

Lake Okeechobee Ecology: Looking Back and Looking Ahead, from LORS08 to LOSOM

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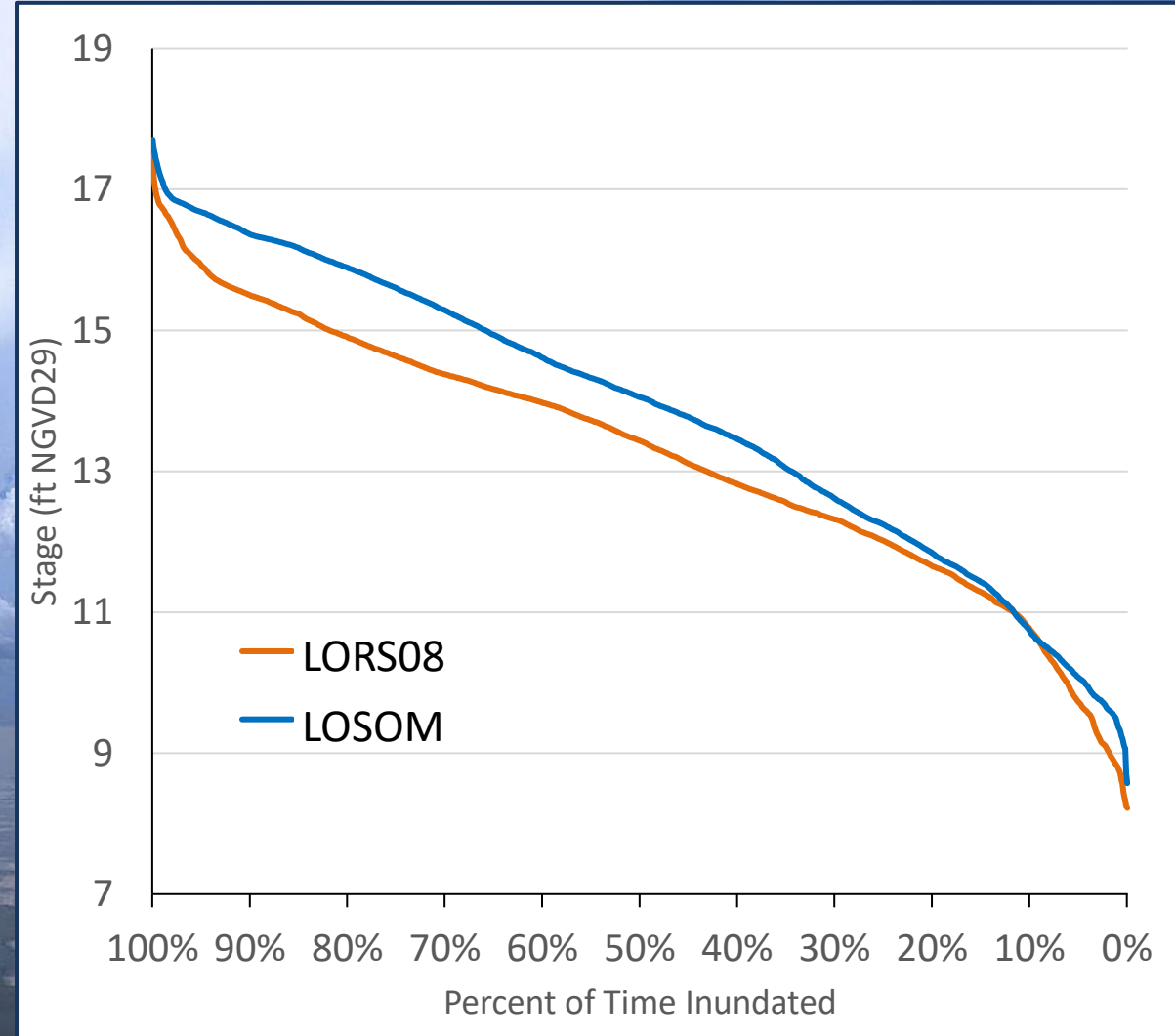
¹South Florida Water Management District



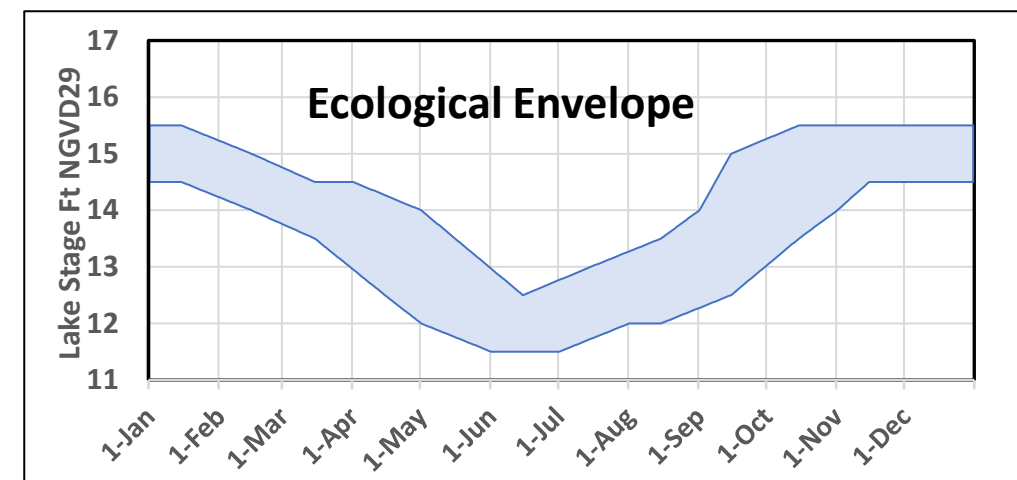
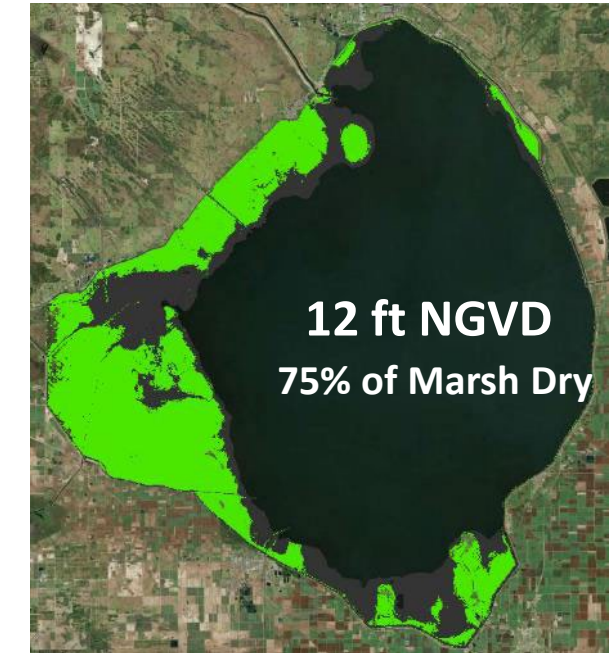
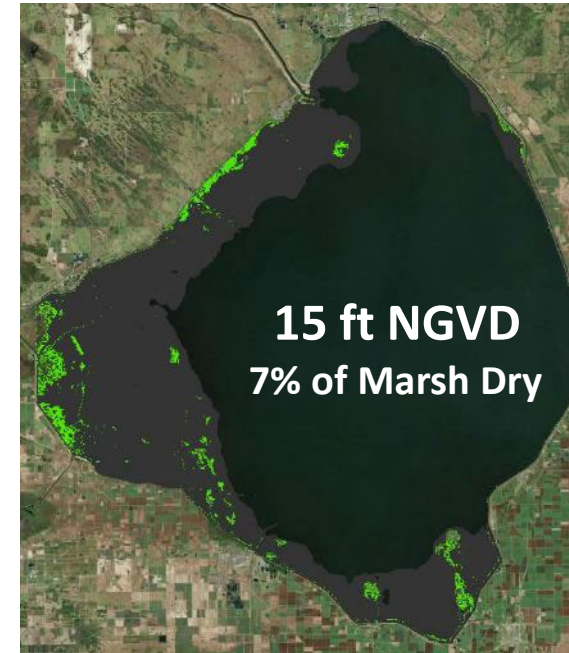
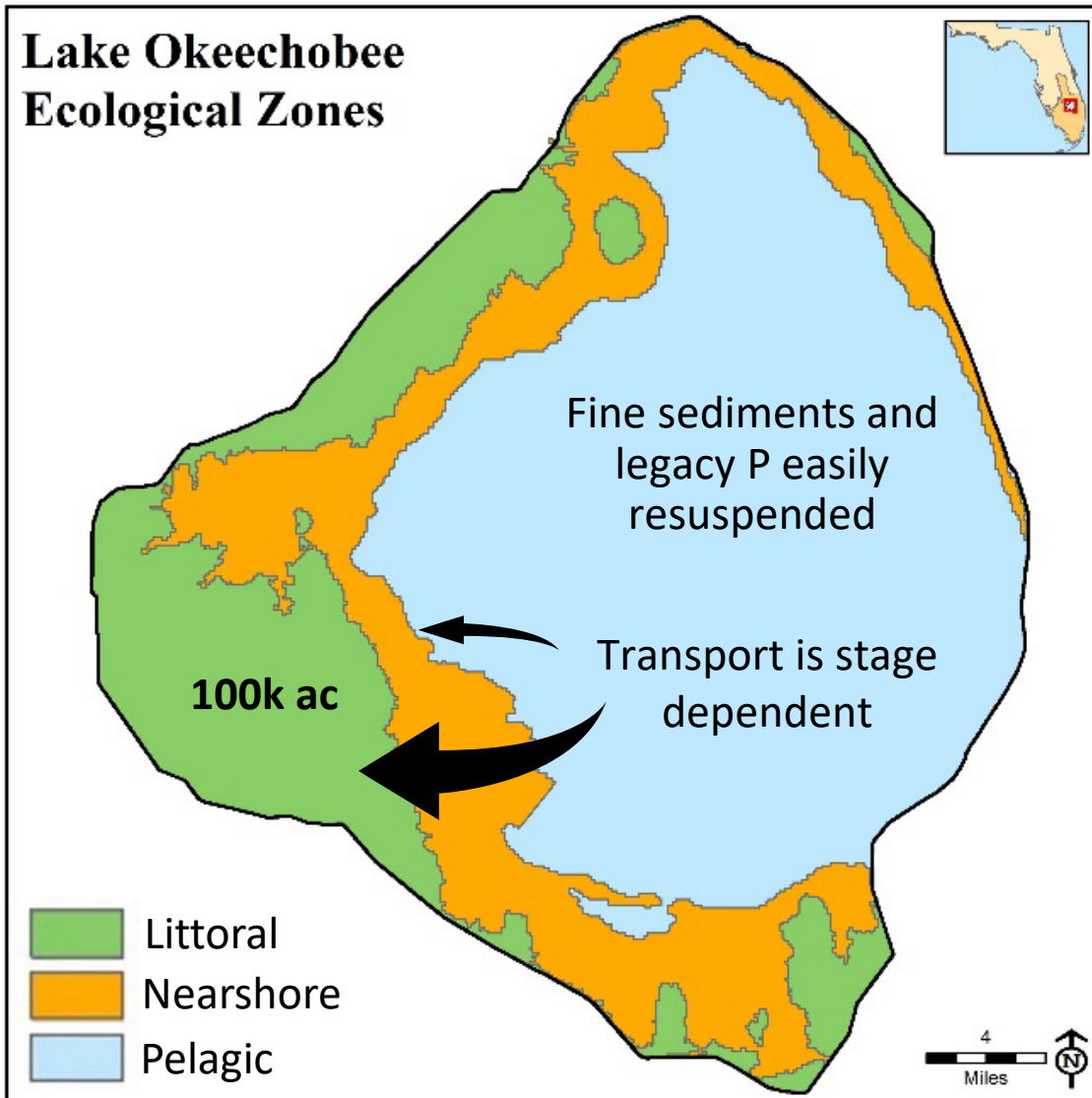
² Florida Fish and Wildlife Conservation Commission

