

2012 Water Shortage Strategies

SFWMD Governing Board Meeting: Item 34

November 10, 2011

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Objectives of the Presentation

- Overview of water shortage authorities
- Summary of water supply conditions
- Discussion of current water shortage restrictions
- Governing Board direction on water shortage restrictions
 - Continue status quo: no action needed
 - Modify/rescind existing orders: motion and vote needed

Water Shortage Authorities: (Sec. 373.175 & 373.246 F.S.)

The Governing Board may impose water restrictions when insufficient ground or surface water is available to meet the needs of the users or when conditions are such as to require temporary reduction in total use within the area to protect water resources from serious harm.

District Water Shortage Rules; (40E-21 F.A.C.)

- **Considerations in declaring a water shortage**
 - A possibility that insufficient water will be available to meet present and anticipated user demands or to protect the water resource from serious harm
 - If usage can reasonably be expected to impact the present and anticipated available water supply
 - Prior to declaring a water shortage, a water shortage warning can be imposed to encourage voluntary reductions in demand

District Water Shortage Rule; 40E-21 F.A.C. (cont.)

- Factors considered in evaluating water supply conditions
 - Historic, current and anticipated flows and water levels
 - Historic, current and anticipated rainfall
 - Extent to which water can be transferred between sources
 - Extent present restrictions could enhance future supplies or postpone more stringent restrictions
- 40E-22 .332 F.A.C.; when Lake O water levels fall below trigger line, the Governing Board may impose restrictions and shall consider other factors along with the trigger line

Water Shortage Economic Considerations

Economic impacts of water shortage declarations:

- Direct losses such as reduced product sales
- Reduced work and job losses; including product development/growth, processing, transportation, and maintenance
- Tax revenues reduced
- Indirect losses associated with secondary economic activities such as transferred costs (e.g. utility water shortage based surcharges), reduced capital investments, lower discretionary spending

Water Shortage versus Water Conservation

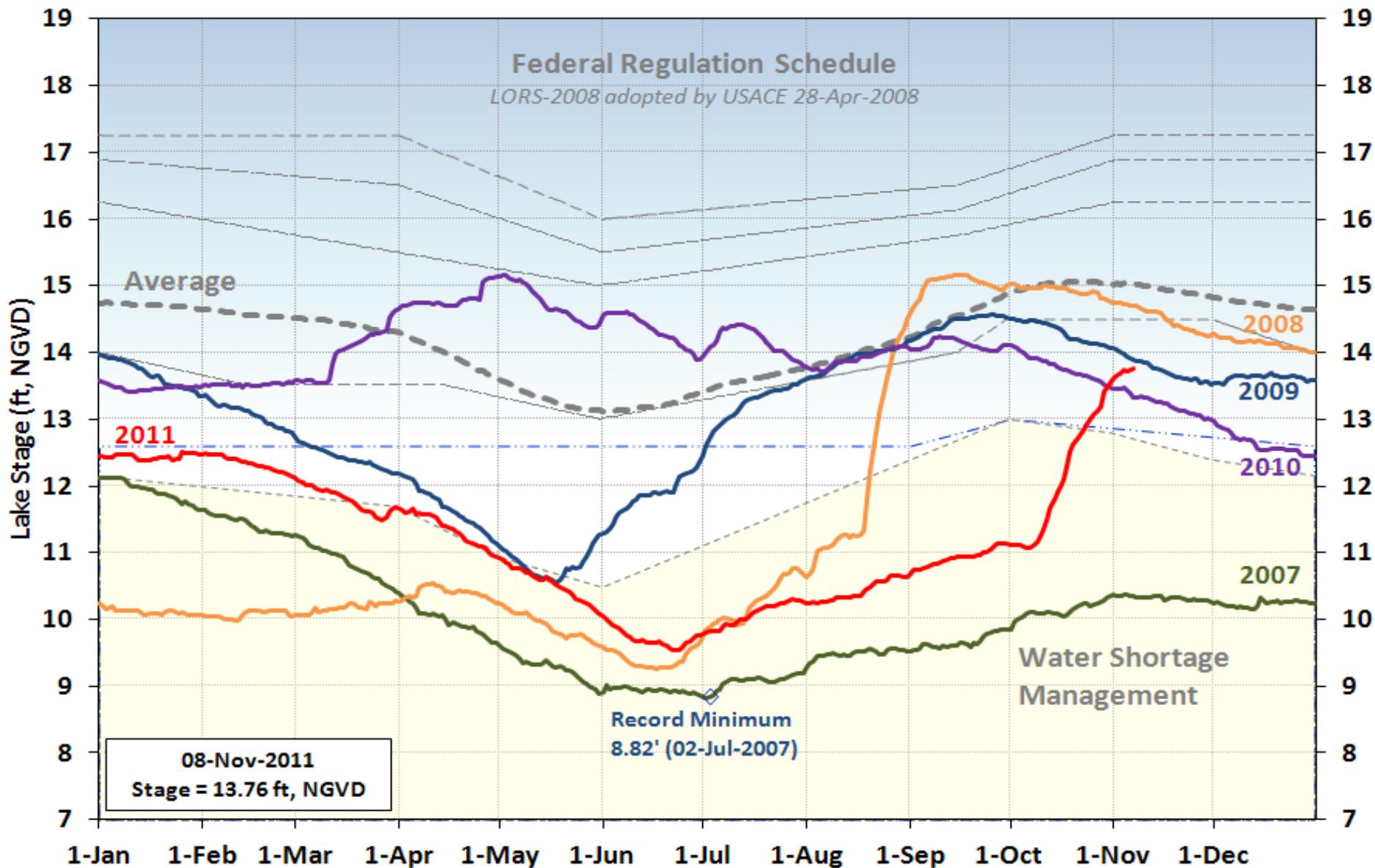
- Water Shortage
 - Temporary suspension of permit allocations
 - Imposed based on specific short term risks to water availability and threat of serious harm to water resources primarily due to severe drought conditions
 - Present economic impacts to users which are beyond the user's ability to control
- Water Conservation
 - Required to get a permit (reasonable-beneficial use)
 - Required to be followed throughout life of permit
 - Economic impacts factored in over life of the permit

