DATA, SEE TABLE 2)*							
Antimony (ppb)	Oct 11	No	0.7	ND - 0.7	6	6	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder
Barium (ppm)	Oct 11	No	0.079	0.01 - 0.079	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Cyanide (ppb)	Oct 11	No	30	ND - 30	200	200	Discharge from steel/metal factories; discharge from plastic and fertilizer factories
Fluoride (ppm)	Oct 11	No	0.57	ND - 0.57	4	4.0	Erosion of natural deposits; discharge from fertilizer and aluminum factories. Water additive which promotes strong teeth when at optimum level of 0.7ppm
Mercury (ppb)	Oct 11	No	0.2	ND - 0.2	2	2	Erosion of natural deposits; discharge from refineries and factories; runoff from landfills; runoff from cropland
Nitrate (as Nitrogen) (ppm)	Oct 12	No	4.2	0.3 - 4.2	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Sodium (ppm)	Oct 11	No	9.4	2.6 - 9.4	n/a	160	Saltwater intrusion, leaching from soil
VOLATILE ORGANIC CONTAMINANTS							
1,1-Dichloroethylene (ppb)	Jan-Dec 12	No	1.0 avg.	ND - 1.09	7	7	Discharge from industrial chemical factories
Tetrachloroethylene (ppb)	Jan-Dec 12	No	1.77 avg.	ND - 2.31	0	3	Discharge from factories & dry cleaners
Trichlorethylene (ppb)	Jan-Dec 12	No	1.46 avg.	ND - 2.31	0	3	Discharge from metal degreasing sites & other factories

STAGE 1 DISINFECTANTS AND DISINFECTION BY-PRODUCTS							
Disinfectant or Contaminant and Unit of Measurement	**Dates of Sampling**	**MCL or MRDL Violation**	**Level Detected**	**Range of Results**	**MCLG MRDLG**	**MCL or MRDL**	**Likely source of contamination**
Chlorine (ppm)	Jan-Dec 12	No	0.64	0.59 - 0.7	MRDLG/4	MRDL/4	Water additive used to control microbes
Haloacetic Acids five HAA5 (ppb)	July-Sept 11	No	1.27 avg.	ND - 2.76	n/a	MCL/60	By-products of drinking water disinfection
TTHM (Total trihalomethanes) (ppb)	July-Sept 11	No	3.83 avg.	3.38 - 4.14	n/a	MCL/80	By-products of drinking water disinfection
STAGE 2 DISINFECTANTS AND DISINFECTION BY-PRODUCTS (Four quarters required to determine compliance)**							
Haloacetic Acids five HAA5 (ppb)	May-Dec 12	n/a**	n/a**	ND - 1.54	n/a	MCL/60	By-products of drinking water disinfection
TTHM (Total trihalomethanes) (ppb)	May-Dec 12	n/a**	n/a**	ND - 8.5	n/a	MCL/80	By-products of drinking water disinfection

LEAD AND COPPER (TAP WATER)							
Contaminant and unit of measurement	**Dates of sampling**	**AL Violation Y/N**	**90th percentile**	**No. of sites exceeding the AL**	**MCLG**	**AL**	**Likely source of contamination**
Copper (tap water) (ppm)	June-Sept 11	No	0.32	0	1.3	1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (tap water) (ppb)	June-Sept 11	No	1.1	0	0	15	Corrosion of household plumbing systems, erosion of natural deposits

In 2012, the Florida Department of Environmental Protection (FDEP) performed a Source Water Assessment on our water. Assessments are conducted to provide information about any potential sources of contamination in the vicinity of our wells. There are 25 potential sources of contamination identified for this system, with a low to moderate susceptibility level. The assessment results are available on the FDEP Source Water Assessment and Protection Program (SWAPP) website at www.dep.state.fl.us/swapp or they can be obtained by calling the ECUA's Water Quality Division at 850-969-6689.

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*Tables 1 and 2, and a map of the ECUA water system showing the location of all wells, are available by contacting Mr. Don Mitchell at (850) 969-6689, by calling ECUA Customer Service at (850) 476-0480, or by visiting us online at www.ecua.fl.gov.