Why the angst?

- LOSOM –higher modeled lake stages than LORS08
- Already have high-water related impacts on the lake
 - SAV, littoral extent and composition, fishery, wading birds
 - Lingering WQ issues and HABs



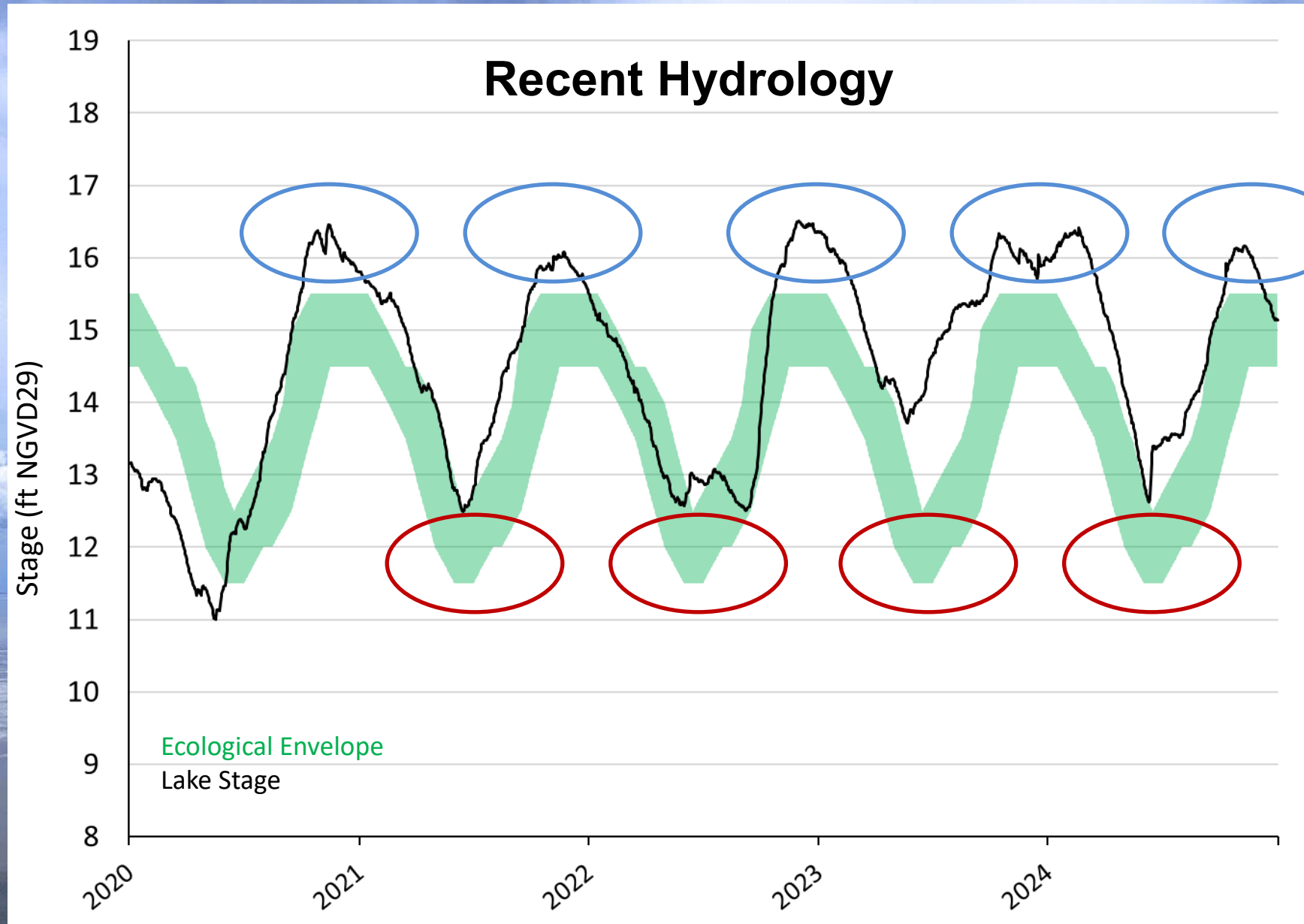
How Lake Stages Affect Littoral Health

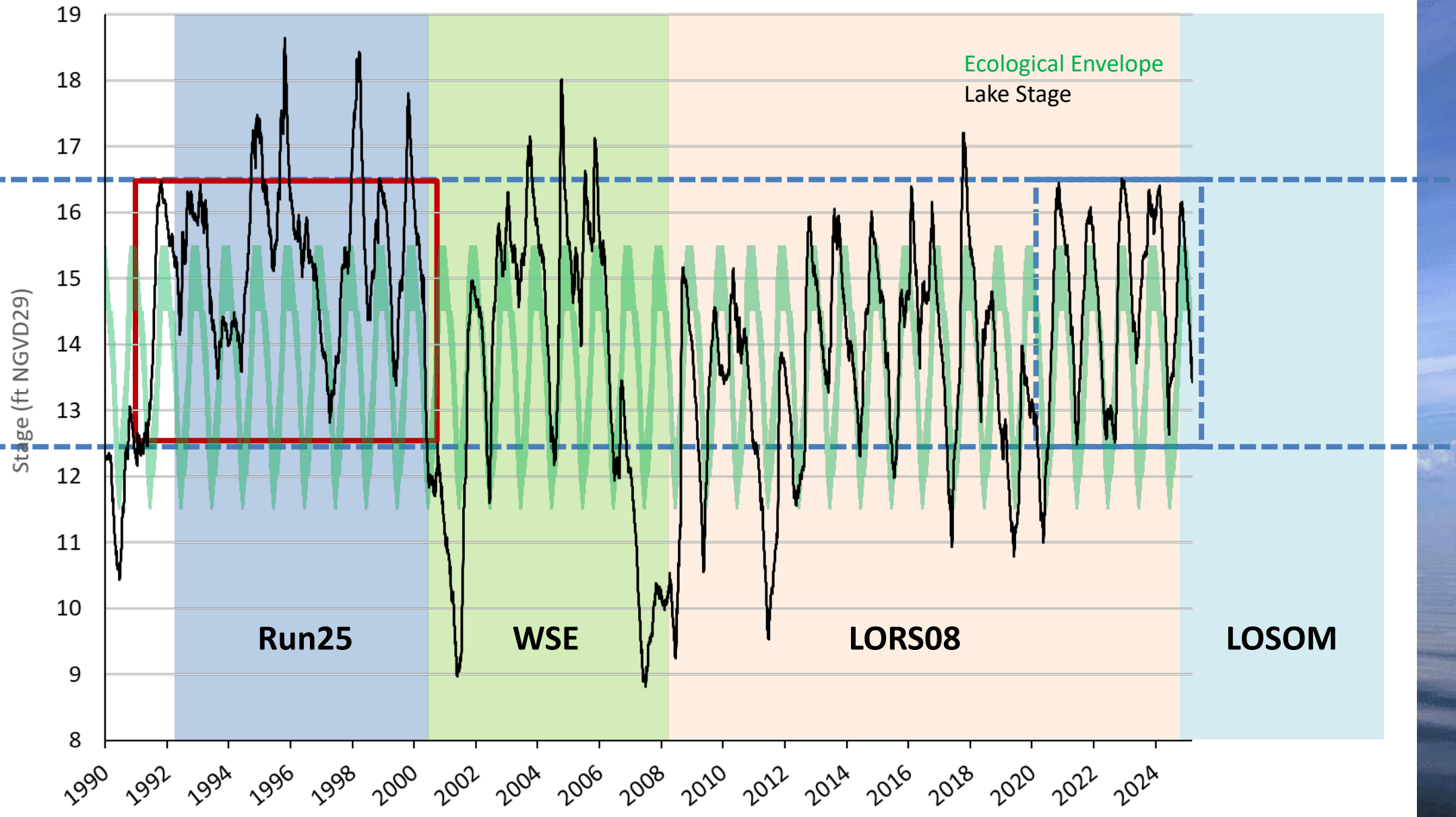


On the cusp of LOSOM – Considering environmental events and ecological changes under LORS08

Zach Welch
Section Administrator
Lake & River Ecosystems

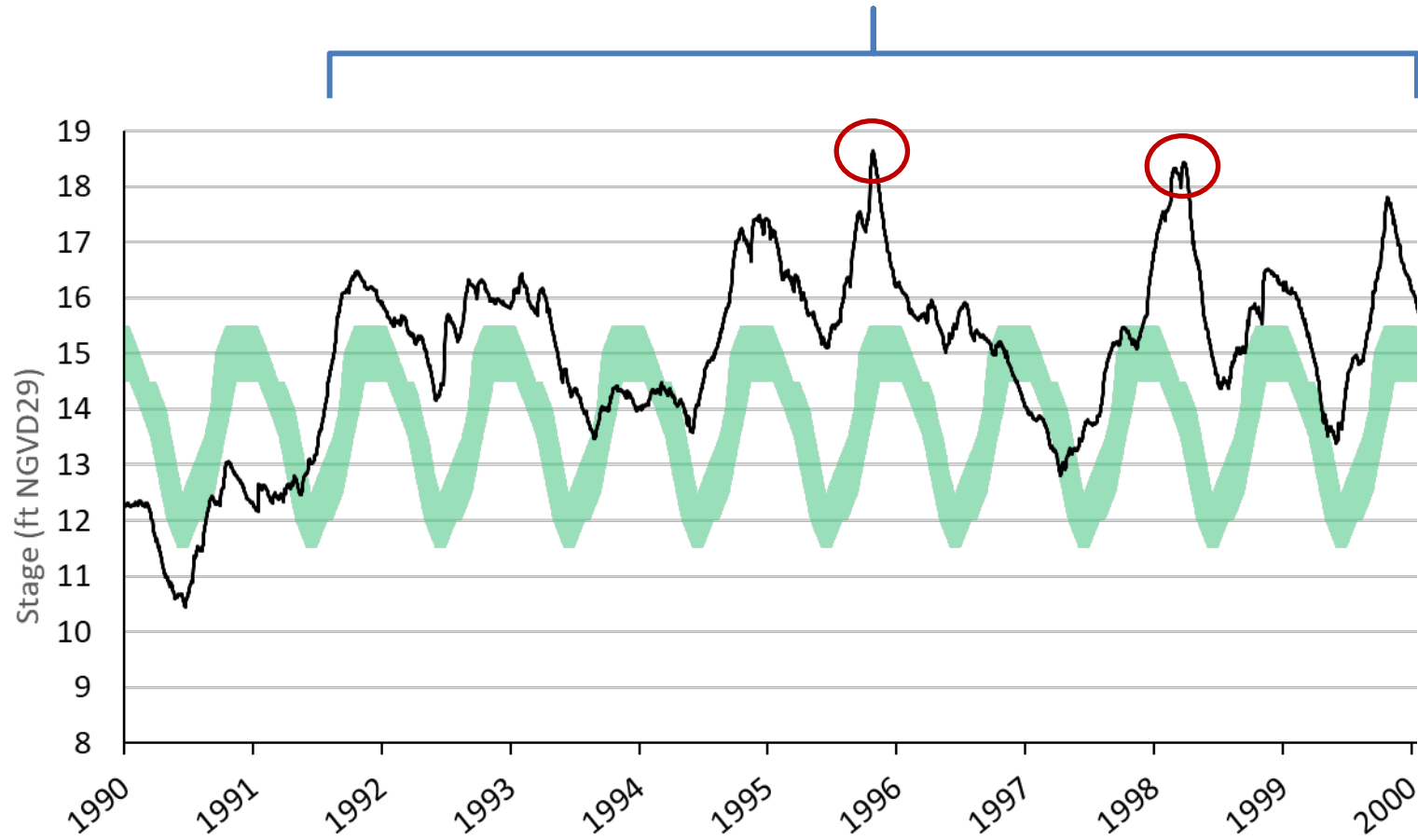






1990s

Wettest period on record



High Stage Record

1998 – 18.33 ft

1995 – 18.64 ft





1992

Fisheating Bay

1999

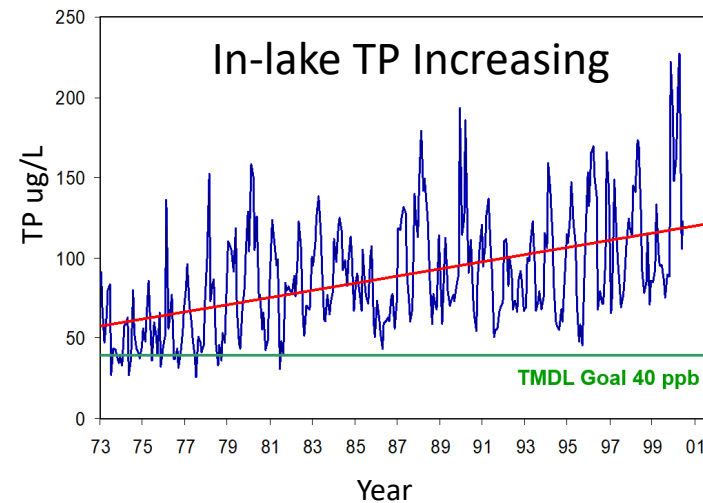
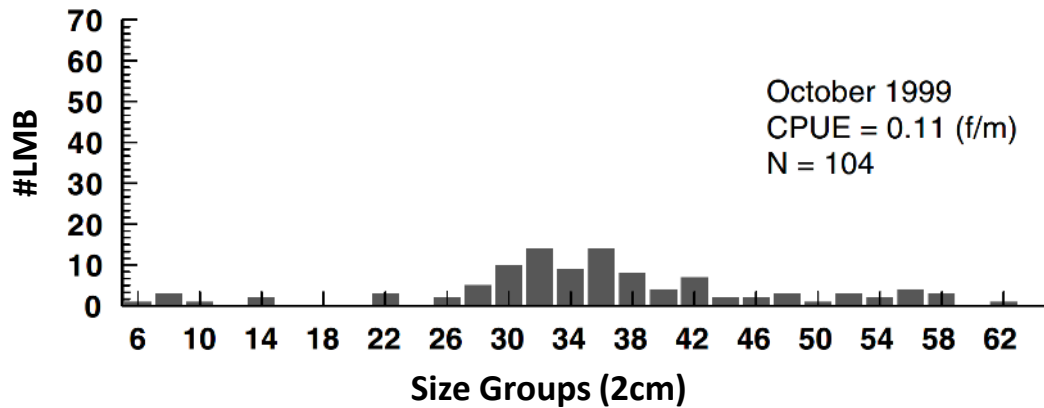
Moonshine
Bay

