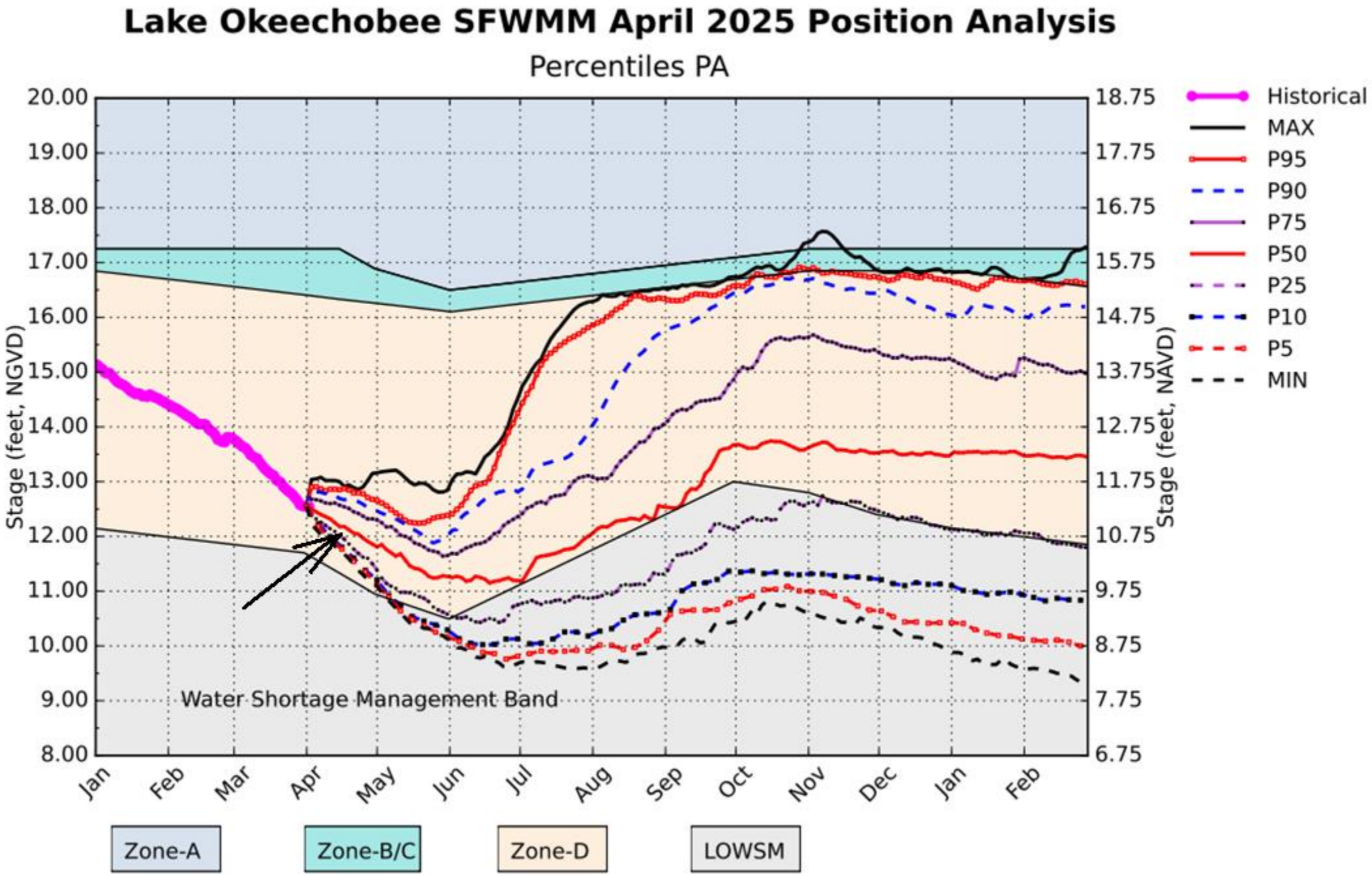
Lake Okeechobee Update

Lake Okeechobee

Lake Okeechobee (Lake O) stage was 12.08 on April 13, 2025 which is 2.82 feet lower than a year ago.

