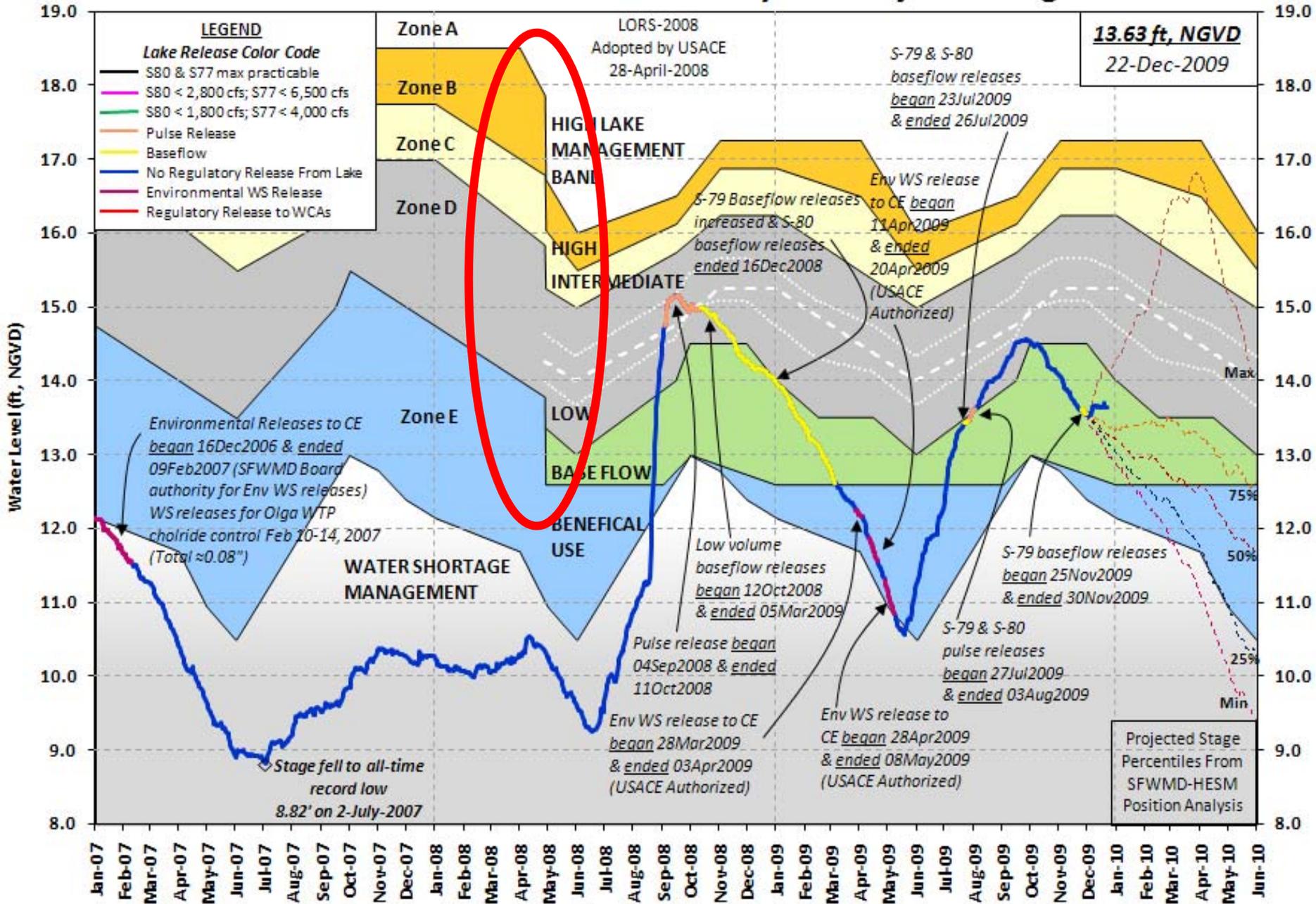


# Adaptive Protocols for Lake Okeechobee Operations – Status Update

*Water Resources Advisory Commission  
January 6, 2010*

Susan Gray, Ph.D., Chief Scientist  
Restoration Sciences Department

# Lake Okeechobee Water Level History and Projected Stages



# Adaptive Protocols Status Update

- Five meetings held to date
- Reviewed assumptions and modeling in the development of Lake Okeechobee Regulation Schedule (LORS) 2008
- Developed Guiding Principles
- Reviewed and updated performance measures
- Revised draft document sent out for review December 7<sup>th</sup> ; comments due December 31<sup>st</sup>