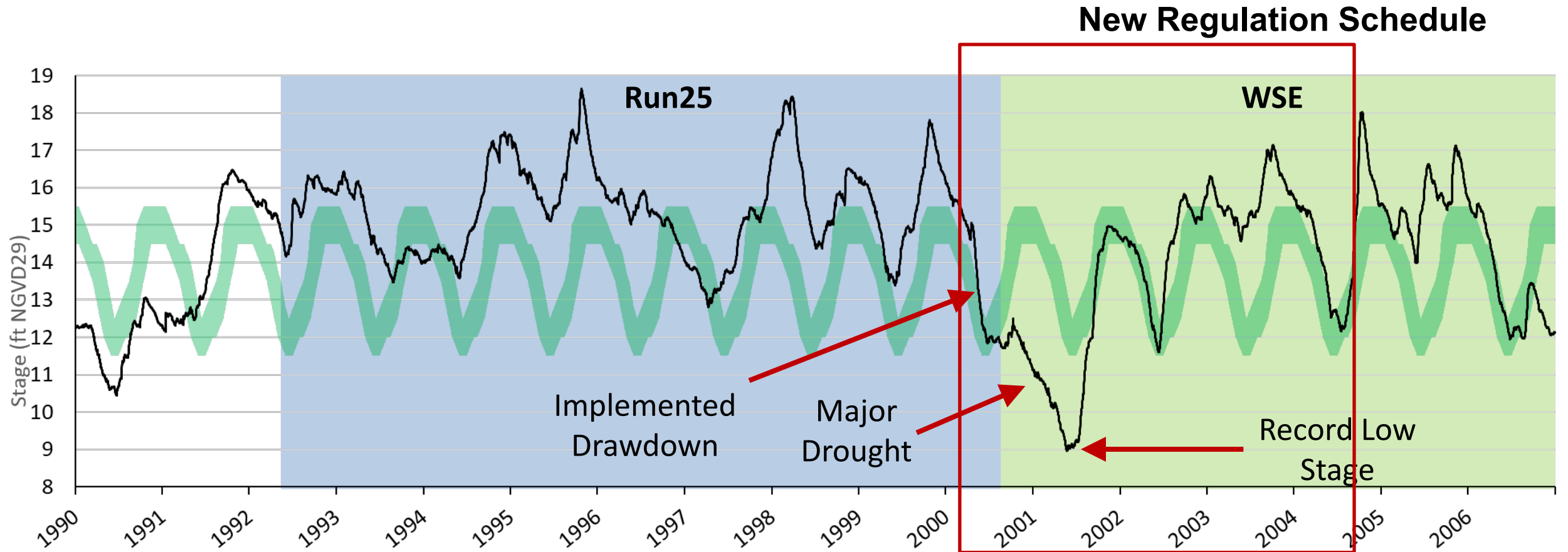
Late 1990s

- Calls for drawdown
- Concerns for SAV and fishery
- Algal blooms, loss of littoral zone
- Lake O Protection Program
- Lower lake schedule

Marsh edge 1999

Largemouth Bass CPUE





2000-2003

- Record low lake stage
- Muck Removal Projects
- Adoption of WSE
- SAV and fish recovery