As can be seen in the following figures there is:

- over a 50 percent likelihood that Lake O will stay below 12.00 feet NGVD for three months
- over a 25 percent likelihood of Lake O entering the Water Shortage Management Zone (WSMZ)
- over a 25 percent likelihood of Lake O staying in the WSMZ through the wet season



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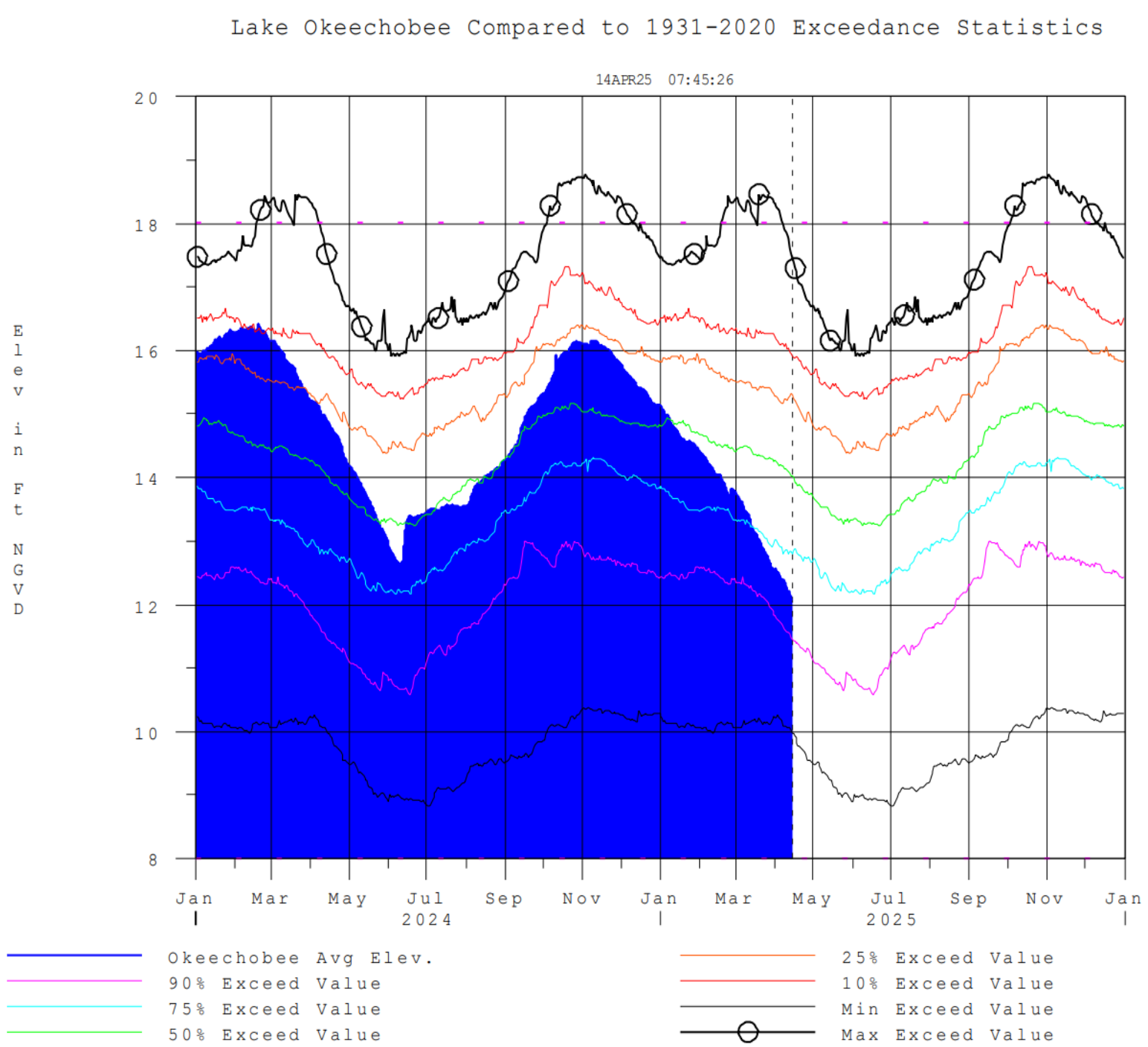


Lake O Stage is halfway between lower quartile and lower decile and about 2 feet below the average stage for the 1965-2007 period.

