

# 2018

## Bimini Bay Annual Water Quality Report



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This report is designed to inform you about the quality of the water and services delivered to you in 2018 by Polk County Utilities, Board of County Commissioners. Included are details about where your drinking water comes from, what it contains, and how it compares to standards set by the Environmental Protection Agency (EPA) and the Florida Department of Environmental Protection Agency (FDEP).

If you have any questions about this report, your water utility, or would like to obtain a copy of this report, please contact Tania McMillan (863) 298-4195.

Visit [www.polk-county.net/BiminiBayWQ](http://www.polk-county.net/BiminiBayWQ)

## 2018 Annual Drinking Water Quality Report Bimini Bay Public Water System (P W S N o. 6535727)

The Bimini Bay Public Water System (P W S) is in the Northeast Regional Utility Service Area of Polk County and receives all of their water from the Northeast P W S. The Bimini Bay P W S was inactive as of May 31, 2018 and customers were incorporated into the Northeast P W S.

Seventeen (17) wells drilled into the Floridan Aquifer, and additional water purchased from Tohopekaliga Water Authority. The Floridan Aquifer contains some of the cleanest water in the nation. This vast subterranean reservoir is fed primarily by rainwater that is filtered through hundreds of feet of rock and sand in a natural cleansing process. The ground water is treated at six (6) different water treatment facilities (W T F s). Typical treatment at the W T F s consists of cascade aeration for removal of dissolved gasses and chlorine for disinfection. A poly-orthophosphate solution is then added for corrosion control and sequestering iron.

Source Water Assessment: In 2018 the Florida Department of Environmental Protection (F D E P) 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 6 potential sources of contamination identified for this system with low to moderate susceptibility levels. The assessment results are available on the F D E P Source Water Assessment and Protection Program website at [www.dep.state.fl.us/swapp](http://www.dep.state.fl.us/swapp) or they can be obtained from Polk County Utilities.

Hardness, Alkalinity and p H: Hardness describes the level of the dissolved natural minerals (primarily calcium and magnesium) in drinking water. As a general rule, water is considered hard if it contains more than 120 p p m as C a C O<sub>3</sub> (7 grains per gallon). Hard water requires more soap than soft water and will, with time, leave mineral deposits on pipes and valves. The hardness of the Northeast P W S is typically around 116 p p m, or 6.8 grains per gallon. Alkalinity helps provide a stable environment in the distribution system. Alkalinity levels between 60 and 120 p p m as C a C O<sub>3</sub> are considered moderate levels. The alkalinity of the Northeast P W S is typically around 113 p p m. The p H is typically around 8.2.

Delivering Safe Drinking Water: The primary law governing drinking water in the United States is the Safe Drinking Water Act (S D W A). The S D W A, originally passed in 1974 and updated several times since, authorizes the Environmental Protection Agency (E P A) to establish comprehensive national standards for protection against both naturally-occurring and man-made contaminants that may be found in drinking water. These standards, adopted by the F D E P, govern the quality of the water supplied, requirements for physical and chemical treatment, source water protection, operator training, funding for water system improvements, and public water information. Some of the standards adopted by the F D E P are more stringent than those established by the E P A.

Polk County Utilities (P C U) works closely with the E P A, F D E P, and the Polk County Health Department to ensure that the water delivered to our customers is in compliance with the applicable standards. In accordance with the S D W A, P C U is required to treat the water, test the water on a regulated schedule for specified contaminants, and report the results to the appropriate regulatory

agency. If a problem is detected, P C U immediately retests and informs its customers about the problems until the system can reliably demonstrate that the situation has been resolved.

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. P C U 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>.

The sources of drinking water (both tap 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:

- Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment facilities, septic systems, agricultural livestock operations, and wildlife.
- 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.
- Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.
- 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.
- 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 E P A prescribes regulations which limit the amount of certain contaminants in the water provided by public water systems. The Food and Drug Administration (F D A) 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 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 (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 H I V / 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. E P A / C D C 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.

As authorized and approved by E P A , 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 (e.g., for organic contaminants), though representative, is more than one-year-old.

PCU 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 our monitoring for the period of January 1 to December 31, 2018. Data obtained before January 1, 2018, and presented in this report are from the most recent testing done in accordance with the applicable laws, rules, and regulations.

The (E P A) requires monitoring of over 80 drinking water contaminants. Those contaminants listed in the following tables are the only contaminants detected in your drinking water.

The following are definitions of some of the terms you may find in our report.

- Action Level (A L): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
- Centers for Disease Control and Prevention (C D C)
- Food and Drug Administration (F D A)
- Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome (H I V / AIDS)
- Locational Running Annual Average (L R A A): the average of sample analytical results for samples taken at a particular monitoring location during the previous four calendar quarters.
- Maximum Contaminant Level (M C L): The highest level of a contaminant that is allowed in drinking water. M C Ls are set as close to the M C L Gs as feasible using the best available treatment technology.
- Maximum Contaminant Level Goal (M C L G): The level of a contaminant in drinking water below which there is no known or expected risk to health. M C L Gs allow for a margin of safety.
- Maximum residual disinfectant level (M R D L): 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 (M R D L G): The level of a drinking water disinfectant below which there is no known or expected risk to health. M R D L Gs do not reflect the benefits of the use of disinfectants to control microbial contaminants.
- Not Applicable (N / A): Does not apply
- Not Detected (N D): Indicates that the substance was not found by laboratory analysis.
- Parts per billion (p p b) or Micrograms per liter ( $\mu$  g / l): One part by weight of analyte to 1 billion parts by weight of the water sample.
- Parts per million (p p m) or Milligrams per liter (m g / l): One part by weight of analyte to 1 million parts by weight of the water sample.
- Picocuries per liter (p C i / L): Measure of radioactivity in water.