Indian Prairie 2001



Organic berm removal

JUN 14 2001



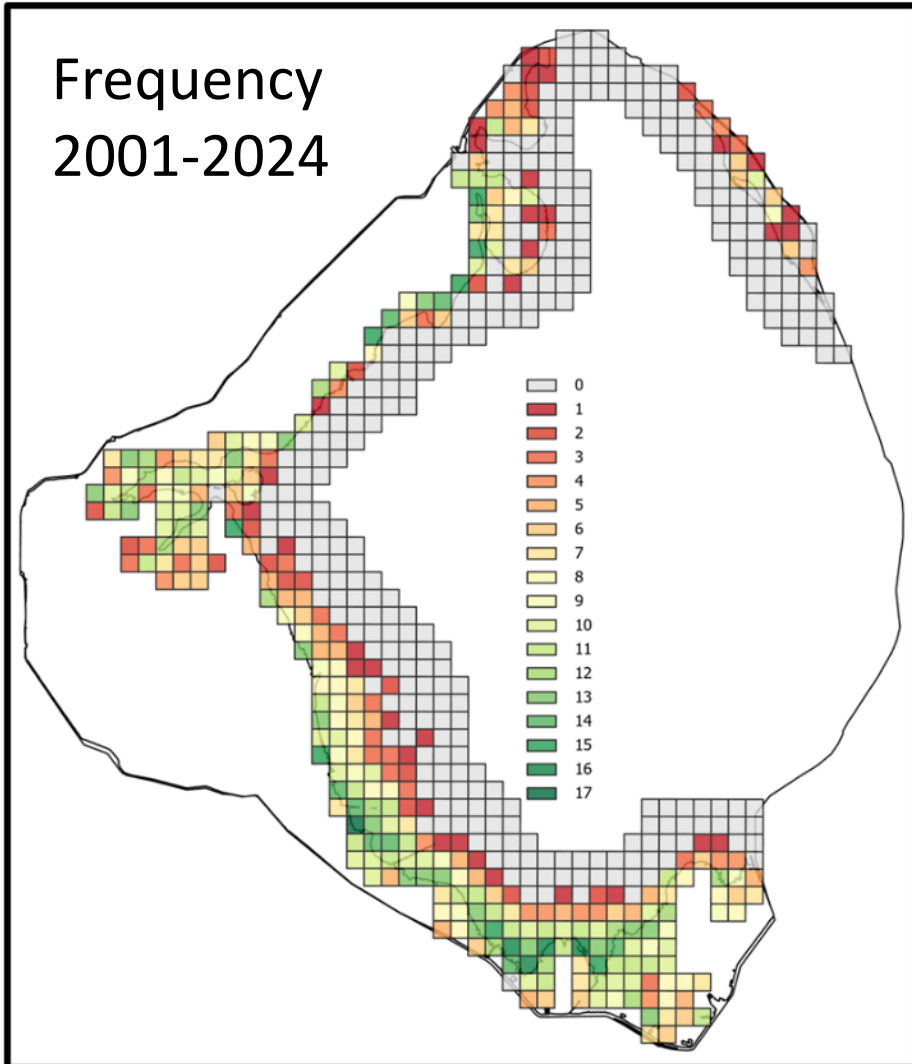
Exposed Fish beds 2000



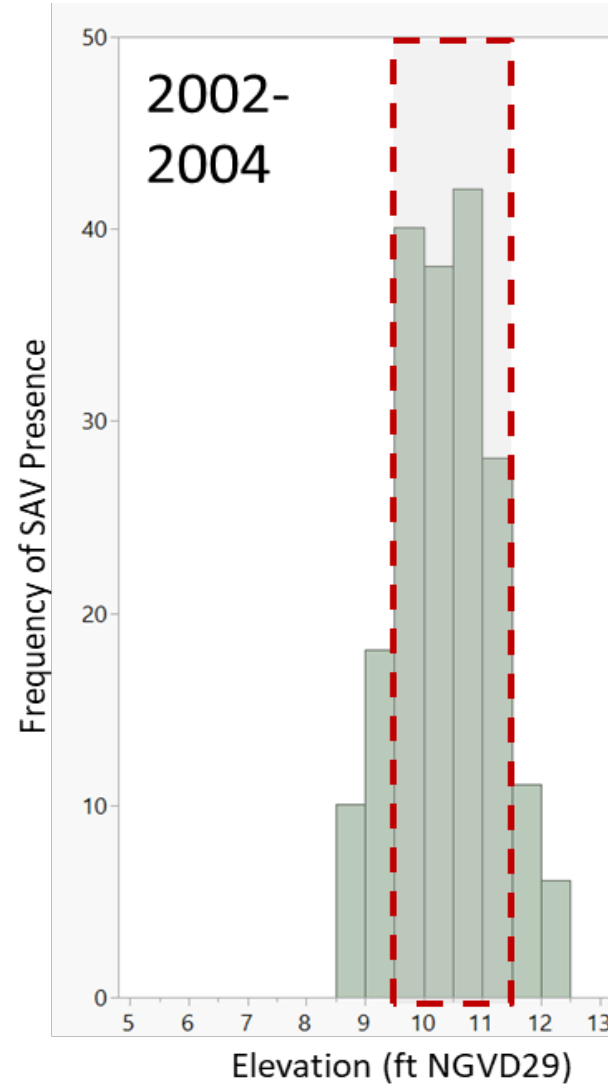
Fisheating Bay 2001

Long-term SAV Monitoring

Frequency
2001-2024



Vascular Distribution



South Bay 2002

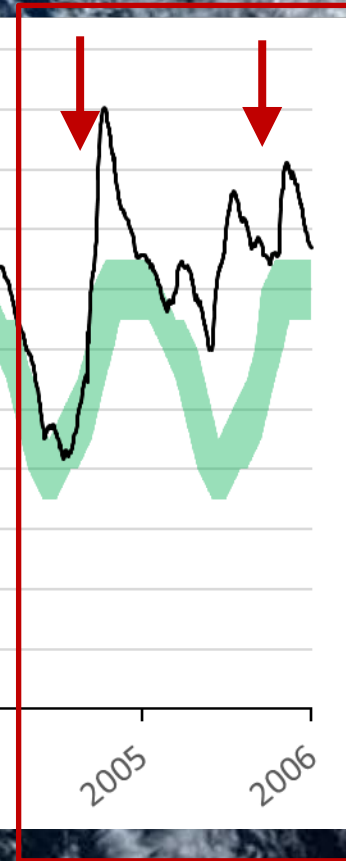
