

***PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY
BOARD OF DIRECTORS MEETING
March 31, 2021***

**ROUTINE STATUS REPORTS
ITEM 1**

Hydrologic Conditions Report

MEMORANDUM

Project: Hydrologic Conditions Report

Date: March 31, 2021

Developed By: Mike Coates, Deputy Director

This memorandum summarizes rainfall and surface water conditions, and the Authority's current water storage and supply conditions for the month of March (through March 15th), and the preceding 12-month period.

Rainfall Conditions & Projections

Rainfall in the Peace River Basin for the past 12-months is 3.8-inches below normal. This data covers the 12-months through March 14, 2021 (see Table 1). Rainfall for the month of March 2021 (through March 14th) totaled 0.4 inch while the historical average rainfall for the full month of March is 2.96 inches.

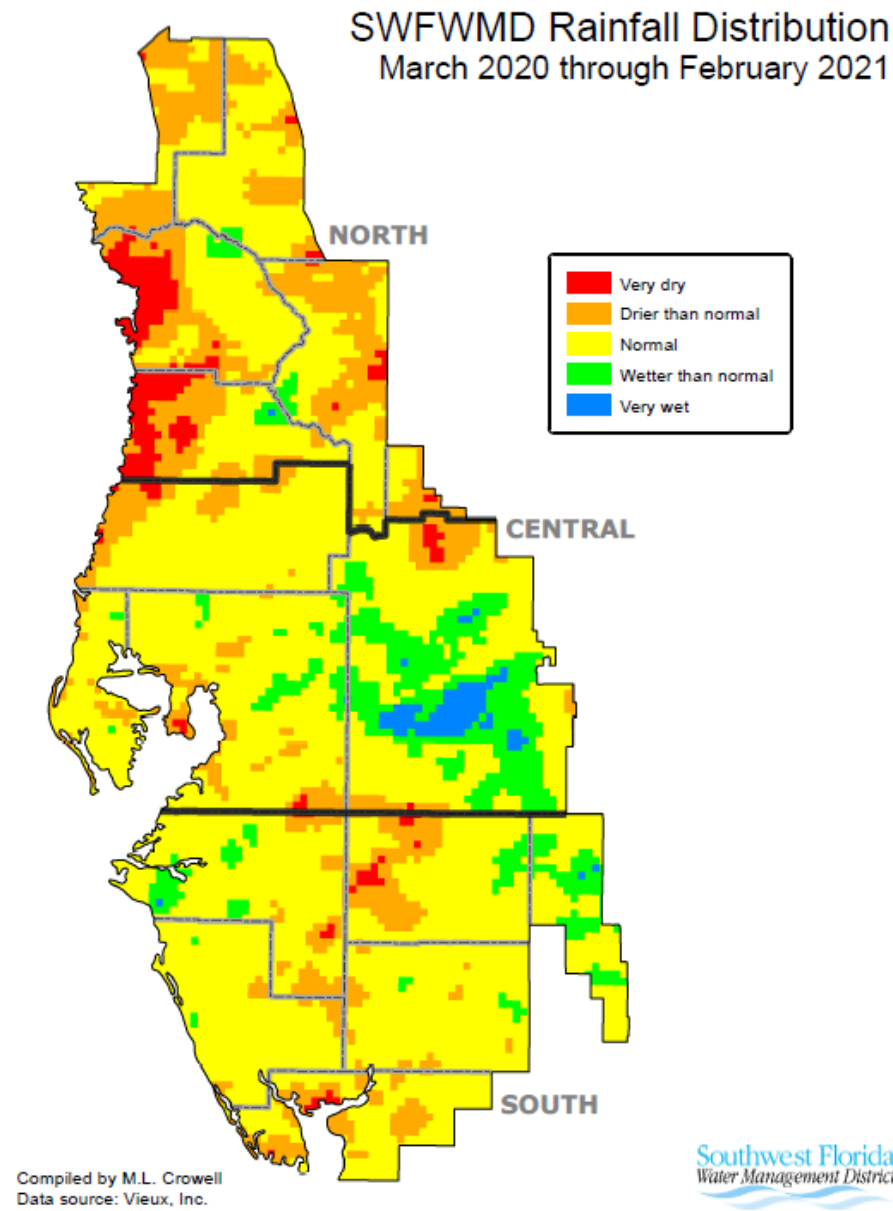
Region-wide rainfall conditions reported by SWFWMD for the 12-month period ending February 2021 are shown in Figure 1 (this is most up-to-date map available). Data shown for the Authority's 4-county service area on Figure 1 indicate near-normal rainfall conditions for most of the service area including the Peace River Basin.

