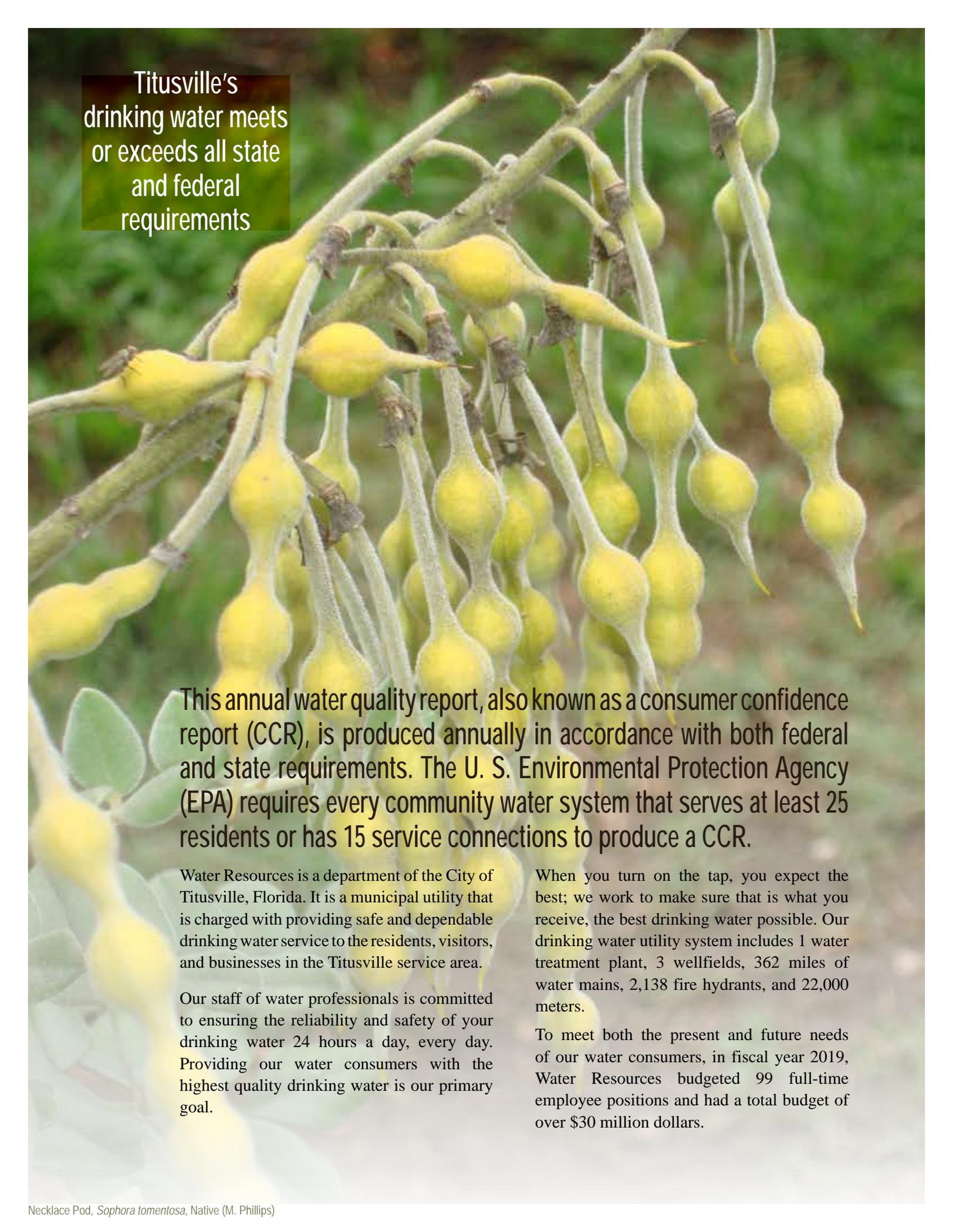


The Water We Drink 2019

City of Titusville, Florida





Titusville's
drinking water meets
or exceeds all state
and federal
requirements

This annual water quality report, also known as a consumer confidence report (CCR), is produced annually in accordance with both federal and state requirements. The U. S. Environmental Protection Agency (EPA) requires every community water system that serves at least 25 residents or has 15 service connections to produce a CCR.