Water Conservation Areas (WCAs)

Considering the low rainfall the WCAs are in relatively good conditions with northern WCA-3A having the lowest levels.

- WCA-1 is declining near the bottom of Zone A and between median (P50) and P75 historical percentile (about 2 feet above its regulation floor).
- WCA-2A has declined at the desired rate and is near its lower quartile (about a foot above its regulation floor).
- WCA-3A is about 1.5 feet above its floor and just below its median historical stage with drier conditions in the north.

Impacts of Low Lake O

If Lake O stage falls below 10.5 feet NGVD the gravity capacity of the Everglades Agriculture Area's (EAA's) 3 water supply structures reduces to half of the EAA water supply demand. This equates to a Phase 3 water restriction.

The SFWMD can and has installed forward pump at the water supply structures that can lift water from Lake O into the EAA canals. This pumps have only half of the permitted capacity and they block gravity flow through the bay they occupy.

Phase 1 15%, Phase 2 <30%, Phase 3 <45%, Phase 4 <60%

Impacts of Low Lake O

With low rainfall the CWPB and the Cypress Grove Community Development District (CGCDD) rely on Lake O for water supply. When Lake O falls below 12 feet NGVD it become hydraulic challenging to supply the permitted water supply demands to CWPB and CGCDD.

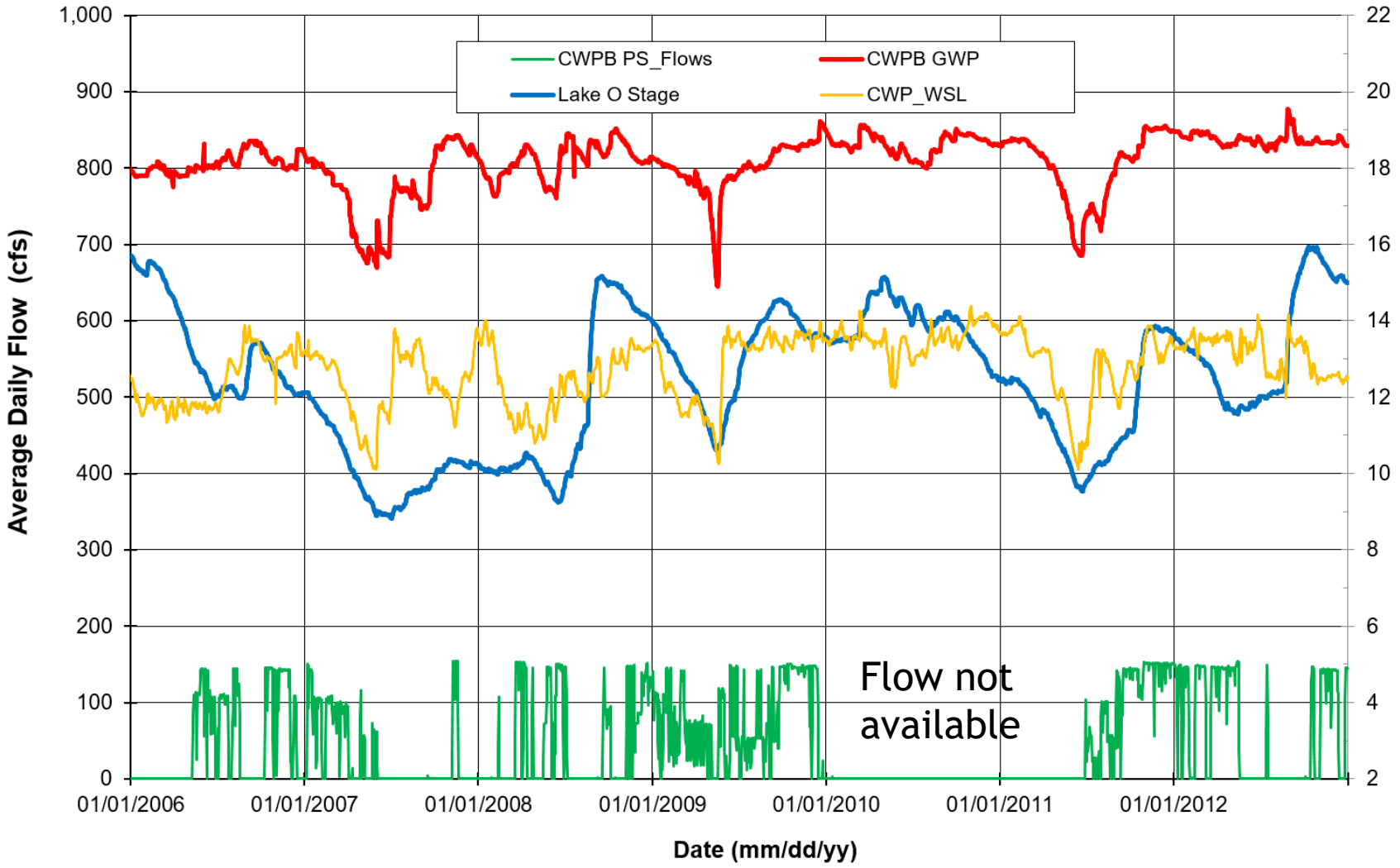
During the replacement of Culvert 10A with S271 the SFWMD requested and there was install a platform for a pump to lift water from Lake O into the L-8 Canal for water supply.