Water Supply Conditions Overview

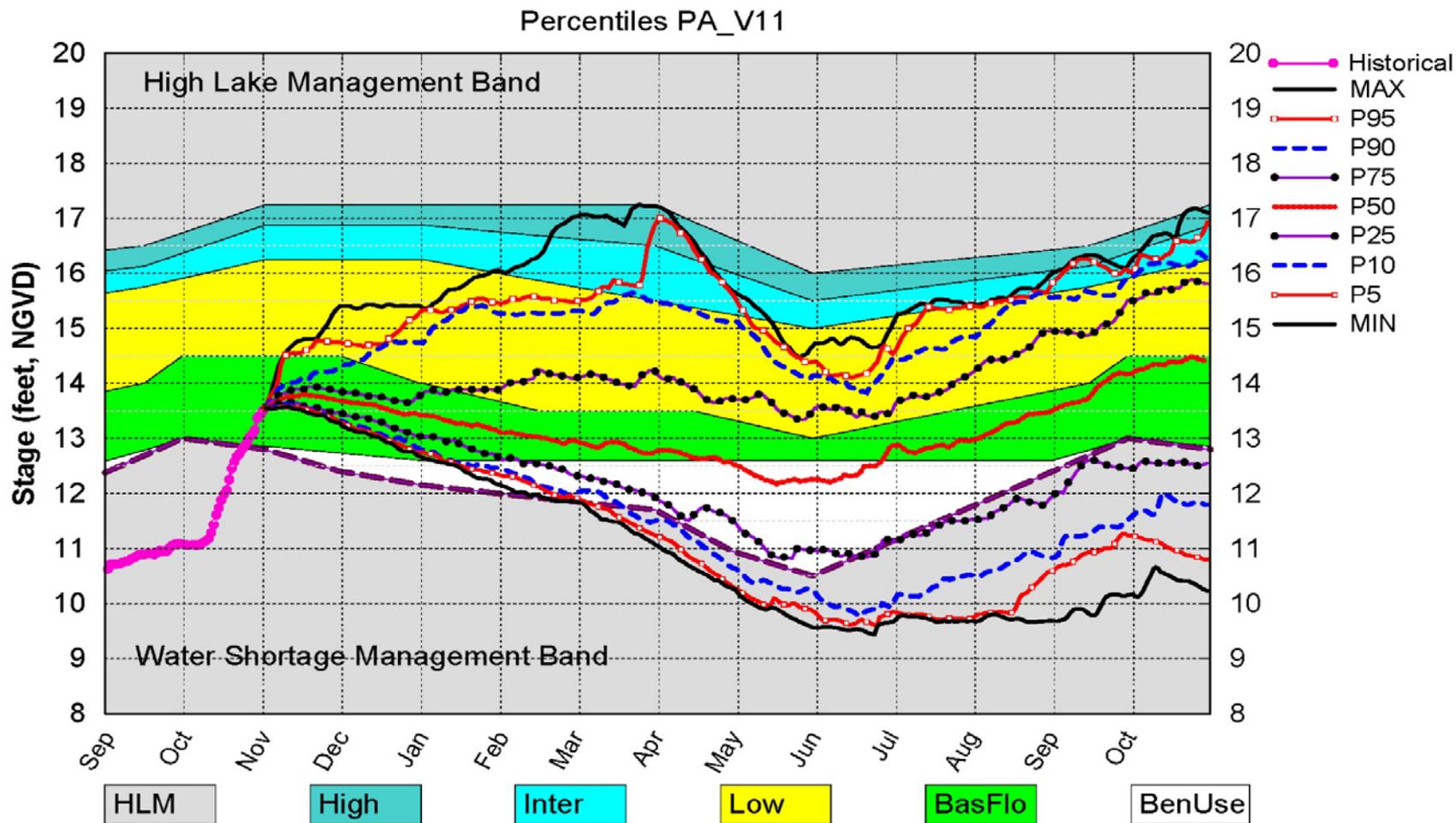
- **Upper Chain of Lakes:** at or above regulation stage and discharging water south
- **Kissimmee floodplain:** full and flowing south
- **Lake Istokpoga:** at regulation and discharging water south
- **Lake Okeechobee:** 1.1 ft above water shortage band
- **Water Conservation Areas:** at or near regulation schedule
- **Groundwater:** levels at or above normal

