



2020 Water Quality Report

The City of Palm Bay Utilities Department (PBUD) is pleased to present our valued customers with the 2020 Annual Water Quality Report. This report is designed to inform you about the quality water and services we provide to the community. Our goal is to deliver a safe and dependable supply of drinking water to all our customers within the Utility Service area of the City of Palm Bay. This report will help you to understand the efforts we make each day to continually improve water quality and protect our water resources.

The Palm Bay Utilities Department continues to be recognized for its strong commitment to environmental stewardship, effective utility management, workforce safety, and operational excellence.

Our mission as a public Utility is to provide superior drinking water and advanced treatment and disposal of wastewater through an effective Utilities system, reflecting responsible environmental stewardship and striving for 100% customer satisfaction. We do our job with pride and are committed to ensuring the quality of your water.

If you have questions about this report or your Utility service, please contact us at 321.952.3410 or visit www.pbud.org. You are also welcomed to email us at ucs@pbfl.org.

Sincerely,

The Palm Bay Utilities Department

Palm Bay's Water

The City of Palm Bay's water source is groundwater that is obtained from 41 wells located throughout the City. These raw water wells provide water to PBUD's two water treatment facilities. The water collected by our wells is drawn from the Floridan Aquifer at a depth of 850 feet and surficial aquifers at a depth ranging from 80 to 150 feet.

PBUD treats the raw water from its wells using processes known as lime-softening and reverse osmosis. Once treated, the water is chlorinated for disinfection purposes and fluoridated for dental health before entering our distribution system and pumped out across the City to our customers.

Source Water Assessment

To ensure that public drinking water is compliant with national standards set by the Environmental Protection Agency (EPA), the Florida Department of Environmental Protection (FDEP) initiated a program called SWAPP — Source Water Assessment and Protection Program. This program is intended to ensure that drinking water is not only safe at the tap but also at the source.

In 2019, the FDEP performed a Source Water Assessment of PBUD's water treatment system. The assessment was conducted to provide information about any potential sources of contamination in the vicinity of our groundwater wells. The assessment showed there were 16 potential sources of contamination identified for this system with low to moderate susceptibility levels.

The expanded results of the City of Palm Bay's Source Water Assessment are available for viewing at the FDEP,

https://fldep.dep.state.fl.us/swapp/DisplayPWS.asp?pws_id=3050442

Drinking Water Contaminants

Sources of drinking water include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels along the surface of the land or through the ground, it dissolves naturally occurring minerals and radioactive materials (in some cases) and can pick up substances resulting from the presence of humans and animals. Contaminants that may be present in source water include:

(a) Microbial contaminants, such as viruses, parasites 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.

(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 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 commercially bottled water, may reasonably be expected to contain small amounts of some contaminants. The presence of contaminants is normal and does not necessarily indicate that the water poses a health risk to consumers.

More information about contaminants and potential health effects found in water can be obtained by calling the EPA's Safe Drinking Water Hotline at **(800) 426-4791**.

Important Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised individuals 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.

The EPA's Centers for Disease Control guidelines on the appropriate means of lessening the risk of infection by parasites (cryptosporidium) and other microbiological contaminants are available from the Safe Drinking Water Hotline at **(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.

The Palm Bay Utilities Department is responsible for providing high quality drinking water but cannot control the variety of materials used in home plumbing components. When water has been sitting for several hours, one can minimize the potential for lead exposure by flushing the 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 pipes tested. Information on lead, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline at **(800) 426-4791** or by visiting www.epa.gov.

Testing Information

The PBUD routinely monitors 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 from the period of January 1, 2019 to December 31, 2019. Data obtained before January 1, 2019 that is presented in this report was obtained from the most recent testing performed in accordance with the applicable laws, rules, and regulations.

Key Terms To Know

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

Alkalinity (Total & Phenolphthalein): The capacity of water to neutralize acids. Is a measure of how much acid must be added to water to lower the pH.