Water Resources is a department of the City of Titusville, Florida. It is a municipal utility that is charged with providing safe and dependable drinking water service to the residents, visitors, and businesses in the Titusville service area.

Our staff of water professionals is committed to ensuring the reliability and safety of your drinking water 24 hours a day, every day. Providing our water consumers with the highest quality drinking water is our primary goal.

When you turn on the tap, you expect the best; we work to make sure that is what you receive, the best drinking water possible. Our drinking water utility system includes 1 water treatment plant, 3 wellfields, 362 miles of water mains, 2,138 fire hydrants, and 22,000 meters.

To meet both the present and future needs of our water consumers, in fiscal year 2019, Water Resources budgeted 99 full-time employee positions and had a total budget of over \$30 million dollars.

Sources

Titusville's primary source for drinking water is groundwater pumped from the Surficial and Floridan Aquifers. Raw water from Titusville's three wellfields is pumped to the Mourning Dove Water Treatment Plant for processing prior to delivery to Titusville's homes and businesses.

Titusville amends its water supply by purchasing water from the City of Cocoa. Less than two percent of the drinking water distributed by Titusville in 2019 was purchased from Cocoa.



Treatment

Titusville uses a three-step treatment process to ensure its customers receive only the best-tasting drinking water: coagulation, disinfection, and filtration.

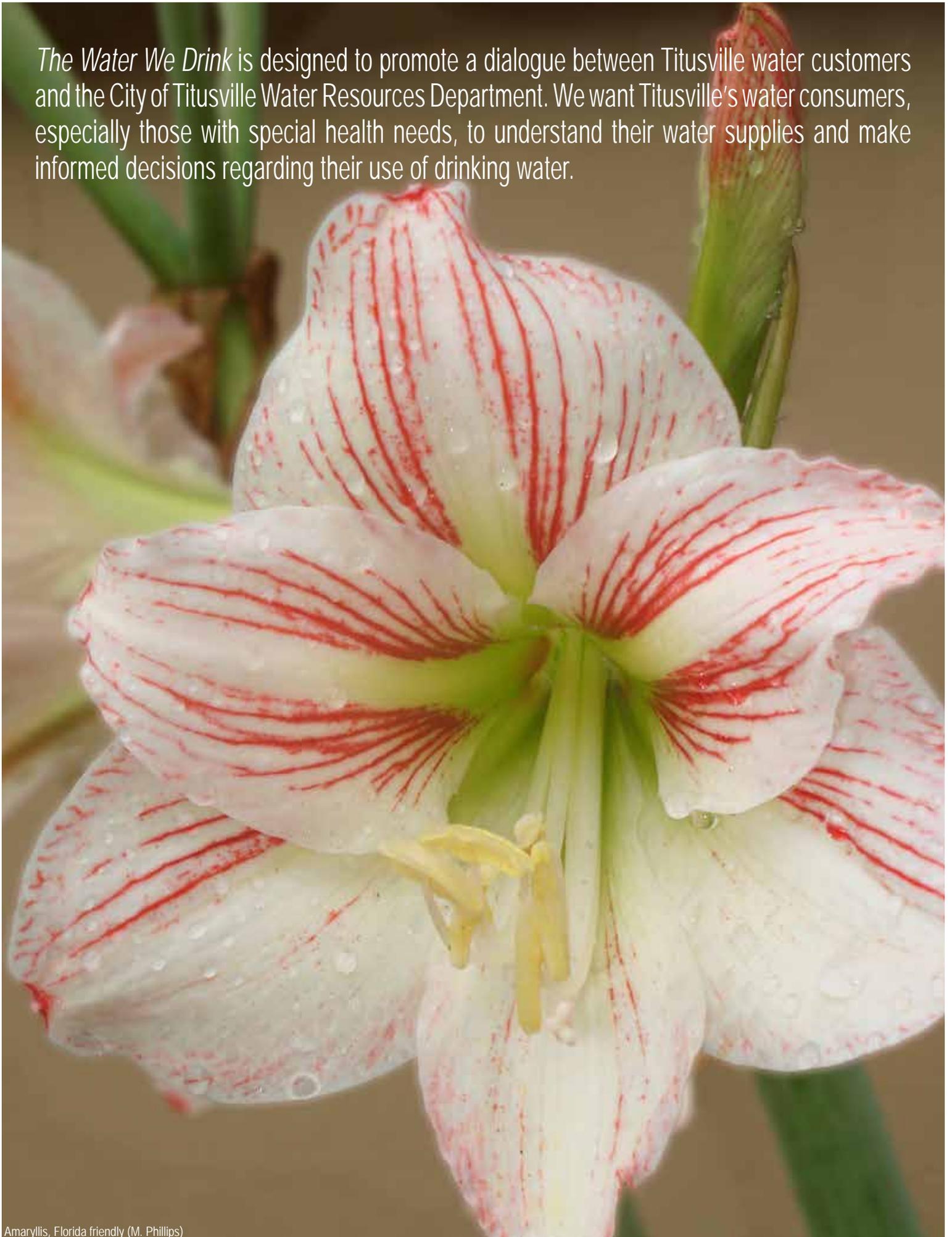
Treatment begins when raw water enters one of two clarifier units. Lime and a coagulant are mixed into the raw water to reduce hardness and to remove any suspended solids. As the water spins in the unit, any debris is removed. Upon exiting the clarifier, the water is injected with chlorine for disinfection, carbon dioxide (CO₂) to stabilize pH, fluoride to promote dental health, and ammonia. The ammonia combines with the chlorine to form chloramines. The use of chloramines reduces any chlorine taste or smell in the finished water and helps to maintain disinfectant residual in the distribution system. The treated water passes through rapid sand filters as the final step of the treatment process. Filtration polishes the water and removes any remaining impurities.