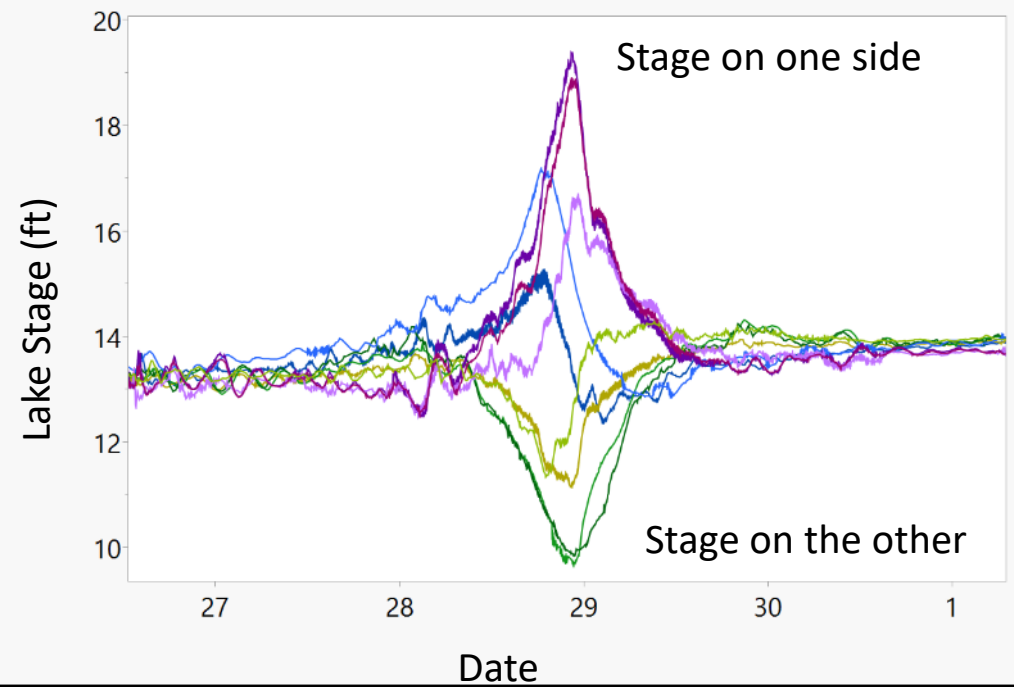


Kings Bar 2003

2004-2006

2004

Lake Okeechobee Water Levels – During Hurricanes





Wilma 2005



Frances 2004



Jeanne 2004



Fisheating Bay 2005



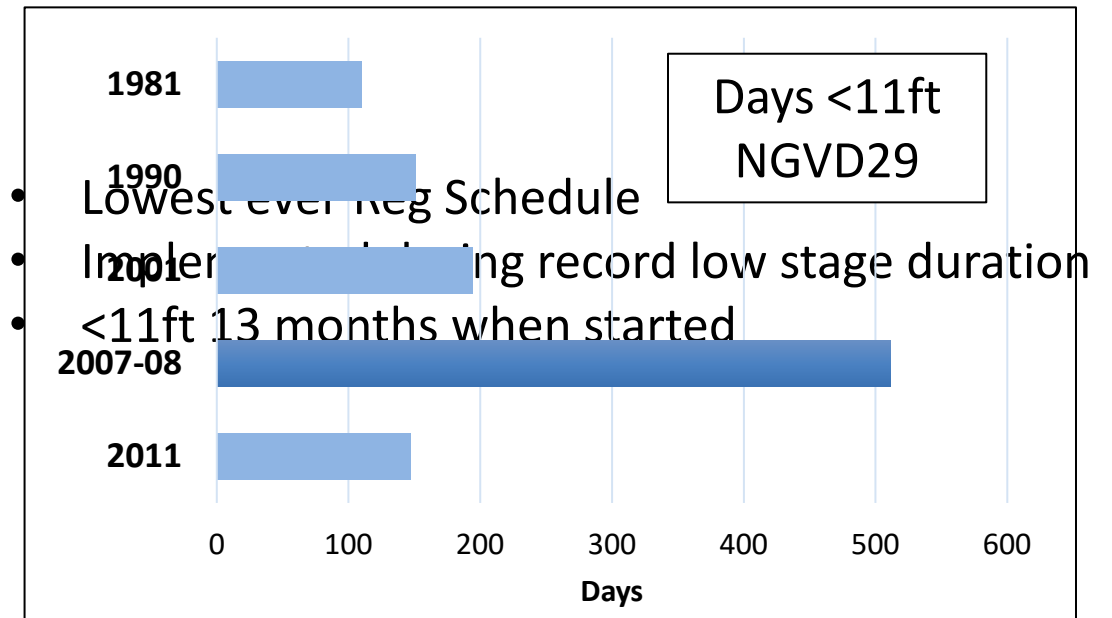
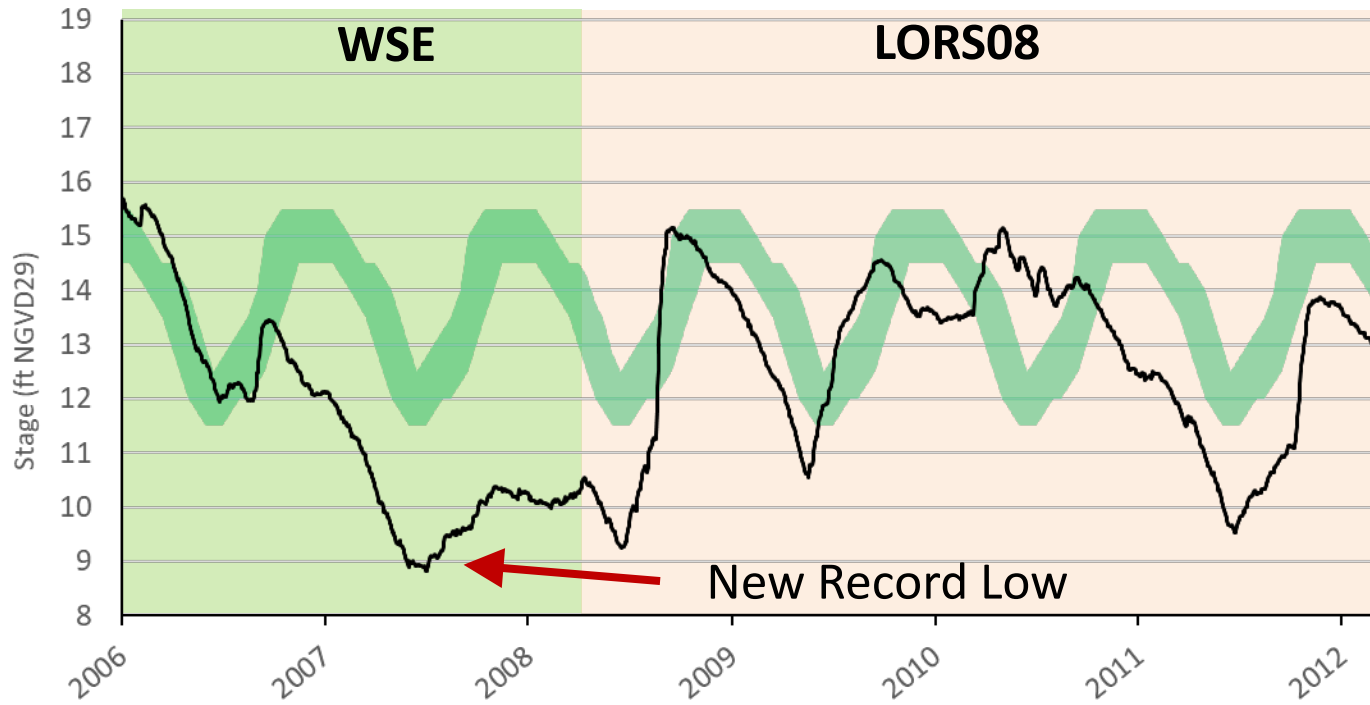
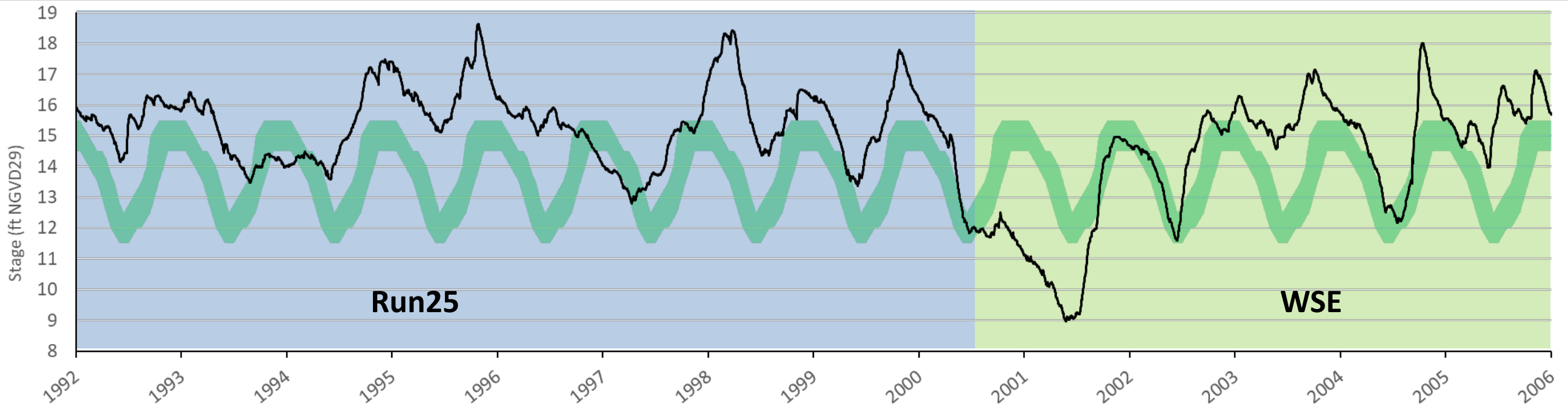
2001