Ammonia: Both chlorine and small amounts of ammonia are added to the water which react together to form chloramines (also called combined chlorine), a long-lasting disinfectant. It is also naturally occurring in water.

Chloride: Water high in sodium chloride will taste unpleasant and can damage plants, if used for watering or irrigation. It is also highly corrosive and can damage plumbing, causing toxic metals to leach into the water. Water high in sodium chloride can damage appliances and hot water heaters over time

Conductivity: A measure of the ability of a solution (water) to carry an electric current.

Hardness (Total, Calcium & Magnesium): Caused by calcium and magnesium ions. Hard water can cause scale when the water evaporates, or when heated in household hot water heaters and piping. Hardness-producing substances in water also combine with soap to form insoluble precipitates.

Locational Running Annual Average (LRAA): The average of sample analytical results for samples taken at a particular monitoring location during the previous four quarters.

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.

Maximum Residual Disinfectant Level Goal or MRLDG: The level of a drinking water disinfectant below which there is no known or expected risk to health.

Non-Detects (ND): Indicates that the substance was not found by laboratory analysis.

Parts per billion (ppb) or Micrograms per Liter ($\mu\text{g}/\text{l}$): One part by weight of analyte to 1 billion parts by weight of the water sample.

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.

Picocurie per Liter (pCi/L): Measure of the radioactivity in water.

Running Annual Average (RAA): The average of sample analytical results for samples taken during the previous four calendar quarters.



2020 Water Quality Testing Data

Radiological Contaminants

| Contaminant Type (Unit of Measure) | Treatment Plant for Point of Entry (POE) Samples | Sampling Date (Mo/Yr) | MCL Violation (Y/N) | Level Detected | Range of Results | MCLG | MCL | Likely Source of Contamination |
|---------------------------------------|--|-----------------------|---------------------|----------------|------------------|------|-----|--------------------------------|
| Alpha Emitters | ASR Well | Jan–Dec 2019 | No | 0.274 (RAA) | ND – 3.29 | 0 | 15 | Erosion of natural deposits |
| Combined Radium (pCi/L) | ASR Well South Regional | Jan–Dec 2019 | No | 0.579 (RAA) | ND – 1.08 | 0 | 5 | Erosion of natural deposits |
| | | 3/7/2017 | No | 1.18 (RAA) | N/A | 0 | 5 | Erosion of natural deposits |

Inorganic Contaminants

| Contaminant Type (Unit of Measure) | Treatment Plant for Point of Entry (POE) Samples | Sampling Date (Mo/Yr) | MCL Violation (Y/N) | Level Detected | Range of Results | MCLG | MCL | Likely Source of Contamination |
|---------------------------------------|--|-----------------------|---------------------|-----------------|------------------|------|-----|--|
| Arsenic (ppb) | ASR Well | Jan–Dec 2019 | No | 0.116 (average) | ND – 0.8 | N/A | 10 | Erosion of natural deposits; runoff from orchards; runoff from glass & electronics production wastes |
| Barium (ppm) | North Regional | 3/7/2017 | No | 0.0072 | N/A | 2 | 2 | Erosion of natural deposits; discharge from drilling wastes; discharge from metal refineries |
| | South Regional | 3/7/2017 | No | 0.018 | N/A | 2 | 2 | |
| | ASR Well | 3/7/2017 | No | 0.013 | N/A | 2 | 2 | |

| Contaminant Type (Unit of Measure) | Treatment Plant for Point of Entry (POE) Samples | Sampling Date (Mo/Yr) | MCL Violation (Y/N) | Level Detected | Range of Results | MCLG | MCL | Likely Source of Contamination |
|---------------------------------------|--|-----------------------|---------------------|----------------|------------------|------|-----|--|
| Cyanide (ppb) | South Regional | 3/7/2017 | No | 50 | N/A | 200 | 200 | Discharge from steel/metal factories; discharge from plastic & fertilizer factories |
| Fluoride (ppm) | North Regional | 3/7/2017 | No | 0.15 | N/A | 4 | 4 | Erosion of natural deposits; discharge from fertilizer & aluminum factories; water additive promoting tooth health at optimum levels |
| | South Regional | 3/7/2017 | No | 0.088 | N/A | 4 | 4 | |
| | ASR Well | 3/7/2017 | No | 0.25 | N/A | 4 | 4 | |