After filtration, the processed water enters underground storage tanks known as clear wells. From the clear wells, the treated water is pumped to one of three above-ground storage tanks that hold a combined total of three million gallons of water. From the storage tanks, water is pumped into the transmission and distribution system.

We continuously test and monitor your drinking water from the time it is pumped out of the ground, throughout the treatment process, and while it travels through the distribution system to your home and business.

**Additional information on
drinking water is available
from the EPA Safe Drinking
Water Hotline (800) 426-4791**

The Water We Drink is designed to promote a dialogue between Titusville water customers and the City of Titusville Water Resources Department. We want Titusville's water consumers, especially those with special health needs, to understand their water supplies and make informed decisions regarding their use of drinking water.



Amaryllis, Florida friendly (M. Phillips)

Precious Resource

The Water Resources Conservation Program is dedicated to educating Titusville water consumers on how to save water, how to protect our water resources, and how to use water efficiently.

The Conservation Program promotes water conservation through educational and outreach initiatives including articles, videos, public speaking engagements, and events. It also creates and distributes educational materials on a wide range of conservation topics, with particular emphasis on outside conservation.

In Florida, an estimated 50 percent of all household water use is outside; and of that, an estimated 50 percent of all water used outside is wasted.

Outreach focuses on alternatives to turf and high water-use plants and promotes the use of native plants and Florida-Friendly landscaping principles. Property owners that follow the primary principle of right plant, right place (matching the needs of the plant to the attributes of the site) will find the other principles naturally follow because of the reduced need for water, fertilizer, and pesticides.

By encouraging our residents to use Florida-Friendly landscaping techniques and to incorporate native plants in their home landscapes, they can create yards and landscapes that are attractive, while still being low-maintenance, water-conserving, and environmentally beneficial.

Conserving water outside is a goal every homeowner and business owner should be seeking to attain as our population increases, native habitats decrease, and water sources become limited and compromised.

Following the irrigation restrictions can keep you from over-watering your yard and improve the health of the Indian River Lagoon.

Excess irrigation negatively impacts the health of the Indian River Lagoon because it causes runoff. Runoff, which can be caused by irrigation water or storm water running off of yards, transports pollutants such as fertilizers, grass clippings, and pet waste. When runoff flows over driveways, streets and other impervious areas, it picks up additional contaminants such as oil, gas, and garbage.