2006

- Calls for drawdown
- Concerns for SAV and fishery
- Algal blooms, loss of littoral zone

SOUTH FLORIDA WATER MANAGEMENT DISTRICT





Indian Prairie Canal 2007



Harney Pond Canal 2007

04/16/2007



Fisheating Bay
2007



Indian Prairie 2008



Harney Pond Canal 2007

04/03/2007



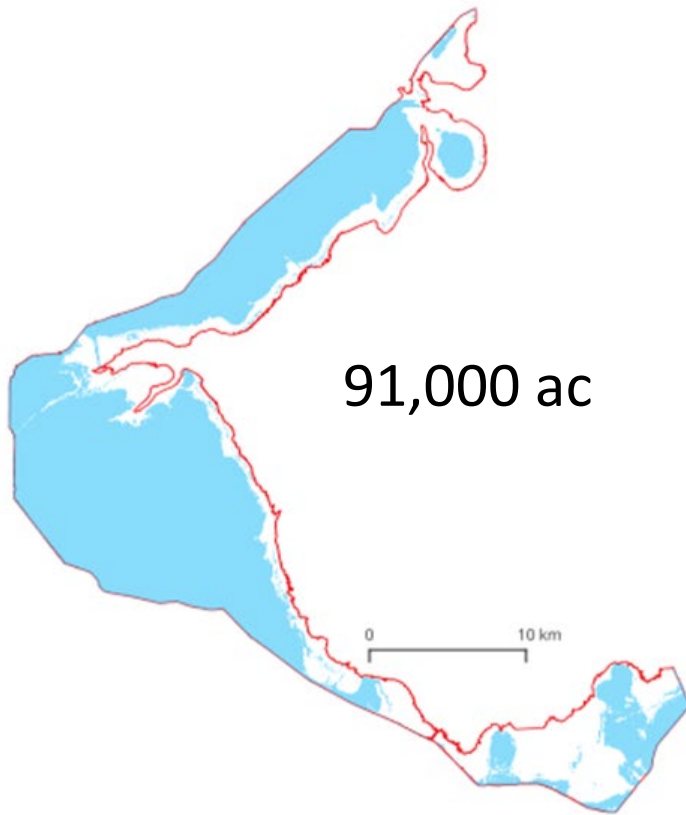
Exposed Rock, W Shore 2007



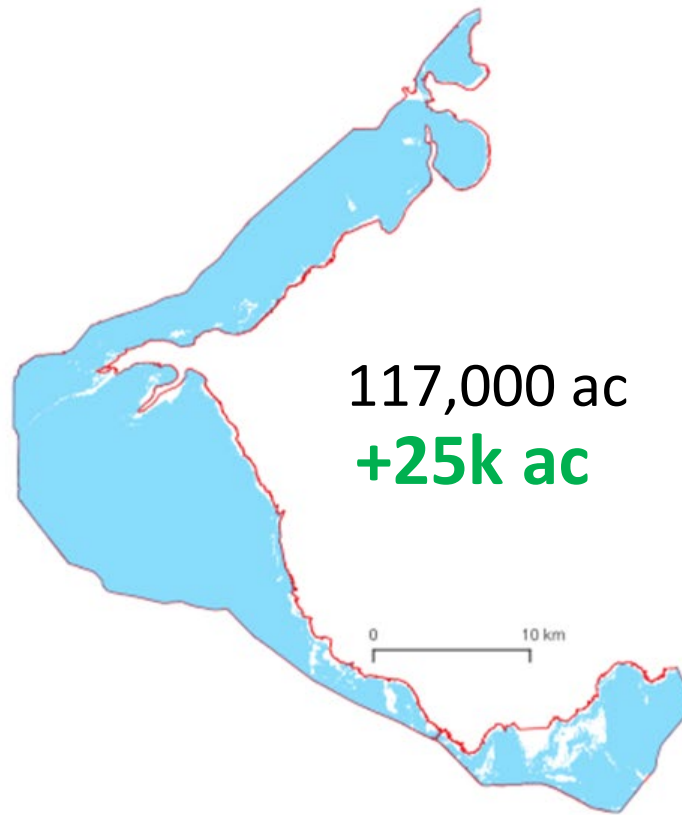