# Draft Guiding Principles – Key Components

- Balance water supply, flood protection, and environmental protection
- Provide guidance where releases are expressed as a range of volumes, i.e. “up to 2000 cfs”
- Identify opportunities for “win-win” or “win-neutral” improvements
- Provide guidance on environmental deliveries to the estuaries in the base flow and beneficial use bands

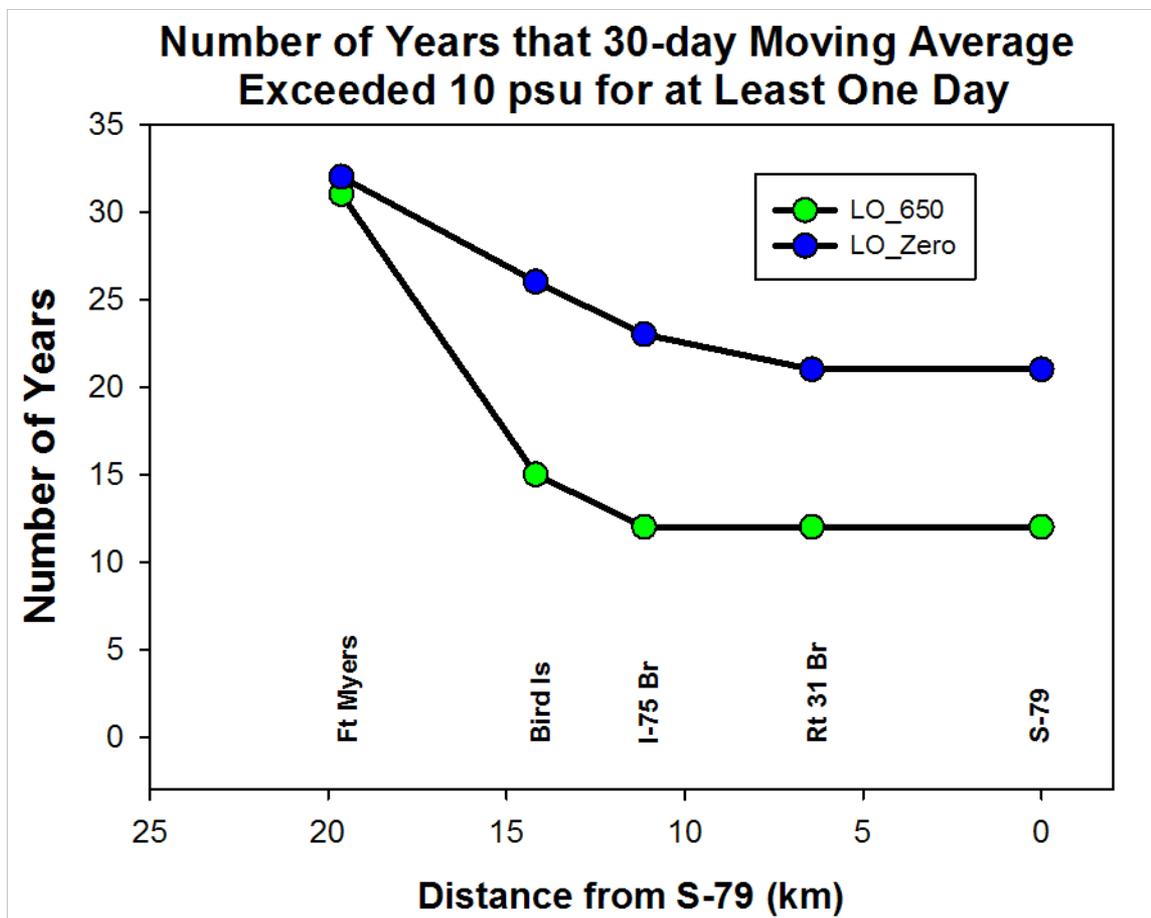


# Adaptive Protocols Status Update (cont)

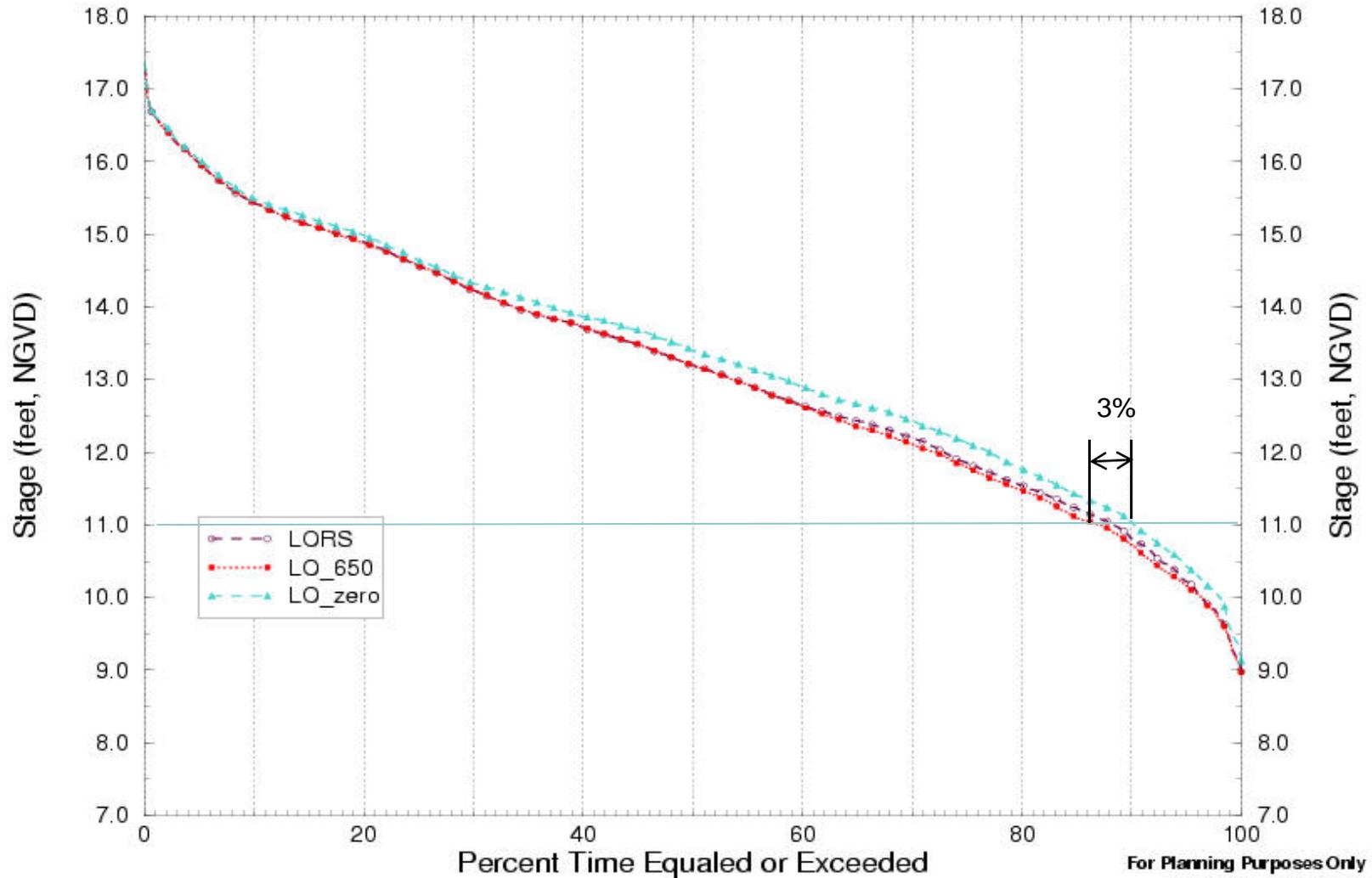
- Conducted modeling comparing releases of 650 to 0 cfs in the base flow and beneficial use sub-bands to assess system performance. Results showed:
  - Limited improvement in meeting the Caloosahatchee MFL salinity criteria
  - Improvement in areas upstream of Ft. Myers between Bird Island and S-79
  - Minimal impacts to the Lake (~3% decline in stage-duration)
  - Water supply impacts ranged from 0 to 8% increase in cutback volume for critical drought years