This toxic brew flows into the storm water system and ultimately into the Indian River Lagoon. Once in the lagoon, the debris in the flow can smother sea grass and the contaminants it contains can overload the lagoon with nutrients and pollutants. Nutrient overload leads to algae blooms and their subsequent decay that rob the water of oxygen, killing plants and fish.

Spring & Summer Irrigation Schedule March 8, 2020 — November 1, 2020

Even-Numbered Residential
Addresses
Thursday & Sunday

Odd-Numbered Residential
Addresses
Wednesday & Saturday

All Commercial & Non-Residential
Addresses
Tuesday & Friday

Fall & Winter Irrigation Schedule November 1, 2020 — March 14, 2021

Even-Numbered Residential
Addresses
Sunday Only

Odd-Numbered Residential
Addresses
Saturday Only

All Commercial & Non-Residential
Addresses
Tuesday Only

Irrigation Restrictions

SAVE WATER IN THE YARD THIS SUMMER

As temperatures rise in the summer, so does our outdoor water use, mostly on lawns and landscapes

29 billion gallons of daily household water use across the U.S.

9 billion gallons come from daily residential outdoor water use mainly for landscape irrigation.

Water use spikes in the summer!

Depending on the region homeowners use **30-60%** of their water outdoors.

50% of that is wasted, in part, due to overwatering.

Average family's water use **320 gallons per day**

During the summer, can be up to **1,000 gallons per day**

Some even use up to **3,000 gallons per day**

--equal to leaving a garden hose running for nearly **8 hours!**

Simple Things We Can All Do

- Step on it:** Step on the lawn; if the grass springs back, it doesn't need water.
- Leave it long:** Longer grass promotes a more drought-resistant lawn, reduced evaporation, and fewer weeds.
- Take a sprinkler break:** Grass isn't really meant to be bright green in the summer.

Simple Things Irrigation System Owners Can Do

Homes with automatic irrigation systems can use about **50%** more water outdoors.

Timing is everything:

Plan to water in the early morning or evening to beat daytime evaporation.

Go with a pro:

Contractors certified through a WaterSense labeled program can audit, install, or maintain home irrigation systems so no water is wasted.

Look for the label:

If your system uses a clock timer, consider upgrading to a WaterSense labeled controller that acts like a thermostat for your lawn, using local weather data to determine when and how much to water. They can reduce irrigation water use by 15%, saving nearly **8,800 gallons** of water per year.

Tune up your system:

Inspect irrigation systems, and fix leaks and broken or clogged sprinkler hoses.

Make sure you're watering the lawn, not the sidewalk or driveway!

Just 1 broken sprinkler head could waste up to **25,000** gallons of water and **\$90+** over a 5-month irrigation season -- the cost of about 500 daffodil bulbs.

WaterSense, a partnership program by the U.S. Environmental Protection Agency, seeks to protect the future of our nation's water supply. For more tips on reducing outdoor water use, visit www.epa.gov/watersense/outdoor.



Dune Sunflower, *Helianthus debilis*, Native (M. Phillips)

Drinking Water

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 (800) 426-4791.

Vulnerability

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. The Environmental Protection Agency (EPA)/Center for Disease Control (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 at (800) 426-4791.

In 2019 an average of
4.384 million gallons of
water per day was treated
at the Mourning Dove Water
Treatment Plant

Lead

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 City of Titusville Water Resources Department 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>.



SWAPP

The Source Water Assessment and Protection Program (SWAPP) was developed by the Florida Department of Environmental Protection (FDEP) to ensure that Floridians' drinking water was safe, not just at the tap, but at its sources. FDEP performs assessments to help communities understand potential threats to their water supply. The potential sources of contamination identified by assessments are just that: potential sources.

Titusville's 2018 assessment identified 14 unique potential contaminant sources, including brownfields, petroleum storage tanks, dry cleaner, a waste cleanup site, and hazardous waste. These potential contaminant sources have susceptibility scores ranging from 6.66 to 111.11, and concern levels from low to high. Titusville's assessment results can be obtained from Titusville's Water Production Division, (321) 567-3855 or found on the FDEP's website <https://fldep.dep.state.fl.us/swapp/>.