| Contaminant Type (Unit of Measure) | Treatment Plant for Point of Entry (POE) Samples | Sampling Date (Mo/Yr) | MCL Violation (Y/N) | Level Detected | Range of Results | MCLG | MCL | Likely Source of Contamination |
|--|---|------------------------------|----------------------------|-----------------------|-------------------------|-------------|------------|---|
| Lead (point of entry) | ASR Well | 3/7/2017 | No | 0.91 | N/A | 0 | 15 | Man-made pollution such as auto emissions & paint; lead pipe, casing & solder |
| Nitrate (ppm) [as Nitrogen] | North Regional | 3/5/2019 | No | 0.053 | N/A | 10 | 10 | Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits |
| | South Regional | 3/5/2019 | No | 0.033 | N/A | 10 | 10 | |
| | ASR Well | 3/5/2019 | No | 0.77 | N/A | 10 | 10 | |

| Contaminant Type (Unit of Measure) | Treatment Plant for Point of Entry (POE) Samples | Sampling Date (Mo/Yr) | MCL Violation (Y/N) | Level Detected | Range of Results | MCLG | MCL | Likely Source of Contamination |
|--|---|------------------------------|----------------------------|-----------------------|-------------------------|-------------|------------|---|
| Nitrite (ppm) [as Nitrogen] | North Regional | 3/5/2019 | No | 0.026 | N/A | 1 | 1 | Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits |
| | South Regional | 3/5/2019 | No | 0.065 | N/A | 1 | 1 | |
| | ASR Well | 3/5/2019 | No | 0.04 | N/A | 1 | 1 | |
| Sodium (ppm) | North Regional | 3/7/2017 | No | 77.8 | N/A | N/A | 160 | Salt water intrusion; leaching from soil |
| | South Regional | 3/7/2017 | No | 72.9 | N/A | N/A | 160 | |
| | ASR Well | 3/7/2017 | No | 93.8 | N/A | N/A | 160 | |

Stage 2 Disinfectants and Disinfection By-Products

| Contaminant Type (Unit of Measure) | Sampling Date (Mo/Yr) | MCL Violation (Y/N) | Level Detected | Range of Results | MCLG | MCL | Likely Source of Contamination |
|---------------------------------------|--------------------------|------------------------|----------------|------------------|----------------|---------------|---|
| Chloramines (ppm) | 2019 | No | 2.9 (RAA) | 0.2 – 0.4 | MRDLG = 4.0 | MRDL = 4.0 | Water additive to control microbes |
| Haloacetic acids [HAA5] (ppb) | 2019 | No | 35.4 (LRAA) | 3.4 – 59.1 | N/A | MCL = 60 | By-product of drinking water disinfection |
| Total Trihalomethanes* [TTHM] (ppb) | 2019 | No | 57.5 (LRRA) | 4.91 – 85.4 | N/A | MCL = 80 | By-product of water disinfection |

Note: One sample during 2019 had a Total Trihalomethanes result of 85.4 ppb, which exceeds the MCL of 80 ppb; however, the system did not incur an MCL violation because the annual average results at all sites were at or below the MCL. Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys or central nervous systems, and may have an increased risk for cancer.