Impacts of Low Lake O

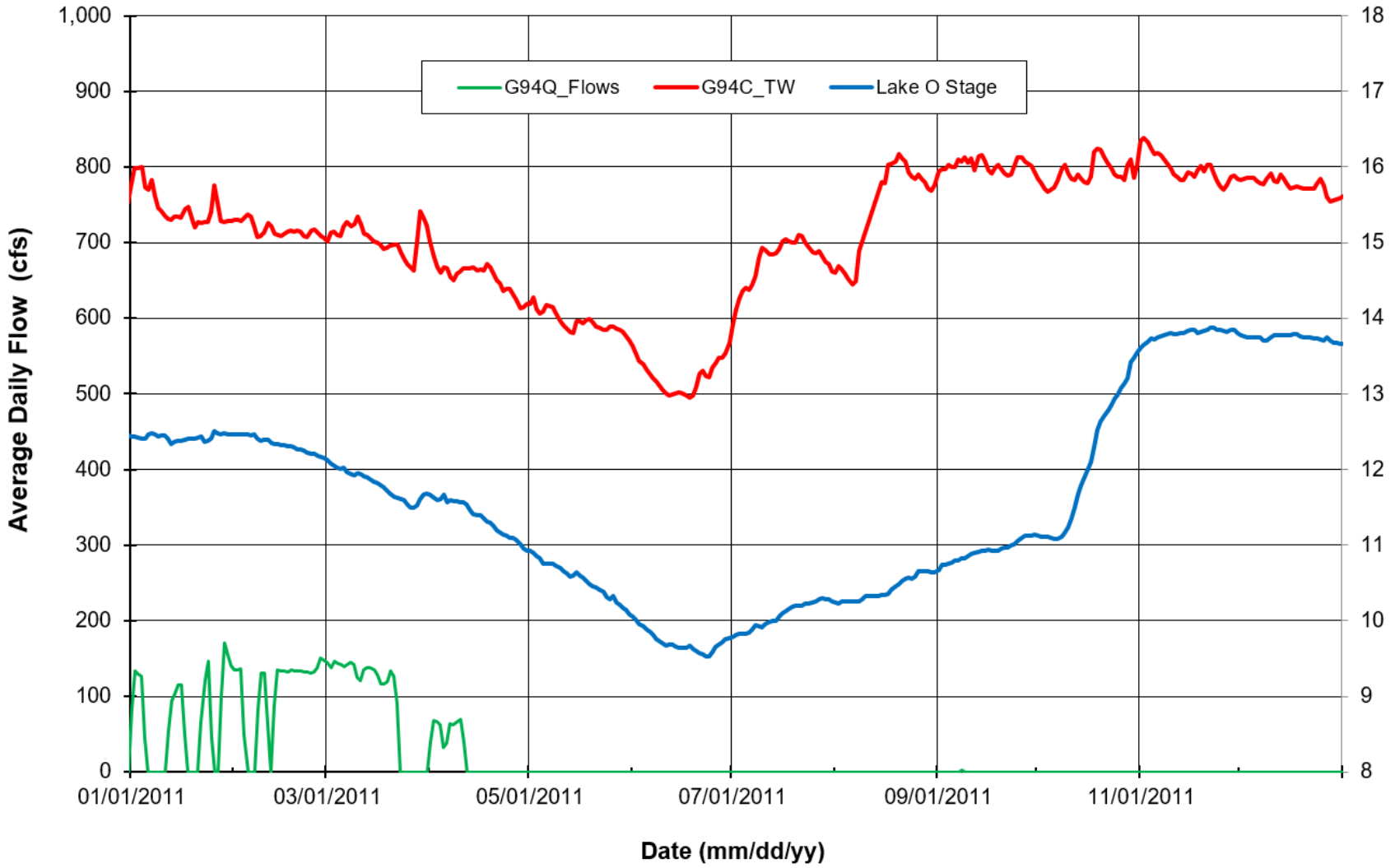
During low water conditions in the L-8 Canal seepage into the L-8 canal has determinedly high chloride content which can, when there is insufficient flow from Lake O, result in chloride content at the CWPB withdrawal point higher than the drinking water standard of 250 mg/l.

