

2012 Water Shortage Strategies

Water Resource Advisory Commission

November 3, 2011

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Water Supply 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:** in baseflow band and rising
- **Water Conservation Areas:** at or near regulation schedule
- **Groundwater:** levels at or above normal

Water Supply Overview

2011 vs. 2012:

- Rainfall
 - 2011: dry - wet season, dry - dry season
 - 2012: wet - wet season, dry - dry season (forecast)
- Regional storage
 - Kissimmee and Chain of Lakes: improved
 - Lake Okeechobee and Istokpoga: improved
 - Water Conservation Areas (WCAs):
 - WCA-1; similar to last year
 - WCA-2 and 3; improved

2012 Water Supply Operational Assumptions

As of November 1, 2011:

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

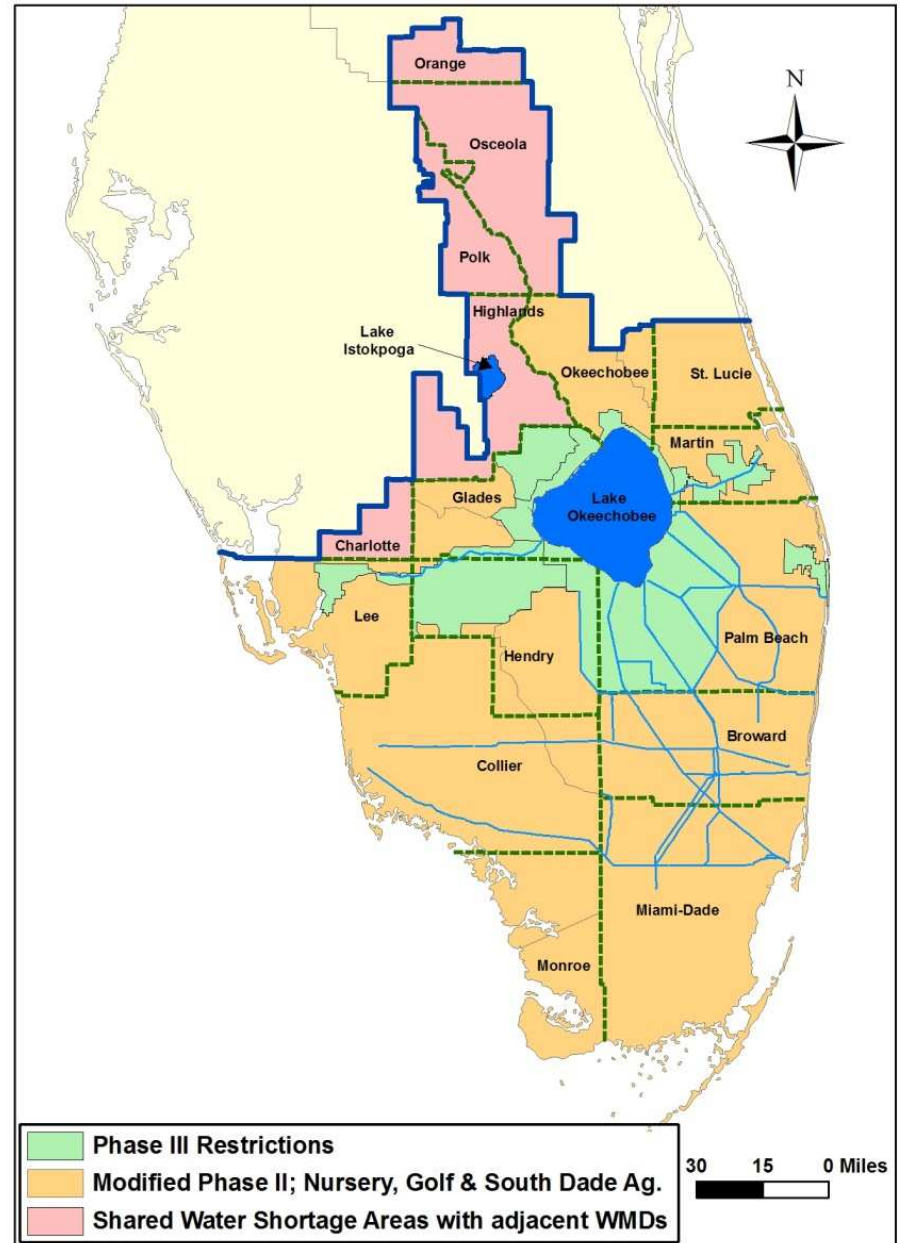
Water Shortage Management

Potential Strategies and Options:

- Demand Management
 - Water Shortage Restrictions:
Lake Okeechobee Service Area (LOSA)
 - Water Shortage Restrictions:
Non-LOSA Areas

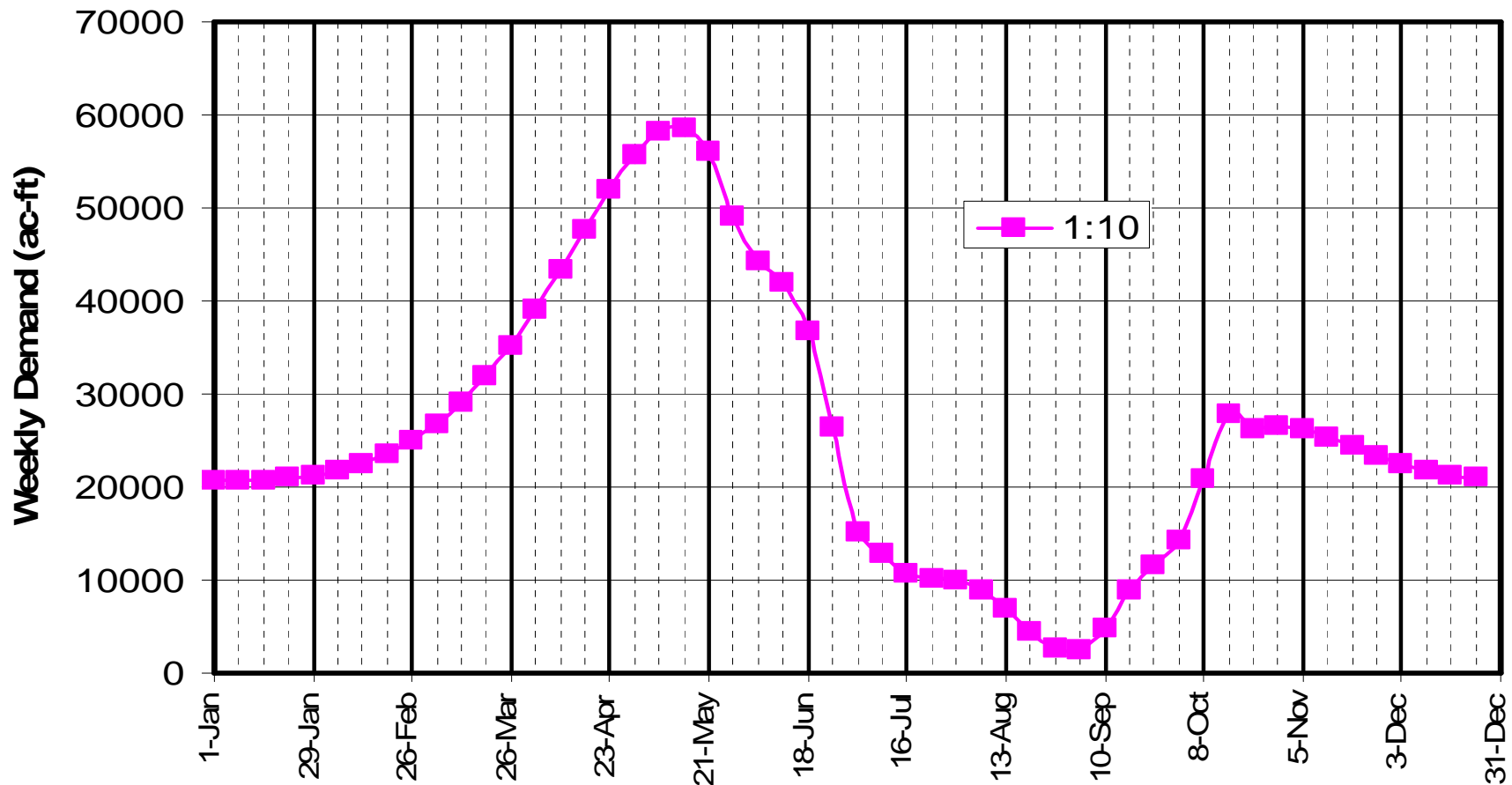