Lead and Copper Testing (Tap Water)

| Contaminant Type (Unit of Measure) | Sampling Date (Mo/Yr) | MCL Violation (Y/N) | Level Detected | Number of Samples to Exceed the Action Level | MCLG | MCL | Likely Source of Contamination |
|---------------------------------------|--------------------------|------------------------|----------------|--|------|-----|---|
| Copper (ppm) | May 2019 | No | 0.16 | 1 | 1.3 | 1.3 | Natural deposits; corrosion of household plumbing systems; leaching from wood preservatives |
| Copper (ppm) | October 2019 | No | 0.086 | 0 | 1.3 | 1.3 | |
| Lead (ppb) | May 2019 | No | 2.8 | 1 | 0 | 15 | Natural deposits; corrosion of household plumbing systems |
| Lead (ppb) | October 2019 | No | 3.4 | 3 | 0 | 15 | |

Note: Results in the level detected column for Lead & Copper are the 90th percentile number. 90% of all results were below that level.

Conservation

The Palm Bay Utilities Department's mission and commitment to promoting water conservation is dependent on the number of people reached every year. Practicing water conservation is important, and we strive to reach out to all residents of Palm Bay and share information for our important yet fragile resource; water.

The world has a very limited amount of fresh water available for consumption. Nearly 70% of the world is covered by water. However, only 2.5% of it is fresh with the rest being saline and ocean-based. Just 1% of our freshwater is easily accessible, with much of it trapped in glaciers and snowfields. According to the latest U.S. Geological Survey, the United States uses 408 billion gallons of water per day. In the state of Florida, each person uses up to 120 to 150 gallons of water per day. According to the World Resources Institute, global projections for potable water (consumable water) availability are becoming more strained every year. It is exceedingly important to educate our communities as it relates to water conservation.

Know Your Watering Days for Lawn Irrigation

Watering Restrictions are established and enforced by the St. Johns River Water Management District. For residential customers, watering days are based on your house number (even or odd). You should only water before 10:00 a.m. and after 4:00 p.m. and only on your designated day(s).

November - March (Water One Time per Week)

Designated Day Residential:

Saturday (Odd Address)

Sunday (Even Address)

Commercial: Tuesday

March - November (Water Two Times per Week)

Designated Days Residential:

Wednesday and Saturday (Odd Address)

Thursday and Sunday (Even Address)

Commercial: Tuesday and Friday

Indoor & Outdoor Conservation Tips

Indoor Conservation Tips

- Check for leaks. Leaks can drip away 90 gallons a day or more from old fixtures such as leaky faucets.
- Insulate your water pipes. You'll get hot water faster plus avoid wasting water while it heats.
- Reuse household water instead of just pouring it down the drain; use it for watering a plant or garden or for cleaning.
- Don't let water run while shaving, washing your face, or brushing your teeth.
- Don't use running water to thaw frozen foods. Instead, defrost overnight in the refrigerator or use the defrost setting on your microwave.
- Store drinking water in the refrigerator rather than letting the tap run every time you want a cool glass of water.

Outdoor Conservation Tips

- Outfit your hose with a shut-off nozzle that can be adjusted down to a fine spray so that water flows only as needed. When finished, turn the water off at the faucet instead of at the nozzle to avoid leaks.
- Plant the right plant in the right place. Ask a landscape professional to help you choose native plants. Use drought-tolerant grass, shrubs, ground cover, and trees.
- Using a hose to clean a driveway can waste hundreds of gallons of water. Use a blower or broom to clean leaves and other debris from these areas.
- Grass is often your yard's biggest water user. Save grass for areas where children or pets will play. In other areas, consider mulch, gravel, or ground cover.
- Do not leave sprinklers or hoses unattended. Your garden hose can put out 600 gallons or more in only a few hours.

What Not to Flush

What Not to Flush

Flushable? Think again.

Just because a household item is labeled "flushable" or "biodegradable" does NOT mean it should go down the drain! Many household items, including those labeled "flushable" and "biodegradable" do not break down when flushed. These items can become trapped in sewer lines and create major blockages. They can damage mechanical equipment in pumping stations and hinder the treatment process at the wastewater treatment plants.

What can you do? You Can Help!

You can help to avoid clogs and backups by doing your part to flush the right things down the drain. ONLY flush our contributions and toilet paper. Everything else should be disposed in the waste bin. Don't be a pain on your drain!