Lake Okeechobee Stage Hydrograph Comparison

- - - Average (1965-2007)
 — 2007
 — 2008
 — 2009
 — 2010
 — 2011



Lake Okeechobee SFWMM November 2011 Position Analysis



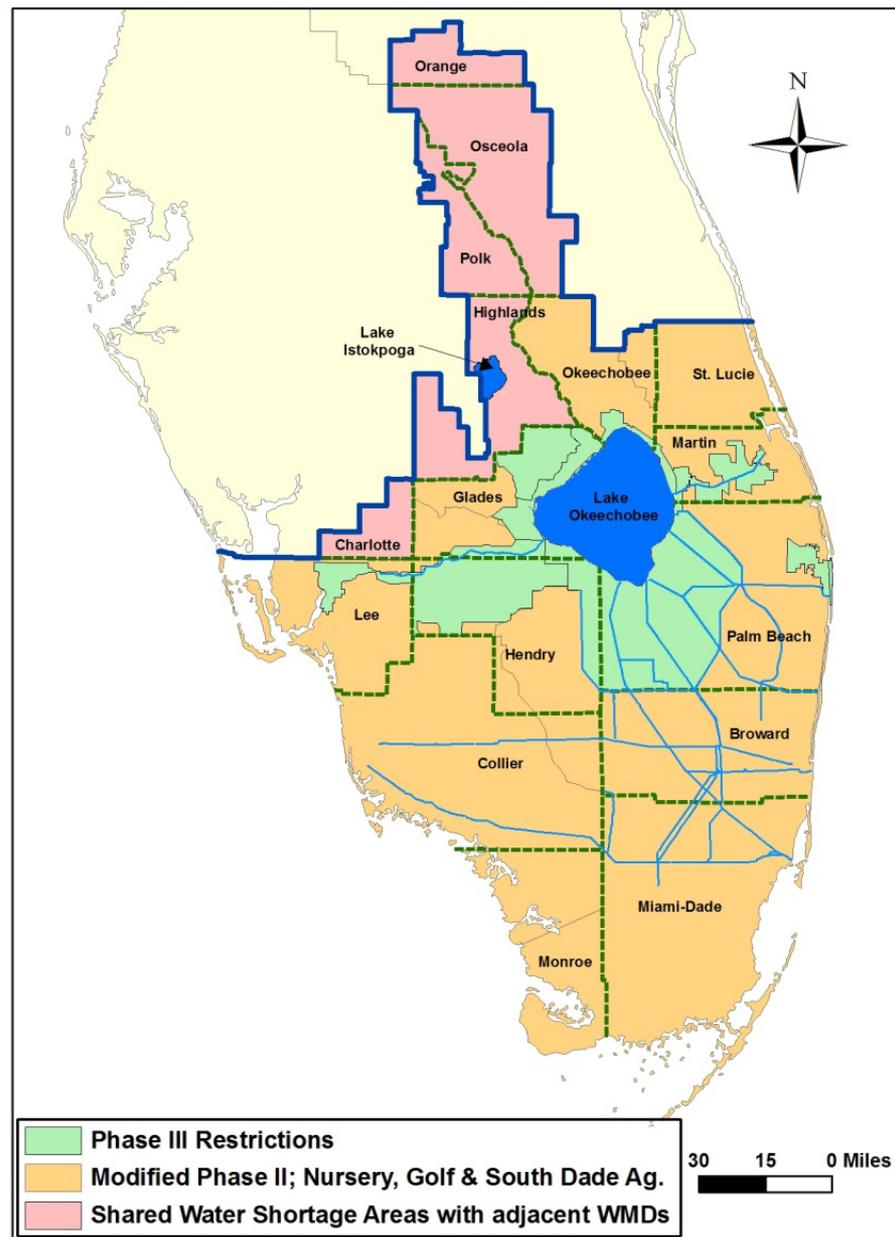
(See assumptions on the Position Analysis Results website)