Projections for the next three months (April - June) from NOAA are for above-normal temperatures and near-normal rainfall for southwest Florida. The NOAA extended forecast is for the current La Nina conditions to dissipate with a return to ENSO neutral (neither El Nino nor La Nina) conditions this spring.

Table 1 (Peace River Basin Rainfall - Inches)

Item	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Total
Long-Term Avg.	2.56	3.89	8.31	8.01	7.61	7.31	3.19	1.73	1.87	2.14	2.56	2.96	52.1
Actual Past 12 Months	3.79	6.80	6.81	7.1	7.9	2.9	3.20	3.20	2.30	0.30	3.6	0.4	48.3
Difference	1.23	2.91	-1.50	-0.91	0.29	-4.41	0.01	1.47	0.43	-1.84	1.04	-2.56	-3.84

Figure 1 (SWFWMD Rainfall Conditions Map)



River Flow Conditions

The locations of two U.S. Geological Survey gages, one in the upper portion of the basin and one in the lower portion are shown in Figure 2, and flow conditions at these gages are discussed below:

Flow at in the “Peace River at Fort Meade” (upper part of the watershed) is below seasonal average for the month (see Figure 3). The “Peace River at Arcadia” gage (about 15 miles upstream of the Authority’s intake) is one of the gages used to calculate how much water the Authority can withdraw from the river each day. Flow at the “Peace River at Arcadia” gage (lower part of the watershed) also shows below average conditions (see Figure 4).

Figure 2 (Peace River Basin showing selected gage locations and Location of PRF)