The DIRTY DOZEN: Do NOT Flush the Following items listed below

1. *Baby Wipes/Wipes labeled FLUSHABLE/BIODEGRADABLE*
2. *Paper towels/tissues*
3. *Disinfecting wipes (Lysol, Clorox, Antibacterial)/Swiffer Pads*
4. *Bandages/Adhesive backs (Dental Whitening Strips)*
5. *Sanitary napkins & Tampons/Feminine Care product wrappers*
6. *Makeup Applicators/Q-tips*
7. *Diapers*
8. *Absorbent pet pads*
9. *Prescriptions/ Over the counter medications*
10. *Condoms/Disposable gloves*
11. *Kitty Litter*
12. *Dental Floss*

Education & Outreach

The Palm Bay Utilities Department's mission and commitment to sustainability is dependent on an active outreach and education program. Each year staff members visit local K-12 schools to educate young people about conservation, water and wastewater treatment, careers in the water industry, and how the department uses technology such as geographic information systems (GIS) to assist in day-to-day operations and decisions.

PBUD staff volunteer with Keep Brevard Beautiful to encourage sustainable practices and environmental stewardship in our local classrooms. Each month volunteers visit local elementary schools to conduct site visits and review summary reports of the school's environmental activities for the previous month. Schools are judged based on the upkeep or

amount of litter found around the school, student recycling projects, creative environmentally focused projects, activities, litter patrols, and beautification projects.

Winning schools are selected each month from the north, central, and south areas of the county. PBUD staff also provide information to the public at City events such as Palm Bay Play Day in April, Space Coast Waterfest in May, the City's Independence Day celebration in July, and other events throughout the year.

During the school year, PBUD sponsors the WaterWise Conservation Program in several area schools. As part of the WaterWise program, students and teachers discuss the significance of water conservation through carefully designed lesson plans and in-classroom activities. Each student receives a WaterWise Resource Kit to take home, containing a high-efficiency showerhead, kitchen and bathroom sink aerator, and tools for monitoring water usage at home.

PBUD is a proud sponsor of the Academy of Environmental Water Technology (AEWT) program at Heritage High School which prepares and equips students to become future water professionals. In 2013, PBUD launched an internship pilot program with two students, and the program continues today with four students. Teaching today's young people how to effectively manage our water resources and the value of clean, safe, reliable drinking water is imperative, and we are excited to partner with Heritage High School in this effort.

Give Us Your Feedback

We value our customers opinions and would like to hear how you think we are doing. We welcome any suggestions you may have about how we can better serve the public. Visit www.pbud.org for more information.

Stay Informed

We encourage our customers to stay informed about their Palm bay Utilities Department and the services we provide. There are several ways for customers and the public to receive updates and information; web site, social media,

e-notifications. We invite you to take advantage of these resources. Attending regularly scheduled Utilities Advisory Board and City Council meetings is encouraged to share suggestions, ideas, and concerns regarding the City's municipal water and sewer systems.

City Council Meetings

Council Chambers

120 Malabar Road SE

7:00 p.m. | 1st & 3rd Thursday of the month

Utilities Advisory Board

Utilities Administrative Office

250 Osmosis Drive SE

6:30 p.m. | Held Monthly

For More Information

Palm Bay Utilities Department Customer Service

120 Malabar Road, SE • Palm Bay, FL 32907

(321) 952-3420

Palm Bay Utilities Department Administration

250 Osmosis Drive, SE • Palm Bay, FL 32909

(321) 952-3410

www.pbud.org

Utilities After Hours Emergency Service

(Water & Sewer Issues Only)

(321) 952-3478

Useful Contacts

- *Palm Bay City Hall (321) 952-3400*
- *Building Division (321) 953-8924*
- *Police, Fire & Rescue (321) 952-3456 (Non-emergency)*
- *Public Works Department (321) 952-3437*
- *Waste Management (321) 723-4455*
- *Utilities Community Outreach (321) 952-3410*