### BIMINI BAY PUBLIC WATER SYSTEM WATER QUALITY TEST RESULTS

#### Radioactive Contaminants

Contaminant and Unit of Measurement	Dates of Sampling (m o / y r)	M C L Violation Y / N	Level Detected **	Range of Results	M C L G	M C L	Likely Source of Contamination
Alpha emitters (p C i / l)	01/17-12/17	N	2.5	ND-2.5	0	15	Erosion of Natural Deposits
Radium 226 + Radium 228 or Combined Radium (p C i / L)	01/17-12/17	N	0.3	N D-0.3	0	5	Erosion of Natural Deposits

\*\* For radioactive and inorganic contaminants results in the Level Detected column are the highest detected level at any sampling point. Range of results is the range of individual sample results (lowest to highest) for all monitoring locations.

Inorganic Contaminants

Contaminant and Unit of Measurement	Dates of Sampling (m o/y r)	M C L Violation Y / N	Level Detected **	Range of Results	M C L G	M C L	Likely Source of Contamination
Antimony (p p b)	01/17-12/17	N	0.42	N D-0.42	6	6	Fire retardants; solder; ceramics; electronics;
Arsenic (p p b)	01/17-12/17	N	0.62	N D-0.62	0	10	Erosion of natural deposits; runoff from orchards
Barium (p p m)	01/18-12/18	N	0.013	1 Sample	2	2	Discharge of drilling wastes; erosion of natural deposits
Cadmium (p p b)	01/17-12/17	N	0.041	N D-0.041	5	5	Corrosion of galvanized pipes; runoff from waste batteries and paints; erosion of natural deposits
Lead (point of entry) (p p b)	01/17-12/17	N	0.64	N D-0.64	15	15	Residue from man-made pollution such as auto emissions and paint; lead pipe, casing, and solder
Nitrate (as Nitrogen) (p p m)	01/18-12/18	N	4.4	N D-4.4	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Selenium (p p b)	01/17-12/17	N	3.0	N D-3.0	50	50	Erosion of natural deposits; discharge from mines
Sodium (p p m)	01/18-12/18	N	4.4	1 Sample	N / A	160	Salt water intrusion, leaching from soil
Thallium (p p b)	01/17-12/17	N	0.094	N D-0.094	0.5	2	Leaching from ore-processing sites; discharge from electronics, glass, and drug factories

Synthetic Organic Contaminants including Pesticides and Herbicides

Contaminant and Unit of Measurement	Dates of Sampling (m o / y r)	M C L Violation Y / N	Level Detected	Range of Results	M C L G or M R D L G	M C L or M R D L	Likely Source of Contamination
Dalapon (p p b)	01/18-12/18	N	1.8	N D- 1.8	200	200	Runoff from herbicide used on rights of way.
Hexachloro-benzene (p p b)	01/18-12/18	N	0.024	1 Sample	1	1	Discharge from metal refineries and agricultural chemical factories

Stage 2 Disinfectant/Disinfection By-Products

Contaminant and Unit of Measurement	Dates of Sampling (m o / y r)	MCL Violation Y / N	Level Detected **	Range of Results	M C L G or M R D L G	M C L or M R D L	Likely Source of Contamination
Chlorine (p p m)	01/18-12/18	N	2.1	1.6 - 2.5	M R D L G = 4.0	M R D L = 4.0	Water additive used to control microbes
Haloacetic Acids (five) (H A A 5) (p p b)	07/17	N	3.61	2.96-3.61	N / A	M C L= 60	By-product of drinking water disinfection
Total Trihalo-methanes (T T H M) (p p b)	07/17	N	20.50	18.94-20.50	N / A	M C L= 80	By-product of drinking water disinfection

\*\*Chlorine: Level Detected is the highest running annual average (R A A), computed quarterly, and of monthly averages of all samples collected. The range of results is the range of all the individual samples collected during the past year. For H A A 5 or T T H M, the level detected is the highest L R A A, computed quarterly, of quarterly averages of all samples collected. Range of results is the range of individual sample results (lowest to highest) for all monitoring locations.

Lead and Copper (Tap Water)

<b>Contaminant and Unit of Measurement</b>	<b>Dates of Sampling (m o/ y r)</b>	<b>A L Violation Y / N</b>	<b>90th Percentile Result</b>	<b>No. of sampling sites exceeding the A L</b>	<b>M C L G</b>	<b>A L (Action Level)</b>	<b>Likely Source of Contamination</b>
Copper (tap water) (p p m)	06/15	N	0.012	0	1.3	1.3	Corrosion of household plumbing systems

Lead and copper tap water results are based on samples collected at selected consumer home taps located throughout the distribution system. The 90th percentile lead and copper results show that 90% of the home tap water samples collected were equal to or less than the value indicated.