2012 Water Supply Operational Assumptions

- Dry season rainfall expected to be similar to last year District wide (below average)
- High chance Lake Okeechobee stage may remain higher than last year's stage through winter
- High chance that Lake Okeechobee stage may remain above water shortage band for the 2012 dry season
 - Lake water available for adaptive protocols as needed
- Small chance that Lake Okeechobee stage could drop below 11 ft by the start of the 2012 wet season
- Small chance that WCAs could reach floor elevations by the start of the 2012 wet season

Current Water Shortage Restrictions

Water Shortage Restrictions as of Nov. 3, 2011

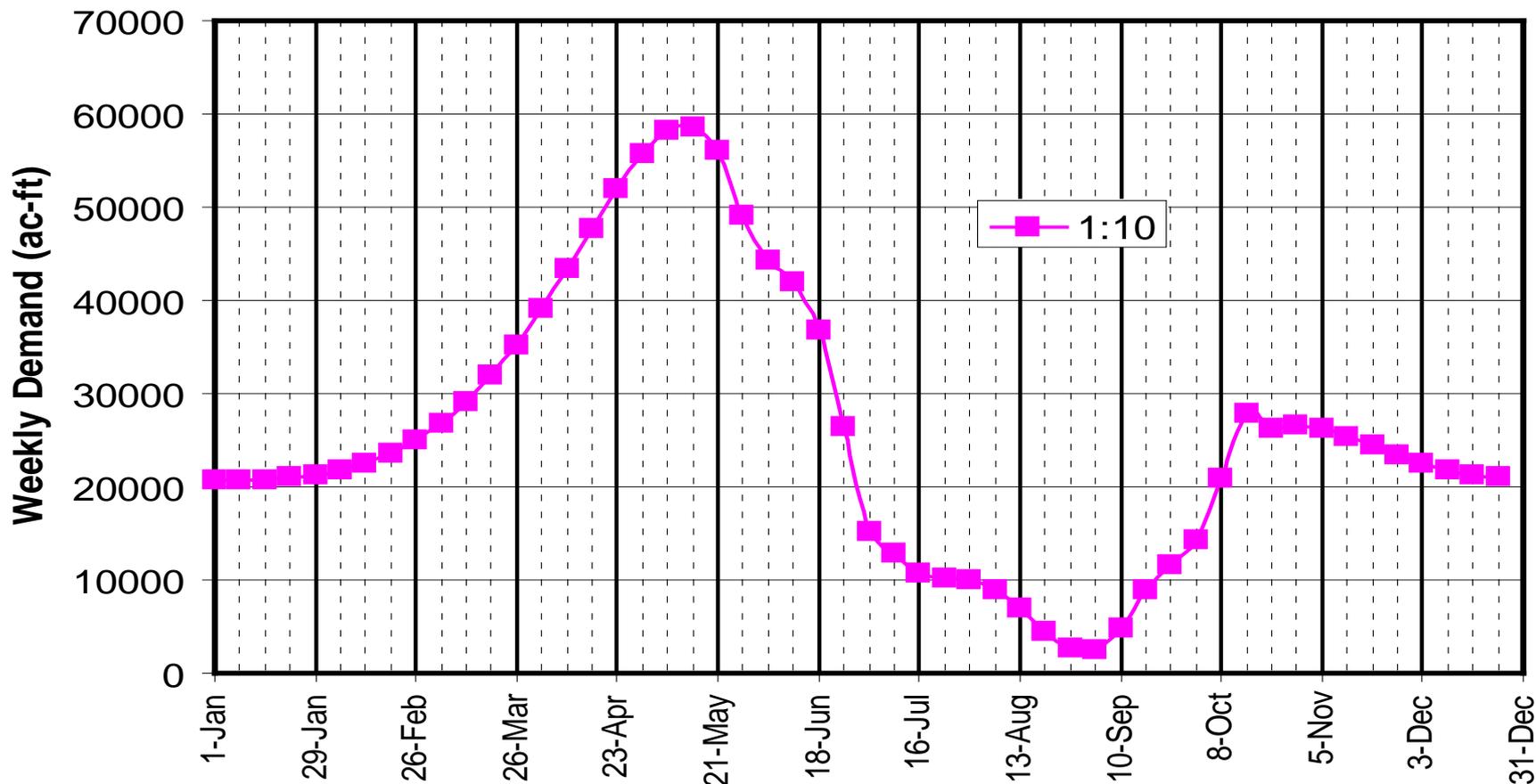


Current Water Shortage Restrictions

- Lake Okeechobee Service Area (LOSA)
 - Modified Phase III cutbacks (45% reduction in weekly 1 in 10 demand allocation)
 - Imposed when Lake O dropped below 10.5 ft (May 19, 2011)
 - Operational authority over bypass structures in the Indian Prairie basin
- Non-LOSA/Urban Areas
 - Modified Phase II for landscape (two day per week conditional watering)
 - 15% reductions for golf course use (non-reclaimed water) and urban diversion/impoundment uses
 - Modified Phase I restrictions to LEC nurseries and agriculture
 - City of West Palm Beach, Modified Phase III for landscape

LOSA Water Shortage Weekly 1 in 10 Supplemental Needs

LOSA Weekly Supplemental Water Needs for a 1 in 10 Drought Condition



Lake Okeechobee Service Area (LOSA)

Current Water Supply Conditions

- Lake stage is currently 1.08 ft above water shortage trigger line; 0.47 ft higher than last year
- Less than 25% probability for lake stage to drop below water shortage line by April
- Last year, LOSA was in warning until mid March
- Supplemental water demands are generally low for next few months but increase in spring

Non-LOSA and Urban Service Areas

Current Water Supply Conditions/Considerations

- Groundwater levels are normal
