2016 Annual Drinking Water Quality Report
Innerarity Island Water System
THE WATER WE DRINK

Innerarity Island Water System (IIWS) is pleased to present to you the 2016 Annual Drinking Water Quality Report. Our constant goal is to provide you with a safe and dependable supply of drinking water. This report shows our water quality results and what they mean. We want 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 quality of your water. Escambia County is in receivership of Innerarity Island Water System from the Innerarity Island Development Corporation. The City of Gulf Breeze has been contracted by Escambia County to perform daily operations of the system. If you have any questions about this report or concerning your water utility, please contact Nathan Ford, Assistant to the City Manager (850) 934-5100. Escambia County, as receivers of the Innerarity Island Water System, are very interested in providing the utility members with quality service. The Escambia County Commissioners meet on the second and fourth Thursday of each month. Public Forums are conducted at 4:30 P.M. in the BOCC Chambers, 221 Palafox Place, Pensacola, Florida 32502. We encourage the valued customers of Innerarity Island Water System to be informed about their water utility.

Innerarity Island Water System purchases water from the Emerald Coast Utilities Authority (ECUA). ECUA has 26 active 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 maximize operational efficiencies and to comply with regulatory standards. The Sand-and-Gravel Aquifer is a high-quality, prolific source of water for our community. Because it does not have a confining layer above it, virtually everything that falls on the ground has the potential to affect the quality of our water supply. Granular Activated Carbon (GAC) filters are installed on eleven (11) wells for iron or organic contamination removal. Calcium Hydroxide (lime) is 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. Additional information regarding the ECUA water supply can be obtained from the ECUA Laboratory Manager at (850) 969-6689.

Water and Your Health

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).

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. Innerarity Island Water System 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.

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 storm water 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 storm water 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 storm water runoff, and septic systems.

(E) Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.

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.

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.

Innerarity Island Water System and ECUA routinely monitor for contaminants in your drinking water according to Federal and State laws, rules, and regulations. Except where indicated otherwise, this table shows the results of our monitoring for the period of January 1st through December 31st, 2016. Sampling for Trihalomethanes, Haloacetic Acids, Chlorine, Bacteria, Lead, Copper & Asbestos were performed by Innerarity Island Water System. All other results were performed by ECUA. Some of the data, though representative, are more than one year old, but represent the most

recent sampling data. As authorized and approved by EPA, the state has reduced monitoring requirements for certain contaminants to less often than once per year because the concentration of these contaminants are not expected to vary significantly from year to year.

In 2016 the Department of Environmental Protection performed a Source Water Assessment on the ECUA water system. The assessments were conducted to provide information about any potential sources of contamination in the vicinity of the supply wells. There are 37 potential sources of contamination identified for this system, with a low to high 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.

Innerarity Island Water System works around the clock to provide top quality water to every tap. We ask that all our customers help us protect our water sources, which are the heart of our community, our way of life, and our children's future. Conservation of water is of utmost importance to us and we ask that everyone make efforts, wherever possible, to conserve water. Did you know that Florida Statute Chapter 373.62 states, in part, that all irrigation systems must have an automatic rainfall shut-off device?

Thank you for allowing us to continue providing your family with clean, quality water this year. In order to maintain a safe and dependable water supply we sometimes need to make improvements that will benefit all of our customers. These improvements are sometimes reflected as rate structure adjustments. Thank you for understanding.

Definitions

In the table included with this report, you may find unfamiliar terms and abbreviations. To help you better understand these terms we've provided the following definitions:

ND - means not detected and indicates that the substance was not found by laboratory analysis.

N/A - does not apply.

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.

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

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

Maximum Contaminant Level or MCL – the highest level of a contaminant that is allowed in drinking water. MCL's are set as close to the MCLG's 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. MCLG's allow for a margin of safety.

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.

Picocuries per liter (pCi/L) – measure of the radioactivity in water.