Current Water Shortage Restrictions

Water Shortage Restrictions as of Nov. 3, 2011



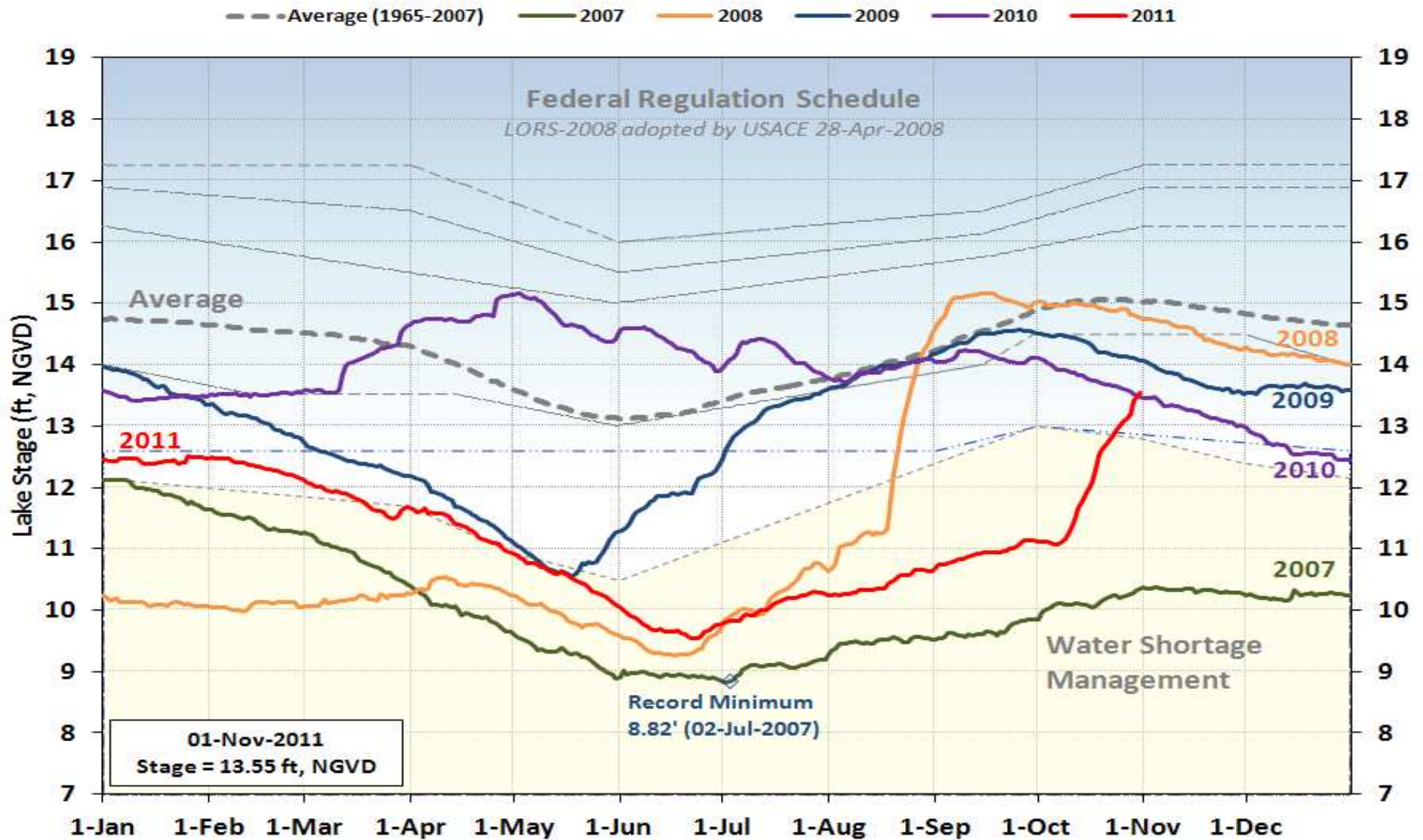
LOSA Water Shortage Weekly 1 in 10 Supplemental Needs