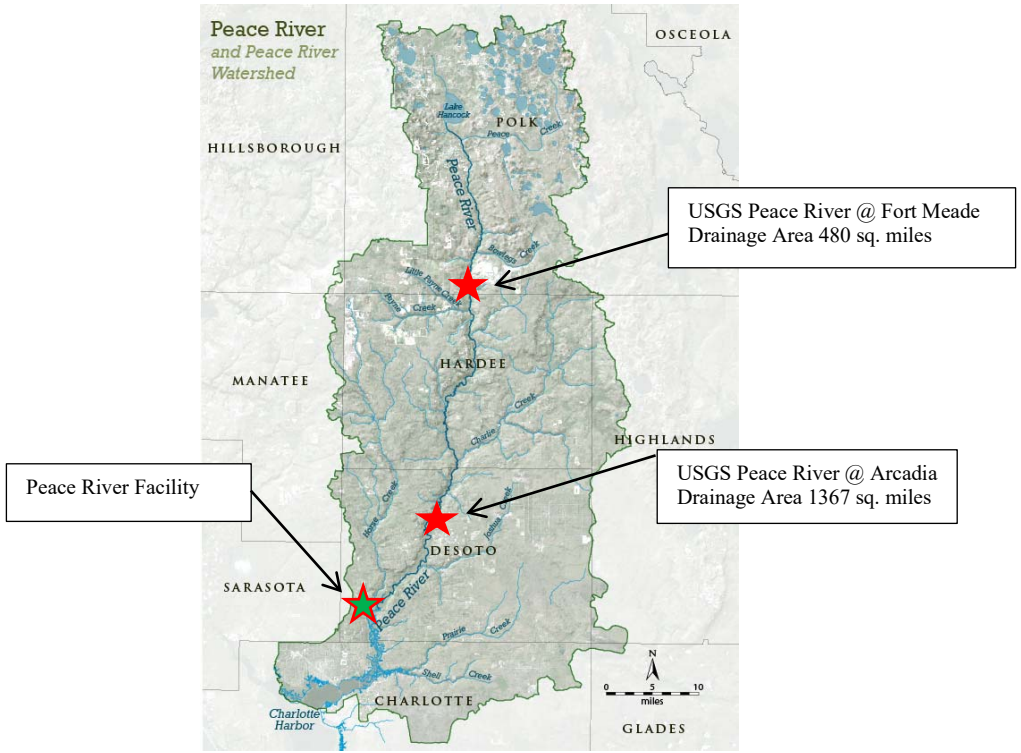


Figure 3 (Peace River Flow @ Fort Meade)

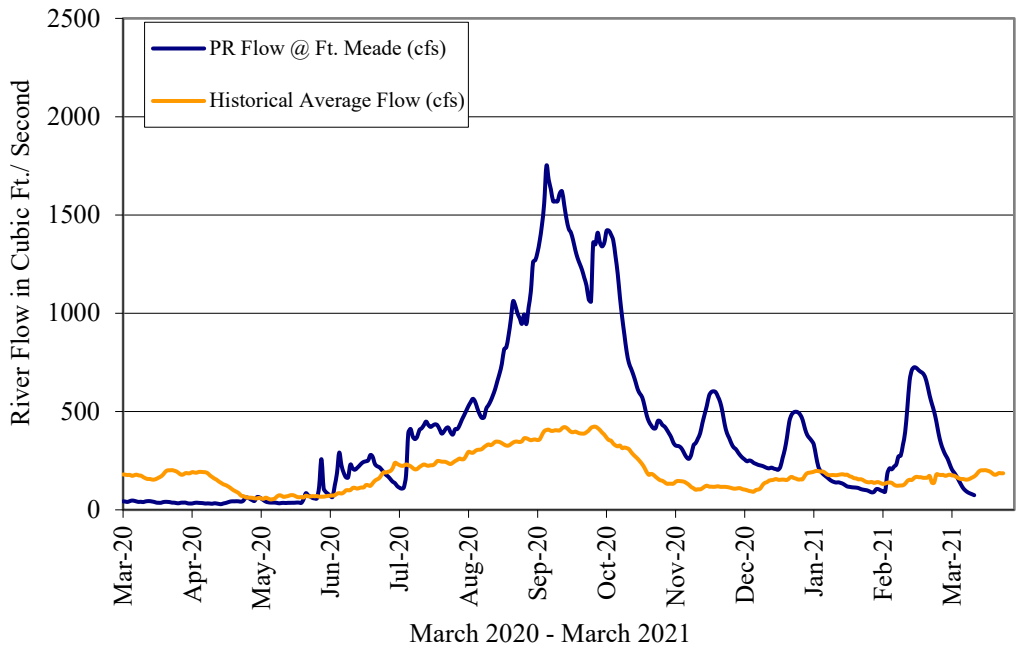
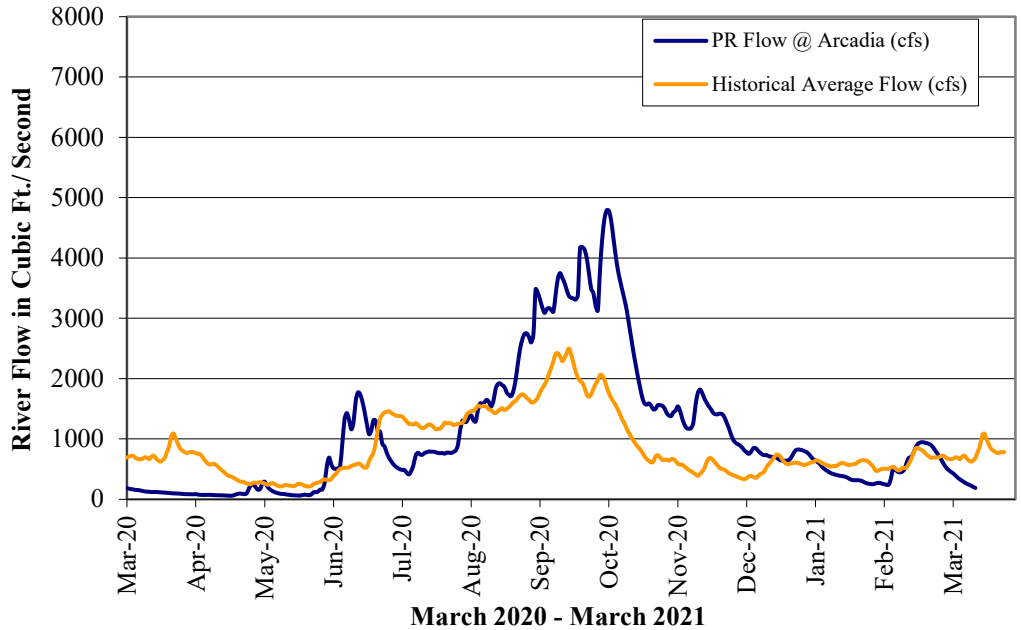