The City of Cocoa's 2019 source water assessment can be obtained from the City of Cocoa, (321) 433-8705 or email ddowns@cocoafl.org or at FDEP's website <https://fldep.dep.state.fl.us/swapp/>.

Cryptosporidium is a microbial parasite found in surface water throughout the United States. A small portion of Titusville's water comes from the City of Cocoa. Cocoa's use of surface water requires it to monitor for *Cryptosporidium*.

Cocoa detected *Cryptosporidium* in its untreated surface water in two out of twenty-five samples tested from 2006 through 2008. Cocoa sampled Taylor Creek Reservoir for *Cryptosporidium* once a month from October, 2006 through October, 2008 in accordance with FDEP's Long Term 2 (LT2) Enhanced Surface Water Treatment Rule. Sampling was done to provide a baseline for the amount of *Cryptosporidium* in the reservoir. This baseline will be used by the Environmental Protection Agency (EPA) to increase treatment techniques or allow established techniques to continue to treat the surface water. Cocoa again tested per LT2 compliance from March, 2015 to March, 2017.

Although filtration can remove *Cryptosporidium*, it does not guarantee 100 percent removal. To ensure the highest possible removal rate, Cocoa ozonates all surface water. Ozone is a powerful disinfectant that effectively destroys *Cryptosporidium*.

Cryptosporidium

Cryptosporidium may cause serious illness in 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. Immuno-compromised individuals should consult their health care provider regarding appropriate precautions to take to prevent infection. *Cryptosporidium* must be ingested for it to cause disease, and it may be spread through means other than drinking water. For further information on Cocoa's water quality, contact the City of Cocoa at (321) 433-8705.

Water Quality Tables

The water quality testing results tables on the following pages show the results for the drinking water monitoring performed by Titusville Water Resources during 2019. The City of Titusville 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, 2019 through December 31, 2019. Data obtained before January 1, 2019 and presented in this report are from the most recent testing done in accordance with the laws, rules, and regulations.

As authorized and approved by the Environmental Protection Agency (EPA), the State of Florida 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. Therefore, some of our data, though representative, is more than one year old.

Terms & Abbreviations

Terms used in the results tables may be unfamiliar. Definitions of the terms used are provided below:

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

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.

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.

N/A: Not applicable.

N/D: Means not detected and indicates that the substance was not found by laboratory analysis.

Parts per billion (ppb): One part by weight of analyte to 1 billion parts by weight of the water sample.

Parts per million (ppm): One part by weight of analyte to 1 million parts by weight of the water sample.

Reporting Violation

Late reporting of TTHM & HAA5 for the period of 4/1/2019 – 6/30/2019: The sampling & testing for TTHM & HAA5 for the time frame of 4-1-19 to 6-30-19 was completed as required, there were formatting issues which led to the delay of the reports being uploaded to the FDEP website. This violation has no impact on the quality of the water our customers received, and it posed no risk to public health. We have established a new procedure including redundancy and submission verification measures of uploading the information to ensure that all reporting requirements are met in the future.

For questions on water quality or on the data presented in this report, contact the Water Resources Water Production Superintendent at (321) 567-3877.

Inorganic Contaminants

Contaminant and Unit of Measurement	Dates of Sampling (mo./yr)	MCL Violation Y/N	Level Detected ¹	Range of Results	MCLG	MCL	Likely Source of Contamination
Arsenic (ppb)	08/17	N	0.46	N/A	0	10	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
Barium (ppm)	08/17	N	0.0052	N/A	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Fluoride (ppm)	08/17	N	0.68	N/A	4	4	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)	08/17	N	1.6	N/A	N/A	100	Pollution from mining and refining operations. Natural occurrence in soil
Nitrate (as Nitrogen) (ppm)	05/19	N	0.07	N/A	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Sodium (ppm)	08/17	N	38	N/A	N/A	160	Salt water intrusion, leaching from soil