Without sustained inflows the CWPB Grassy Water Preserve (GWP) and Water Supply Lakes (WSP) of Lake Mangonia and Clear Lake decline quickly. At lower levels (<18.2 feet NGVD) in the GWP delivers to the NWLR become hydraulically challenging.

Impacts to CWPB



Impacts to LWDD



Recovery Releases

The USACE has been using the LOSOM additional Recovery releases to lower the Lake O sufficiently to facilitate growth of desirable vegetation.

It should be acknowledge that full additional recover capacity (listed below) equates to about 0.2 feet per month.

- Increase from 0 to 1,400 cfs to the Saint Lucie Estuary (SLE).
- Increase of 100 (total of 2,100 cfs) to the Caloosahatchee River Estuary (CRE); not much change from Zone D.
- Full use of the up to 300 cfs to the Lake Worth Lagoon Estuary (LWLE); not much change from Zone D.

Releases to Estuaries

For the period form 12/07/2024 through 04/12/2025

Recovery releases above Zone D releases total about 0.6 feet

Zone D releases above desirable rates (1) total about 0.8 feet

Combined total of about 1.4 feet of which about 1.0 foot occurs when releases to the CLE should reduced to 700 cfs or less as Lake O stage approaches the WSMZ.

1. Desirable releases are 700 cfs to CRE and 0 cfs to LWLE.

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Zone D Releases

In Zone D the Lake Okeechobee System Operating Manual (LOSOM) allows the following releases

- Up to 2,000 cfs to the CRE measured at S79 which includes local runoff.
- Up to 300 cfs to the LWLE
- Zero to the SLE

This is considerable risk of causing a water shortage if these up to release are used during dry conditions.

Zone D Releases - Continued

For example if below average rainfall allows additional releases to CRE and LWLE averaging 1,000 cfs this equates to about 0.7 feet during the wet season and 0.9 feet during the dry season.

These release combined with low inflow and the existing ET and water supply demands associated with below average rainfall can quickly lower Lake O.

During non recovery years the flows to the CRE should be reduced to 700 cfs and undesired releases to the LWLE should stop completely as Lake O stage approaches within 2 feet of the water supply zone.

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Discussion