# 30 Day Moving Average Salinity – Caloosahatchee Estuary



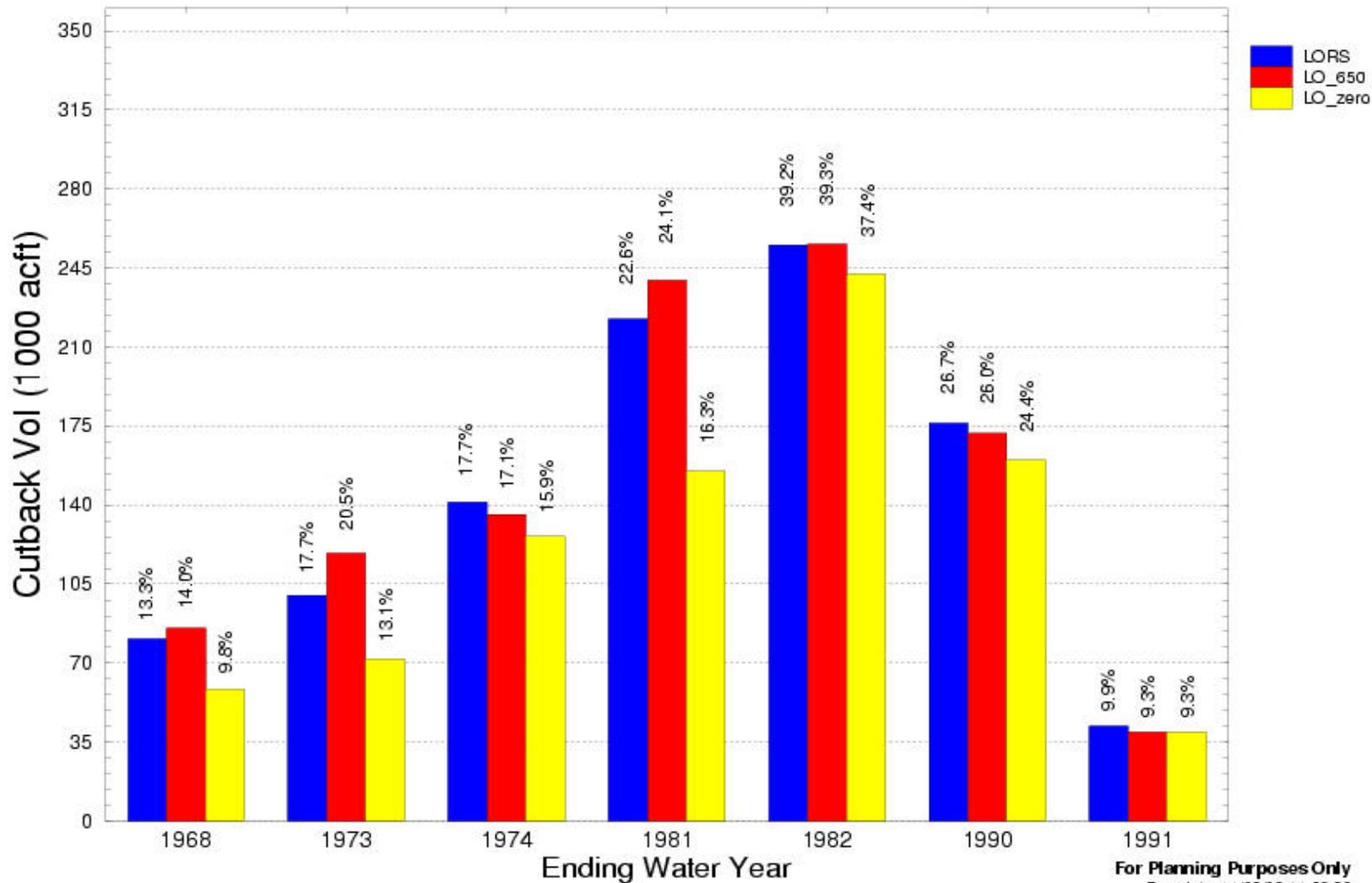
# Stage Duration Curves for Lake Okeechobee



**For Planning Purposes Only**  
Run date: 11/02/09 11:20:40  
SFWMM V5.5.1  
Script used: hyd\_dur.scr, V1.11  
Filename: lok\_dai\_stgdur.tig

# Water Year (Oct–Sep) LOSA Demand Cutback Volumes

## for the 7 Years in Simulation Period with Largest Cutbacks



Note: Data Labels Reflect the % of Supplemental Demand NOT Met.

**For Planning Purposes Only**  
 Run date: 11/02/09 11:22:39  
 SFWMM V5.5.1  
 Script used: losa\_cutback\_yrs.scr, V1.2  
 Filename: losa\_cutback\_yrs\_bar.fig

# Adaptive Protocols Areas of Consensus

- Clarify advisory role for SFWMD to make release recommendations to the USACE
- Recommend to the USACE to be “conservative” in releases in the Low Release band at the beginning of the dry season as long as it doesn’t impact dike safety (verify with modeling)
- Develop release decision flow chart for guiding releases in the Low, Base Flow and Beneficial Use bands



# Adaptive Protocols Status Update – Next Steps

- Results of modeling of conservative release approach and draft decision flow chart for releases to be presented at next meeting
- Recommend that the USACE consider “test driving” the conservative release approach this dry season as the protocols are being finalized
- Revise document and distribute for second round of reviews



# Adaptive Protocols Status Update – Next Steps (cont)

- Continue to brief Executive Office, WRAC and Governing Board as the process comes to closure
- Additional meetings tentatively scheduled for:
  - February 16<sup>th</sup> – West Palm Beach
  - March 24<sup>th</sup> – West Palm Beach
  - April 28<sup>th</sup> – West Palm Beach

(dates subject to change)