Stage 1 Disinfectants and Disinfection By-Products

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 & Chloramines (ppm) ²	2019 (Monthly)	N	3.0	0.6 - 5.8	MRDLG=4	MRDL=4.0	Water additive used to control microbes

Stage 2 Disinfectants and Disinfection By-Products³

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
Haloacetic Acids (HAA5) (ppb)	2019 (Quarterly)	N	17.54	1.20 - 35.20	N/A	60	By-product of drinking water disinfection
Total Trihalomethanes (TTHM) (ppb)	2019 (Quarterly)	N	19.01	4.19 - 41.30	N/A	80	By-product of drinking water disinfection

Lead and Copper (Tap Water)

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 (Action Level)	Likely Source of Contamination
Copper (tap water) (ppm)	01/19, 02/19, 08/19, 09/19, 10/19, 11/19	N	<0.032	0	1.3	1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (tap water) (ppb)	01/19, 02/19, 08/19, 09/19, 10/19, 11/19	N	<1.4	0	0	15	Corrosion of household plumbing systems; erosion of natural deposits

The EPA requires monitoring of over 80 drinking water contaminants. The contaminants listed in the tables above and on the following page are the only contaminants detected in your drinking water.

Table Notes

¹Results in the *Level Detected* column for inorganic contaminants are the highest detected level at any sampling point.

²For Chloramines, *Level Detected* is the highest running annual average (RAA), computed quarterly, of monthly averages of all samples collected. The *Range of Results* is the range of results of all individual samples collected during the past year.

³For Haloacetic Acids (HHA5) and Total Trihalomethanes (TTHM), *Level Detected* is the highest RAA, computed quarterly, of quarterly averages of all samples collected. The *Range of Results* is the range of individual sample results (lowest to highest) for all monitoring locations.