Exposed Peat, South Bay 2007

Marsh and SAV Recovery

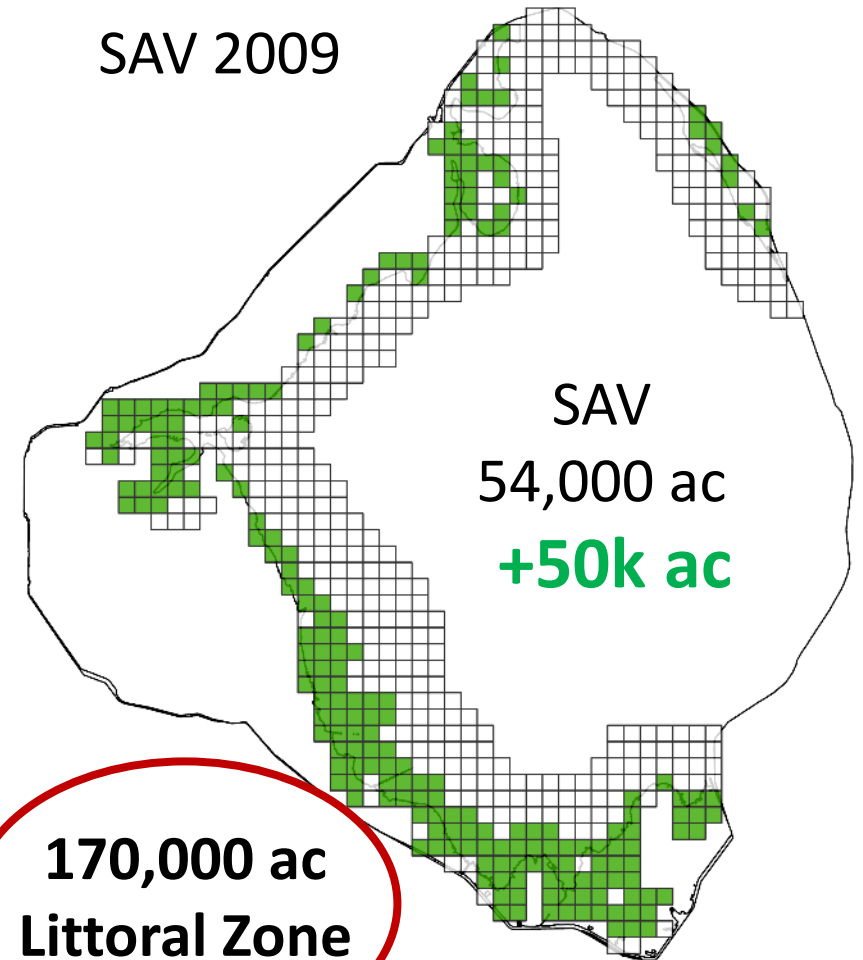
EAV 1999



EAV 2009

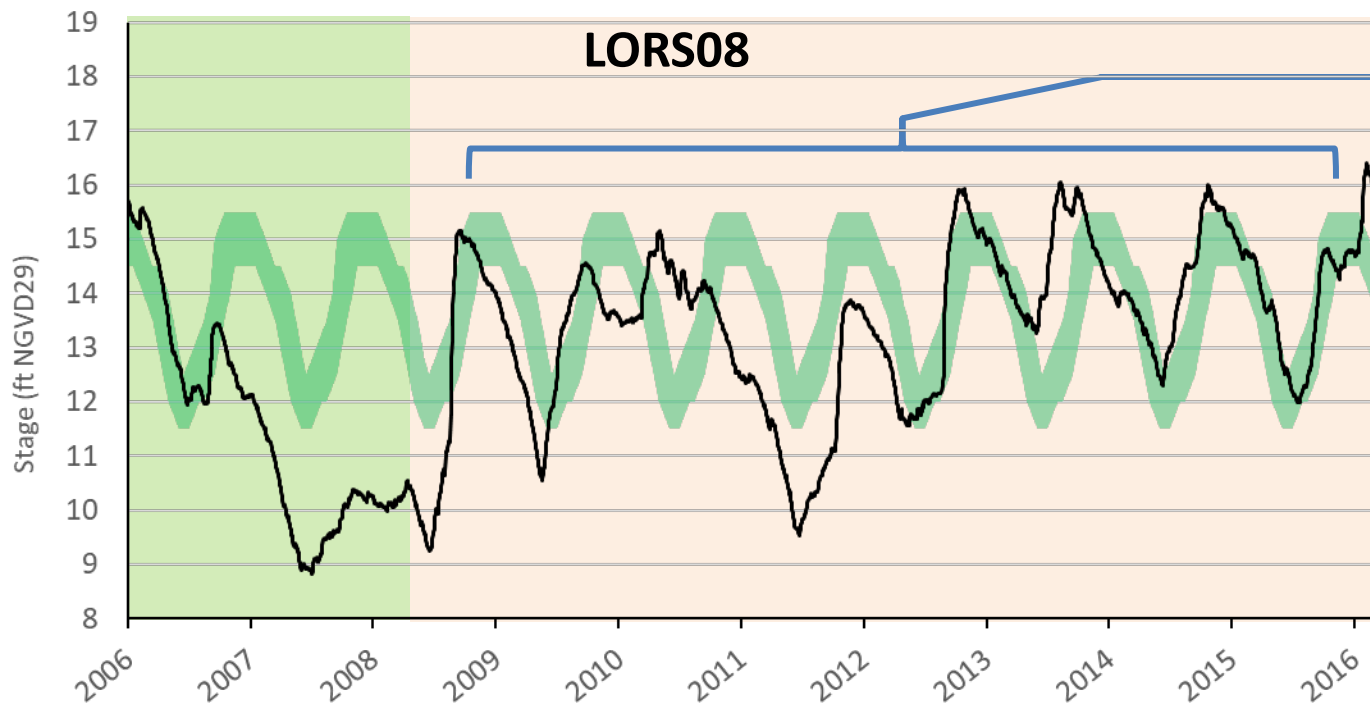
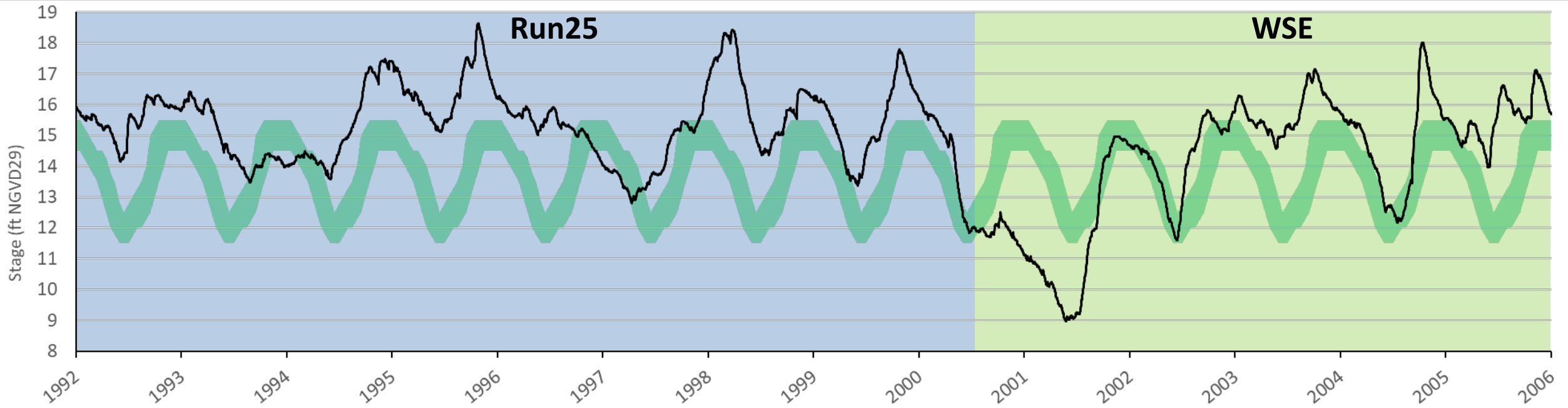


SAV 2009



**170,000 ac
Littoral Zone**

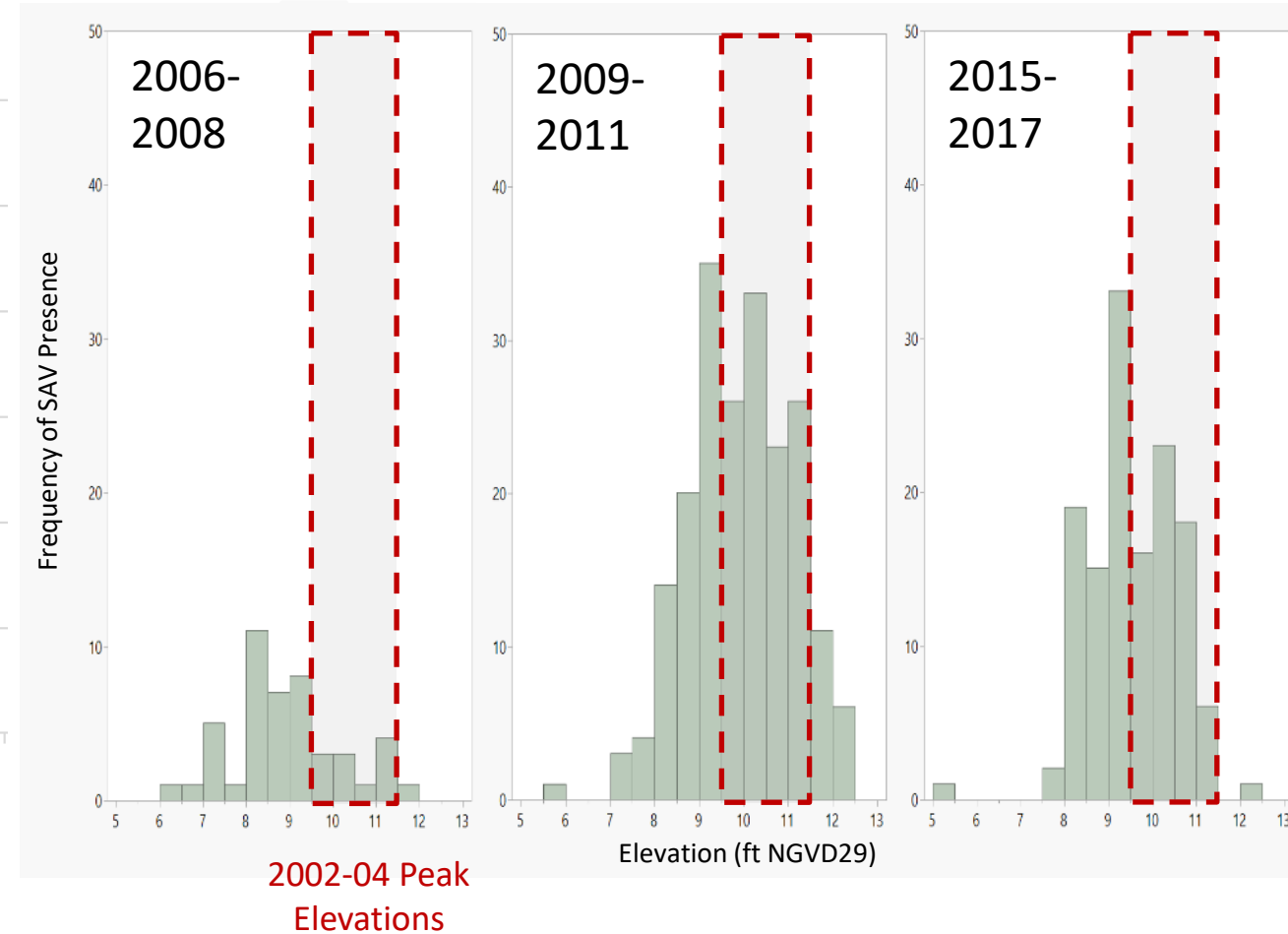
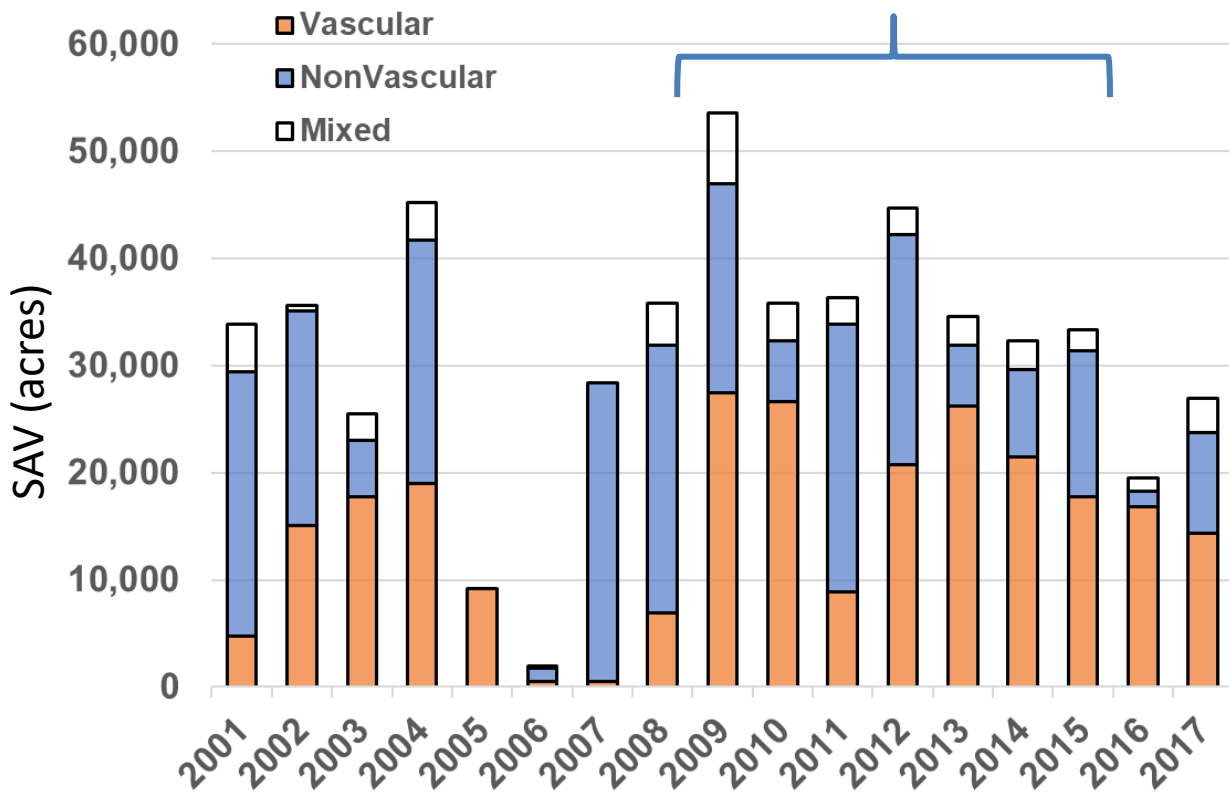
SOUTH FLORIDA WATER MANAGEMENT DISTRICT

