

Local Water Facts and You.

Turn on the tap and get a glass of water. Head to the fridge for ice cubes, have a shower, flush a toilet, water the lawn or wash the car. It all seems simple enough. But do you ever wonder where your water comes from or how it got to your house. Probably not.

Water resources in this area are overseen by the South West Florida Water Management District (SWFWMD). The District manages and protects a regional water system that serves 5 million people. The drainage area covers 10,000 square miles, involves 98 local governments and has 81 control structures. In the SWFWMD southern region, which includes Charlotte, Desoto, Manatee and Sarasota Counties, the major source for drinking water is the Peace River. By Florida standards this is a large river with a drainage area of 2,300 square miles. Its headwaters originate in the Green Swamp of northern Polk County, flowing through Lake Hancock, the Winter Haven chain of lakes, Lake Hamilton and into Charlotte Harbor estuary.

There is a water intake structure at the Peace River Regional Water Facility (PRRWF) Figure 1, located 5.7 miles east of I-75 on Kings Highway.

Figure 1. Peace River Treatment Facility



The Facility features two off stream reservoirs that provide storage for 6.5 billion gallons of water. Reservoir 1 is an 85 acre, five hundred million gallon in-ground compound constructed in the early 1980's and reservoir 2 is a 640-acre, six-billion-gallon above-ground compound completed in 2009.

Additionally, the Facility maintains a 6.7 billion gallon aquifer storage and recovery (ASR) system consisting of 21 wells. This storage capacity (Figure 2) provides water for treatment during periods of low river flow when water withdrawal restrictions apply. In the event the area experiences a severe drought the thirteen-billion-gallon water reserve represents over a year of water consumption.

Peace River Facility Water Supply Conditions December 2016

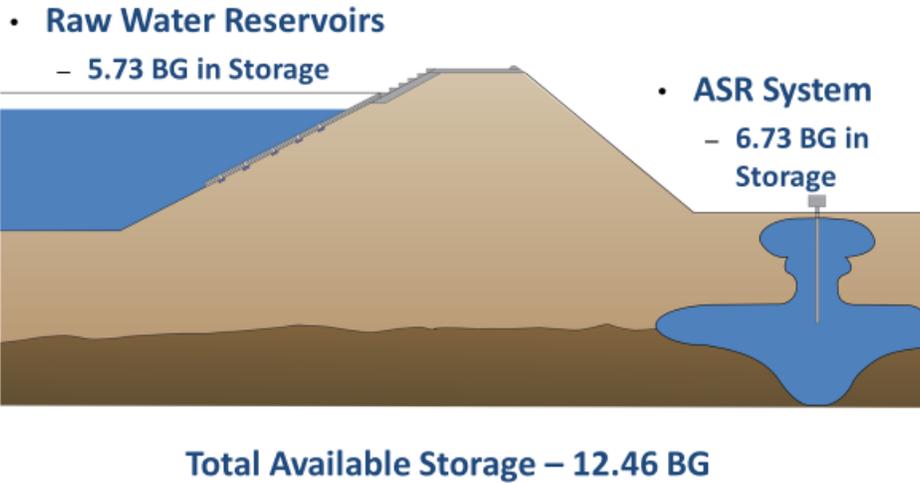


Figure 2. Peace River Water Supply

The Peace River Regional Water Facility produces drinking water for the Peace River/Manasota Regional Water Supply Authority. The Facility has a capacity to treat up to 51 million gallons of water per day (MGD). On average the Facility produces and sells 26 million gallons of water daily to meet the demands of 900,000 people in Charlotte County, DeSoto County, Sarasota County, the City of North Port and an emergency interconnect with the City of Punta Gorda. The transmitted bulk water is metered and delivered through 70 miles of 20 to 48 inch regional pipeline, mainly to Sarasota and Charlotte County which consume 99 % of the supplied water (Figure 3).