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



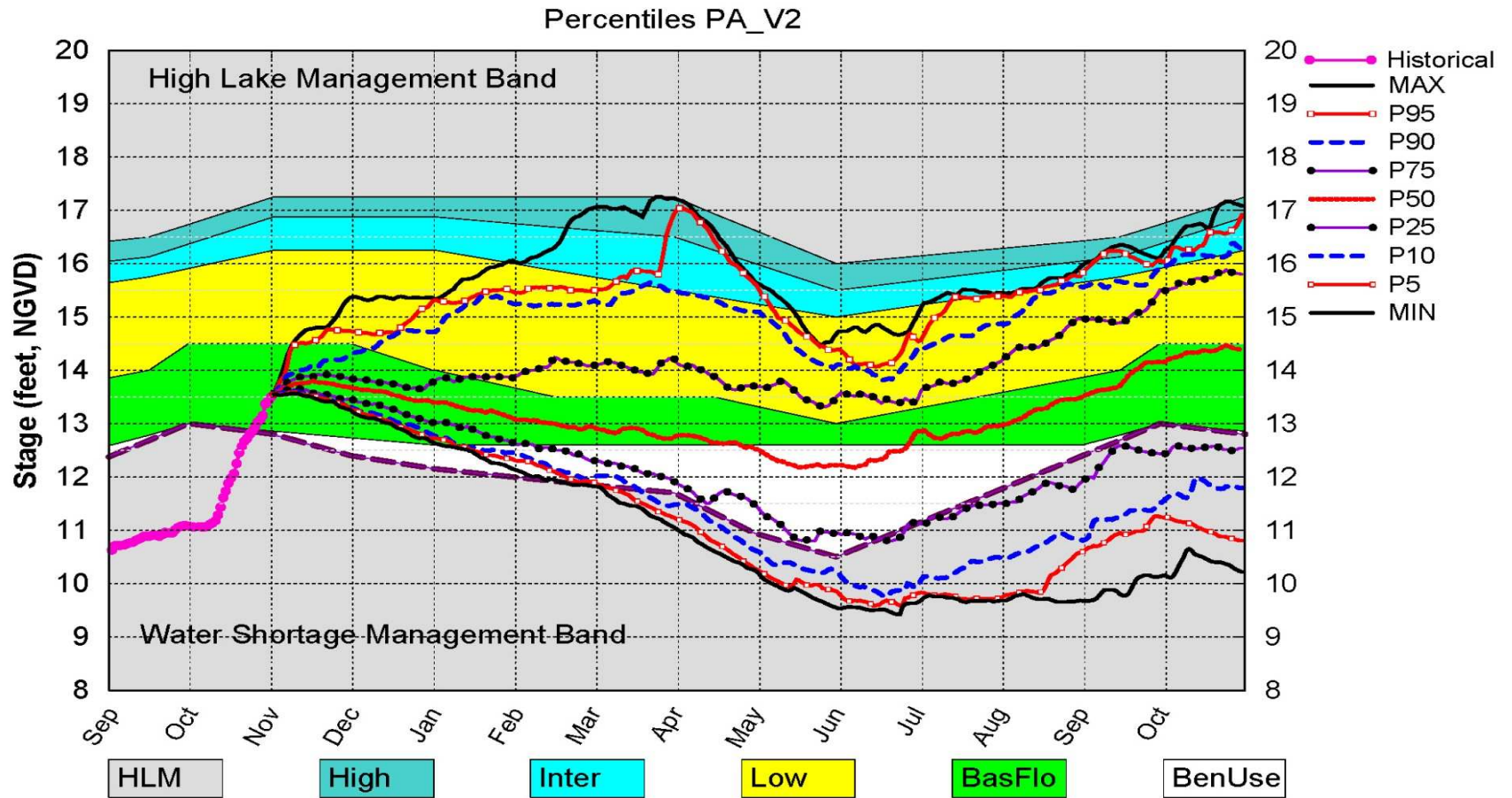
Comparative Lake O Drought Hydrographs

Lake Okeechobee Stage Hydrograph Comparison



Preliminary November Lake O Position Analysis

Lake Okeechobee SFWMM November 2011 Position Analysis



(See assumptions on the Position Analysis Results website)

LOSA Water Shortage Rule Considerations

- 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 in 40E-21.221 F.A.C. along with the trigger line
- 40E-21.221 F.A.C.; factors affecting water restriction levels
 - Historic, current and anticipated flows and water levels
 - Historic, current and anticipated fluctuations in rainfall
 - Extent to which water can be transferred between sources
 - Extent present restrictions could enhance future supplies or postpone more stringent restrictions

Lake Okeechobee Service Area (LOSA)

Current Conditions

- Phase III cutbacks in place (45% reduction imposed when Lake O dropped below 10.5 ft)
- Lake stage is currently 0.8 ft above water shortage trigger line and increasing.
- 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

Lake Okeechobee Service Area (LOSA)

Potential Strategies & Options

- Water Shortage Restrictions
 - Phase III (45%)
 - Phase II (30%)
 - Phase I (15%)
- Water Shortage Warning
 - Voluntary Cutbacks
- No regional water restrictions

Non-LOSA and Urban Service Areas

Current 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 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