Figure 4 (Peace River Flow @ Arcadia)



River Withdrawals, Finished Water Production & Demand

Water withdrawals from the Peace River have been ongoing since mid-June. Withdrawals taper off in mid summer as the reservoir becomes full, then increase again in the October and November timeframe as the fill schedule allows increased storage in Reservoir No. 2 near the end of hurricane season (see Figure 5 below). River flow and quality remained adequate to allow 17 MGD average day withdrawals from March 1 through the 14th.

Figure 5 (Withdrawals from Peace River)

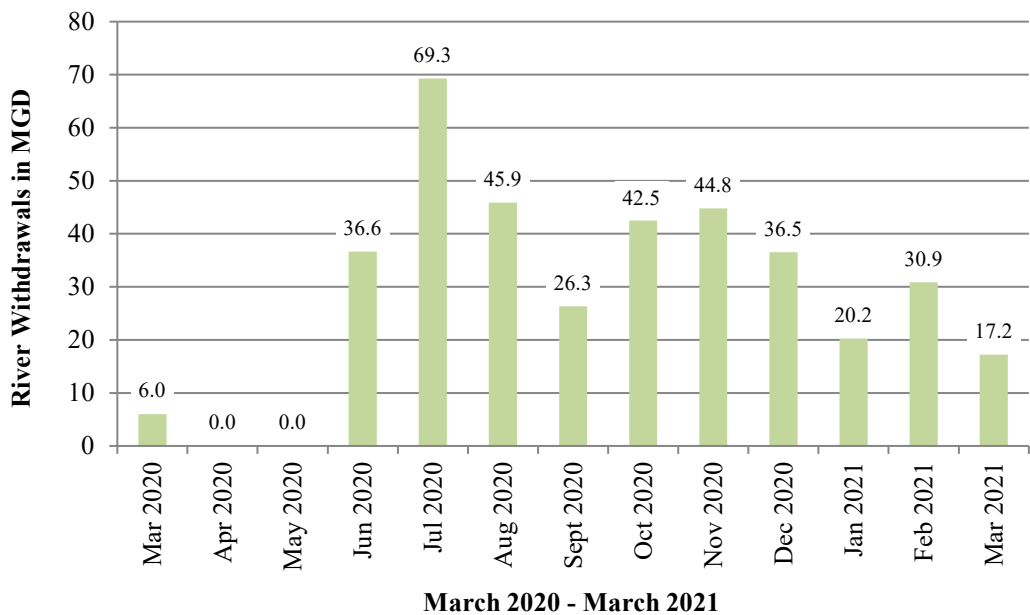
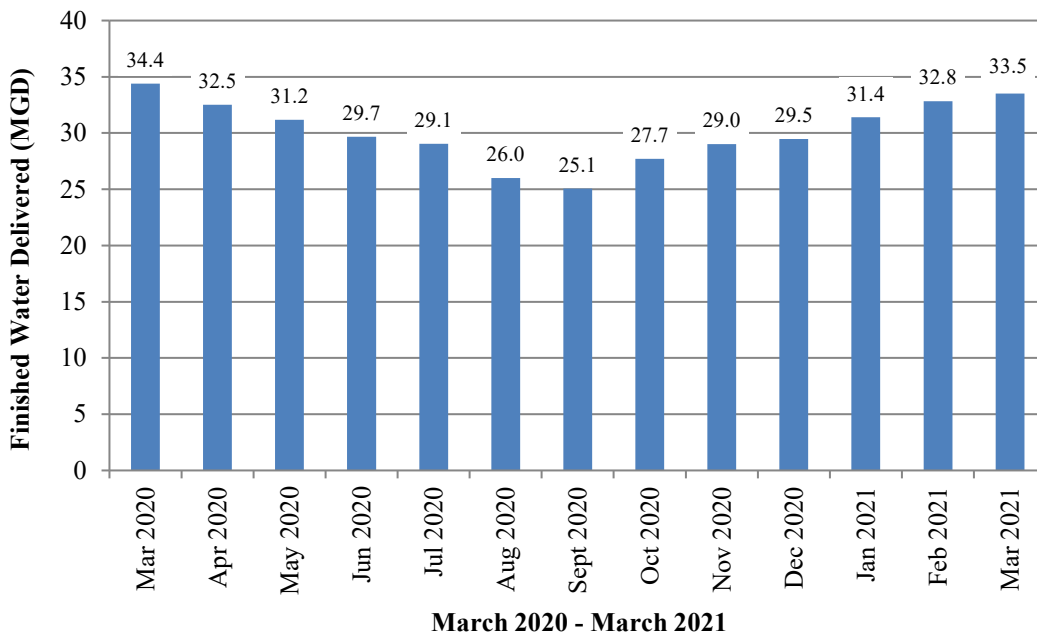