TABLE OF WATER QUALITY TEST RESULTS FOR 2016

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
Radioactive Contaminants (Sampled by ECUA)							
Alpha Emitters (pCi/l)	2008 - 2014	No	Average 13	ND – 15.7	0	15	Erosion of natural deposits
Radium 226 + 228 or combined radium (pCi/l)	2008 - 2014	No	Average 5	0.2 – 8.5	0	5	Erosion of natural deposits
Inorganic Contaminants (Sampled by ECUA)							
Arsenic (ppb)	July/Aug 2014	No	1.8	ND – 1.8	0	10	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
Barium (ppm)	July/Aug 2014	No	0.05	0.01 – 0.05	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Beryllium (ppb)	July/Aug 2014	No	0.5	ND – 0.5	4	4	Discharge from metal refineries and coal burning factories: discharge from electrical, aerospace, and defense industries
Chromium (ppb)	July/Aug 2014	No	4.8	ND – 4.8	100	100	Discharge from steel and pulp mills; erosion of natural deposits
Cyanide (ppb)	July/Aug 2014	No	16	ND – 16	200	200	Discharge from steel/metal factories; discharge from plastic and fertilizer factories
Fluoride (ppm)	July/Aug 2014	No	0.42	ND – 0.42	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
Nickel (ppb)	July/Aug 2014	No	1.5	ND – 1.5	N/A	100	Pollution from mining and refining operations. Natural occurrence in soil
Nitrate (as Nitrogen) (ppm)	July 2016	No	3.7	0.3 – 3.7	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Selenium (ppb)	July/Aug 2014	No	2.7	ND – 2.7	50	50	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines
Sodium (ppm)	July/Aug 2014	No	10.0	2.9 – 10.0	N/A	160	Salt water intrusion, leaching from soil

Volatile Organic Contaminants (Sampled by ECUA)

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
Tetrachloroethylene (ppb)	Jan/Dec 2016	No	Average 0.97	ND – 2.3	0	3	Discharge from factories and dry cleaners
Trichloroethylene (ppb)	Jan/Dec 2016	No	Average 0.74	ND – 1.1	0	3	Discharge from metal degreasing sites and other factories

Stage 2 Disinfectant/Disinfection By-Product (Sampled by IIWS)

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)	Jan/Dec 2016	No	0.81	0.66 – 1.05	MRDLG = 4	MRDL = 4.0	Water additive used to control microbes
TTHM (Total Trihalomethanes) (ppb)	August 2016	No	4.9	N/A	N/A	MCL = 80	By-product of drinking water disinfection

Lead and Copper (Tap Water) (Sampled by IIWS)

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	Likely Source of Contamination
Copper (Tap Water) (ppm)	July 2014	No	0.23	0 of 10	1.3	1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (Tap Water) (ppb)	July 2014	No	1.7	0 of 10	0	15	Corrosion of household plumbing systems; erosion of natural deposits

ECUA monitored for Unregulated Contaminants (UCs) in 2016 as part of a study to help the U.S. Environmental Protection Agency (EPA) determine the occurrence in drinking water of UCs and whether or not these contaminants need to be regulated. At present, no health standards (for example, maximum contaminant levels) or likely sources have been established for UCs. However, we are required to publish the analytical results of our UC monitoring in our annual water quality report. In 2016 ECUA tested for fluorinated organic chemicals, (PFOA and PROS) in the Spanish Trail well. The level of PFOA and PFOS found in the Spanish Trail well is below the combined concentration of U.S. EPA's health advisory level of 0.07 parts per billion. ECUA has proactively installed treatment for PFOA and PFOS at this well site to eliminate any possible future contaminations concern. If you would like more information on PFOA and PFOS data collected under EPA Unregulated Contamination Monitoring Rule, it is available at: https://www.epa.gov/dwucmr/occurrence--data-unreguate-contaminant-monitoring-rule. Information on PFOA and PFOS Health Advisories Level is available at: https://www.wpa.gov/ground-water-and=drinking-water//drinking-water-health-advisories-pfoa-and-pfos . If you would like more information on the EPA's Unregulated Contaminants Monitoring Rule, please call the Safe Drinking Water Hotline at (800) 426-4791.

Unregulated Contaminants (Sampled by ECUA)

Contaminant and Unit of Measurement	Date of Sampling (mo/yr)	Level Detected	Range	Likely Source of Contamination
PFOA (ppb)	July 2016	0.019	0.019 – 0.019	Airport Fire Suppression Material
PFOS (ppb)	July 2016	0.04	0.037 – 0.042	Airport Fire Suppression Material