Water Shortage Economic Considerations

Water shortage declarations affect:

- Direct losses such as product sales
- Reduced work and job losses; including product development/growth, processing, transportation, and maintenance
- Taxes
- Indirect losses such as reduced secondary economic activity associated with reduced direct expenditures, transferred costs to others (such as utility water shortage based surcharges) or job and work hour losses

Non-LOSA and Urban Service Area

Potential Strategies & Options:

- Maintain existing water shortage restrictions
- Implement Water Shortage Warning
 - Voluntary Cutbacks
- Remove regional water restrictions

Discussion

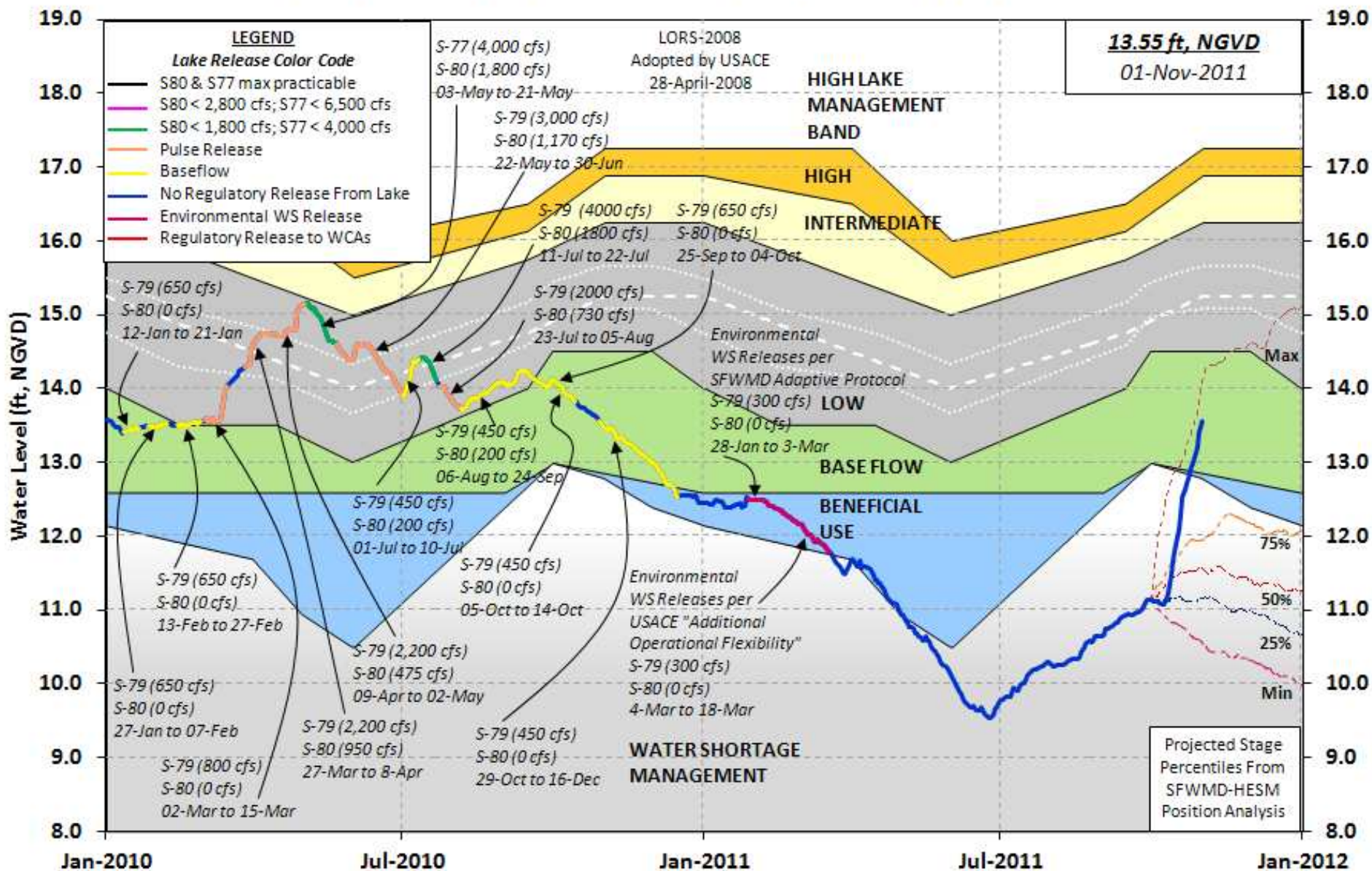
Operations

Utilization of L-8 Reservoir

- Reservoir designed for environmental and water supply purposes
- Limited storage available until permanent pumps are operational
- City of West Palm Beach surface water supplies could reach extreme low levels
- Potential to exceed Loxahatchee River MFL without supplemental flows