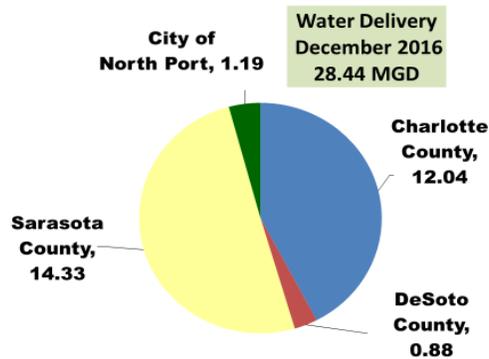


Figure 3. Peace River Facility Water Delivery

Charlotte County Utilities (CCU), whose headquarters are located on Harbor View Rd. not far from the Park provides Maple Leaf with its water supply.

The water CCU receives from the PRRWF is delivered through 190 miles of transmission lines to four water storage and booster stations. From these points, 58,000 customers and over 4400 fire hydrants (*point of interest: fire hydrants are used to flush and purge the distribution lines from time to time*) receive approximately 10 million gallons of water daily. This feat requires over 1500 miles of underground piping to deliver that glass of water you just filled! Currently there is no data on the length of drinking water piping at Maple Leaf (Figure 4), but a present initiative to compile an internal GPS database for all valves, piping and pumps for our water and irrigation infrastructure should make this information available soon. CCU does monthly testing for PH, residual chlorine and bacteria counts at Maple Leaf and is currently connecting another drinking water supply line to our infrastructure to improve water quality, service reliability and a backup feed in the event of a main break offsite.

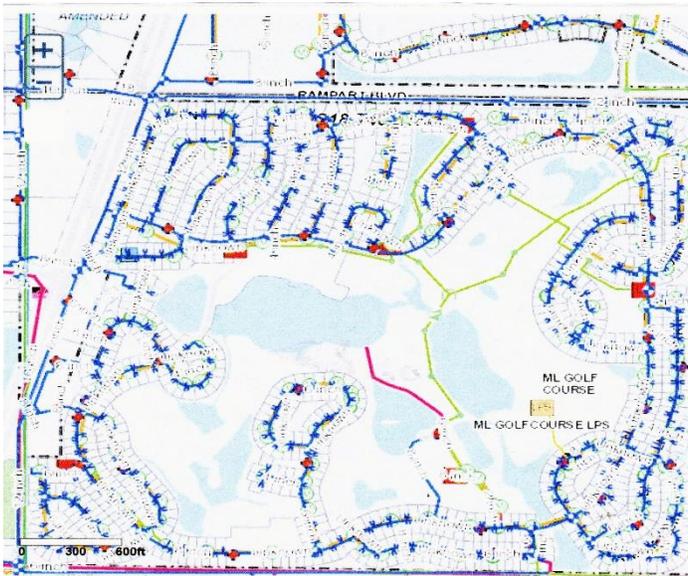


Figure 4. Maple Leaf Golf and Country Club Water Distribution Lines

Since this water is meant for consumption it is subject to numerous standards and regulations on quality and safety. Monitoring the quality of drinking water is defined by the Federal Safe Drinking Water Act (SDWA). The Act is administered by the United States Environmental Protection Agency (EPA) who has delegated this responsibility to the Florida Department of Environmental Protection to enforce the statutes. Both the PRRWF and CCU use laboratories certified by the Florida Department of Health to conduct water analyses. The water must meet regulated levels for microbiological contaminants, radionuclides, trace metals, primary organic and inorganic compounds, disinfectant byproducts, clarity, taste, color and pH. Each treatment process center has an internal laboratory that performs hourly control checks to monitor system compliance for operating guidelines.

So, enjoy that glass of cold water. It just had a long trip down the Peace River, was treated, analyzed, and delivered to your tap through miles of delivery lines. All for the cost of about \$0.0006.

We want to thank Kaley Miller (CCU) and Richard Anderson (PRRWF) for their cooperation in producing this article.