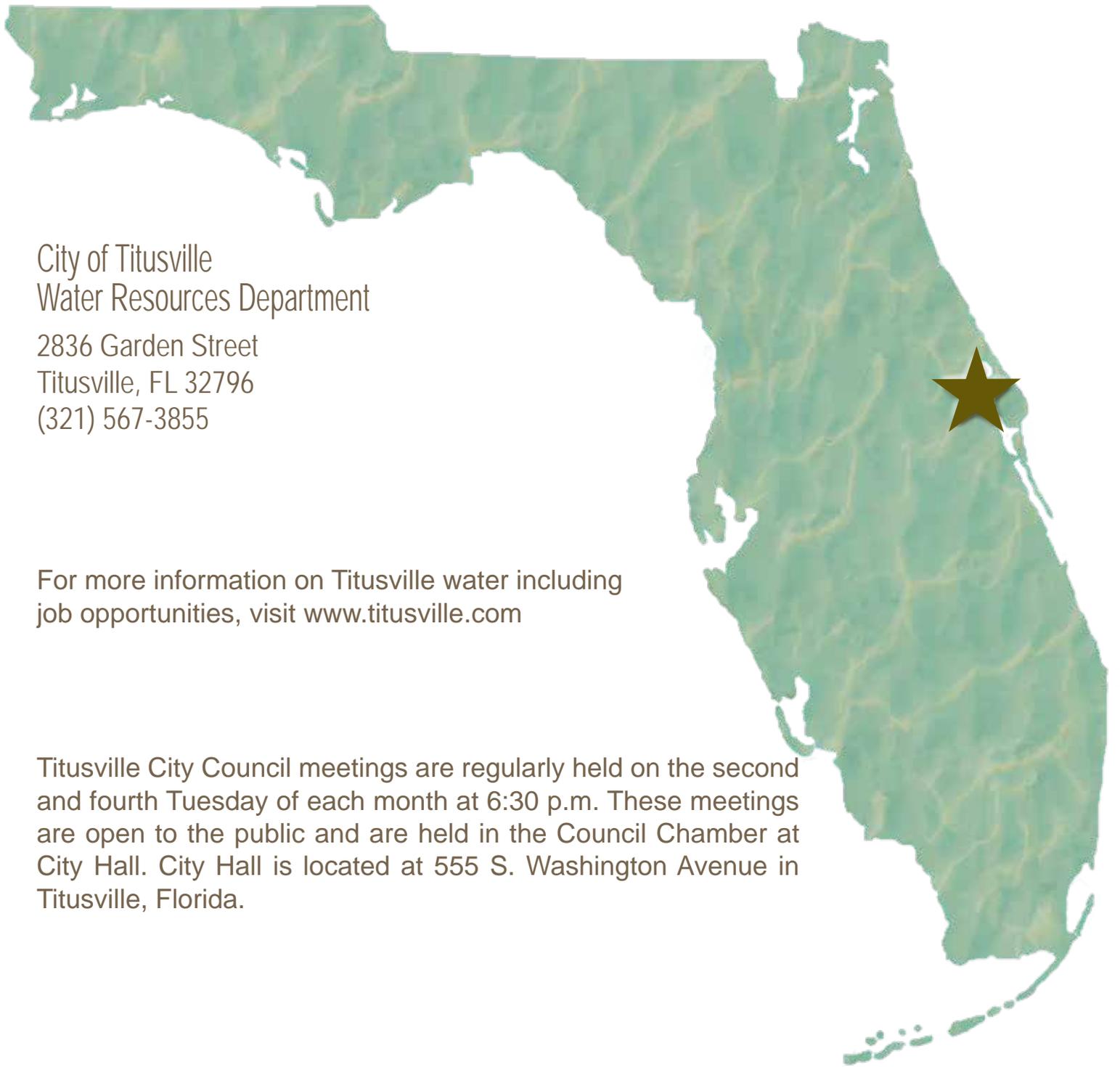
Unregulated Contaminants

The Unregulated Contaminant Monitoring Rule (UCMR) enables the U. S. Environmental Protection Agency (EPA) to collect data for contaminants that are suspected to be present in drinking water and do not have health-based standards, such as maximum contaminant levels, in order to determine whether or not these contaminants need to be regulated. The data is collected from public water systems (PWSs) that monitor for the contaminants.

The City of Titusville has been monitoring for unregulated contaminants as part of a study to help the EPA determine the occurrence of unregulated contaminants (UCs) in drinking water. Titusville's results are shown in the table below.

Contaminant and Unit of Measurement	Dates of Sampling (mo/yr)	Level Detected (Average)	Range	Likely Source of Contamination
Bromochloroacetic Acid (ppb)	03/19	16.18	11.7 - 34.4	By-product of drinking water disinfection
Bromodichloroacetic Acid (ppb)	03/19	7.71	4.9 - 18.5	By-product of drinking water disinfection
Chlorodibromoacetic Acid (ppb)	03/19	4.86	3.2 - 11.9	By-product of drinking water disinfection
Dibromoacetic Acid (ppb)	03/19	6.49	4.0 - 15.1	By-product of drinking water disinfection
Dichloroacetic Acid (ppb)	03/19	29.11	22.3 - 50.0	By-product of drinking water disinfection
Monobromoacetic Acid (ppb)	03/19	0.54	ND - 1.1	By-product of drinking water disinfection
Monochloroacetic Acid (ppb)	03/19	0.24	ND - 1.9	By-product of drinking water disinfection
Tribromoacetic Acid (ppb)	03/19	2.81	2.6 - 3.6	By-product of drinking water disinfection
Trichloroacetic Acid (ppb)	03/19	14.38	13.0 - 18.4	By-product of drinking water disinfection

For more information on the EPA's Unregulated Contaminants Monitoring Rule, call the Safe Drinking Water Hotline at (800) 426-4791



City of Titusville
Water Resources Department
2836 Garden Street
Titusville, FL 32796
(321) 567-3855

For more information on Titusville water including job opportunities, visit www.titusville.com

Titusville City Council meetings are regularly held on the second and fourth Tuesday of each month at 6:30 p.m. These meetings are open to the public and are held in the Council Chamber at City Hall. City Hall is located at 555 S. Washington Avenue in Titusville, Florida.

The Water We Drink 2019 is available online at titusville.com/ccr and on the Water Resources pages at www.titusville.com. Copies are also available at the Mourning Dove Water Production Plant (2836 Garden Street, Titusville). To request a copy by mail, call (321) 567-3865.