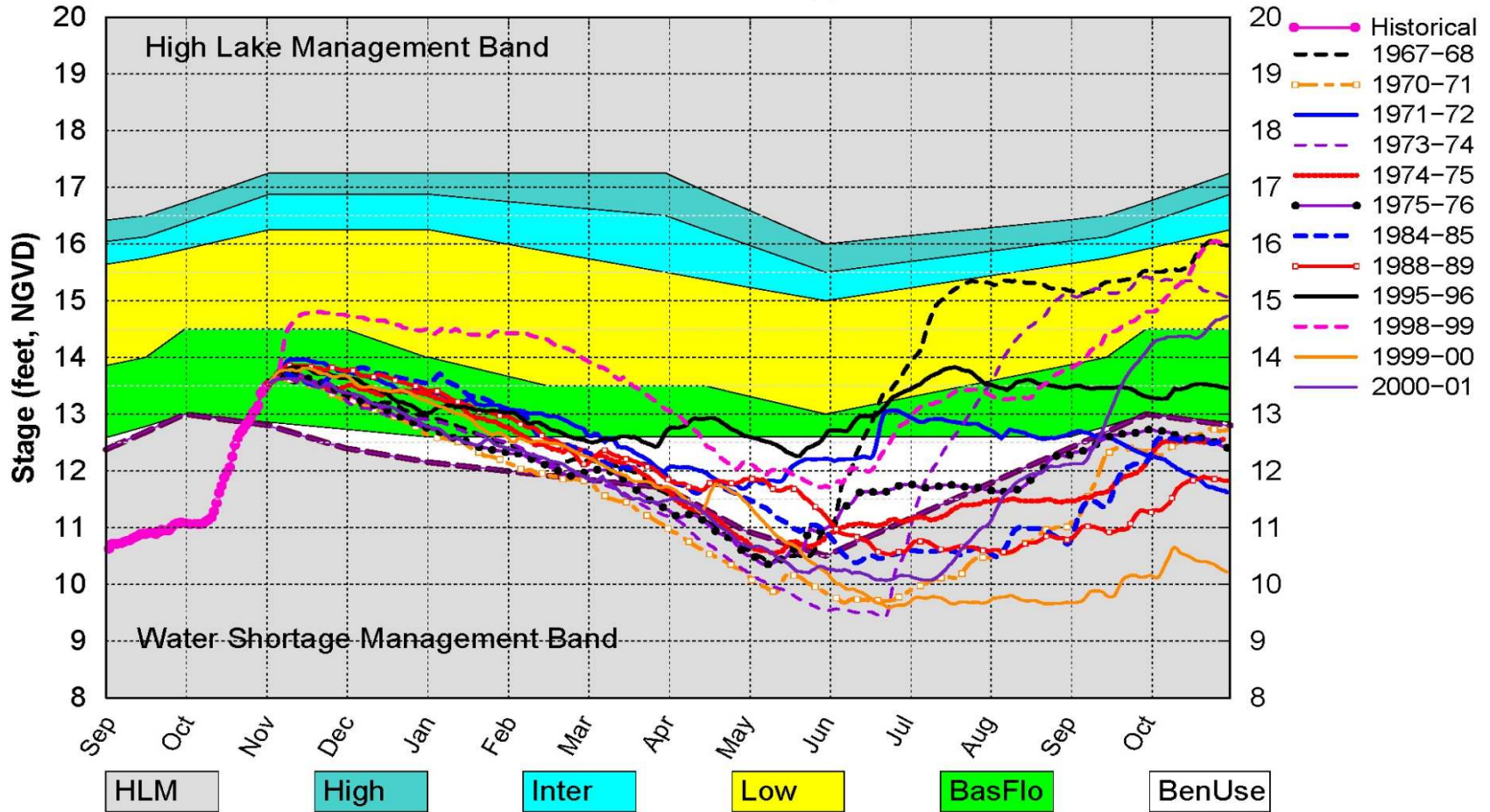
SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Lake Okeechobee Water Level History and Projected Stages



Lake Okeechobee SFWMM November 2011 Position Analysis

All La Nina Years Plot PA_V2



(See assumptions on the Position Analysis Results website)