Figure 6 shows monthly finished water deliveries to Customers for the 12-month period ending March 14, 2021. Finished water delivery to Customers during March 2021 have averaged about 33.5 MGD. This is about 1 MGD lower than deliveries in March 2020.

The routine exchange of water with the City of Punta Gorda is ongoing – with deliveries from the Region to the City south through the Phase 1 Pipeline on US 17 and return of flow from the City to the region north through the Phase 1A Pipeline. The exchange of water through regional pipelines maintains these facilities in a “ready-to-serve” condition at all times.

Figure 6 (Peace River Facility Deliveries to Customers)



Stored Supplies at the PRF

The Authority maintains two large capacity off-stream storage systems at the PRF. The primary storage is raw river water stored in Reservoir No. 1 and No. 2. When flow in the River is high enough, a small percentage of that flow is harvested at the Authority’s pumping facility on the Peace River and stored in Reservoirs 1 and 2. This storage is designed to be completely refilled each wet season. Total raw-water storage capacity is seasonally adjusted. During the hurricane season the total raw water storage capacity is 6.5 billion gallons (BG). Near the end and outside of hurricane season, additional water can be safely stored. The maximum raw water storage capacity in March is 6.8 BG. **Raw water stored as of March 14, 2021 totaled about 6.3 BG.**

The secondary storage at the PRF is treated water stored in the Aquifer Storage and Recovery (ASR) system. While the original design capacity of the ASR system was approximately 6.3 BG, a much greater volume can actually be stored in this system. Because this supply must be fully treated to drinking water standards before storage, it

can't be stored as rapidly as water in the raw-water reservoirs. Filling ASR storage is done incrementally each year as excess treatment capacity and hydrologic condition allow. The ASR system is recharged with fully treated drinking water produced by the water treatment facility. Water recovered from ASR is discharged to the surface reservoir system and undergoes full treatment again with the rest of the raw-water stream before delivery to Authority Customers. The ASR system is currently in storage – which means water is neither being injected nor recovered from storage in ASR. **Treated water stored in ASR as of March 14, 2021 totaled 8.97 BG.**

Stored raw water supplies (combined storage in Reservoir No. 1 and No. 2) and stored water in the ASR system for the past year are shown in Figure 7. **The total water in storage as of March 14, 2021 was about 15.3BG.** This is about 1 BG more than total storage in mid-March 2020.

Figure 7 (Stored Water Supplies)