 - Conditions expected to remain favorable to prevent saltwater intrusion for several months
- WCA storage full
 - High probability WCAs will be above floor elevations through March
- Existing water conservation rule limits lawn watering to 2/3 days per week

Non-LOSA and Urban Service Areas

Current Water Supply Conditions/Considerations:

- Small chance Lake O may not have sufficient water supply to provide water to Lower East Coast in late dry season
- City of West Palm Beach water supply picture has improved as a result of
 - Increased regional and local storage
 - Deployment of alternative stormwater capture methods and authorizations

November 3rd WRAC Feedback

- Agricultural users pay to use water so conservation in the norm
- LOSA water shortage allocations are controlled by District which is not the case for other regions in the District
- Even low level cutbacks cause economic impacts when its are dry
- Water shortages need to be imposed consistent with directions contained in District rules
- Businesses need consistent application of District water shortage authorities

November 3rd WRAC Feedback

- Water conditions and District rules indicate no water restrictions should be in place
- District should be conservative in limiting water use in light of coming dry season
- Leave water restrictions in place until we are sure there will be enough water for the entire dry season
- Urban water savings very important, water restrictions are need to keep people intent on saving water
- Changing the water shortage may confuse and frustrate people into thinking saving water isn't needed anymore

Water Shortage Actions for Consideration

- Maintain existing water shortage restrictions
 - No Governing Board action required
- Rescind all or some existing water shortage restrictions
 - Motion and vote required
- Rescind all existing water shortage restrictions and impose a water shortage warning
 - Motion and vote to rescind existing orders
 - Motion and vote to declare a water shortage warning

Discussion