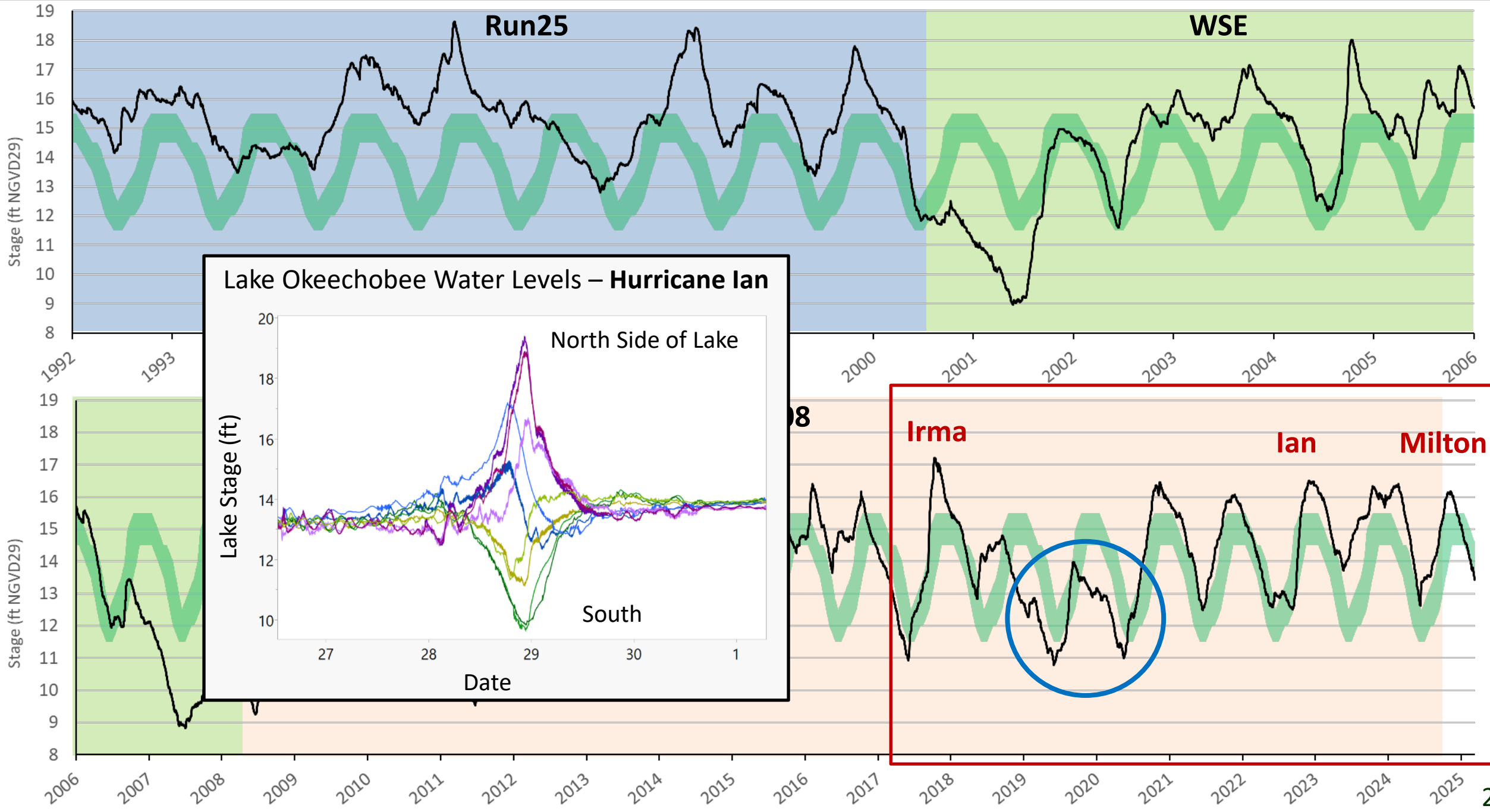


“Golden Years”



SAV Distribution





Hurricane Irma

Inflow with dark tannins

South Lake Okeechobee

Suspended Pelagic
sediments

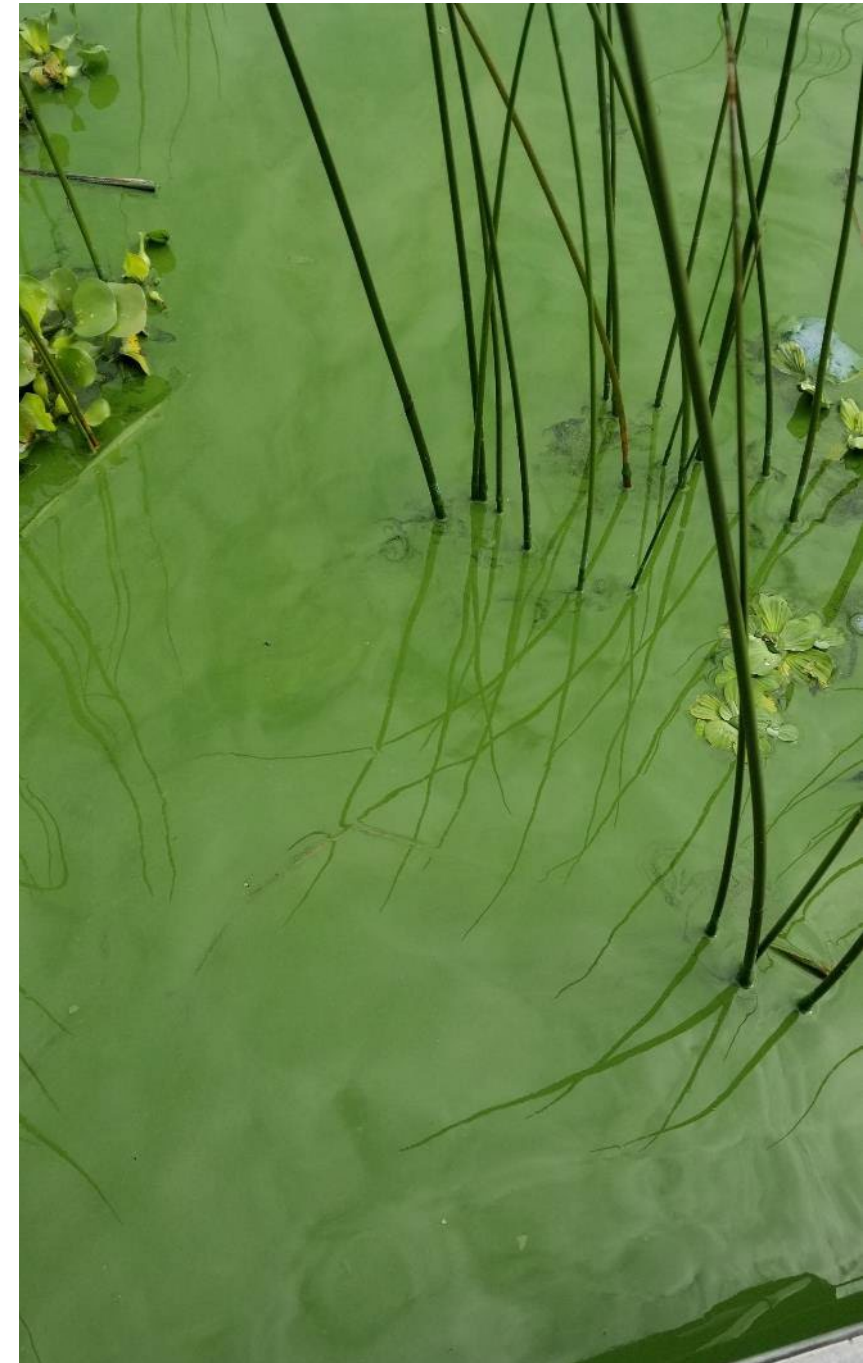
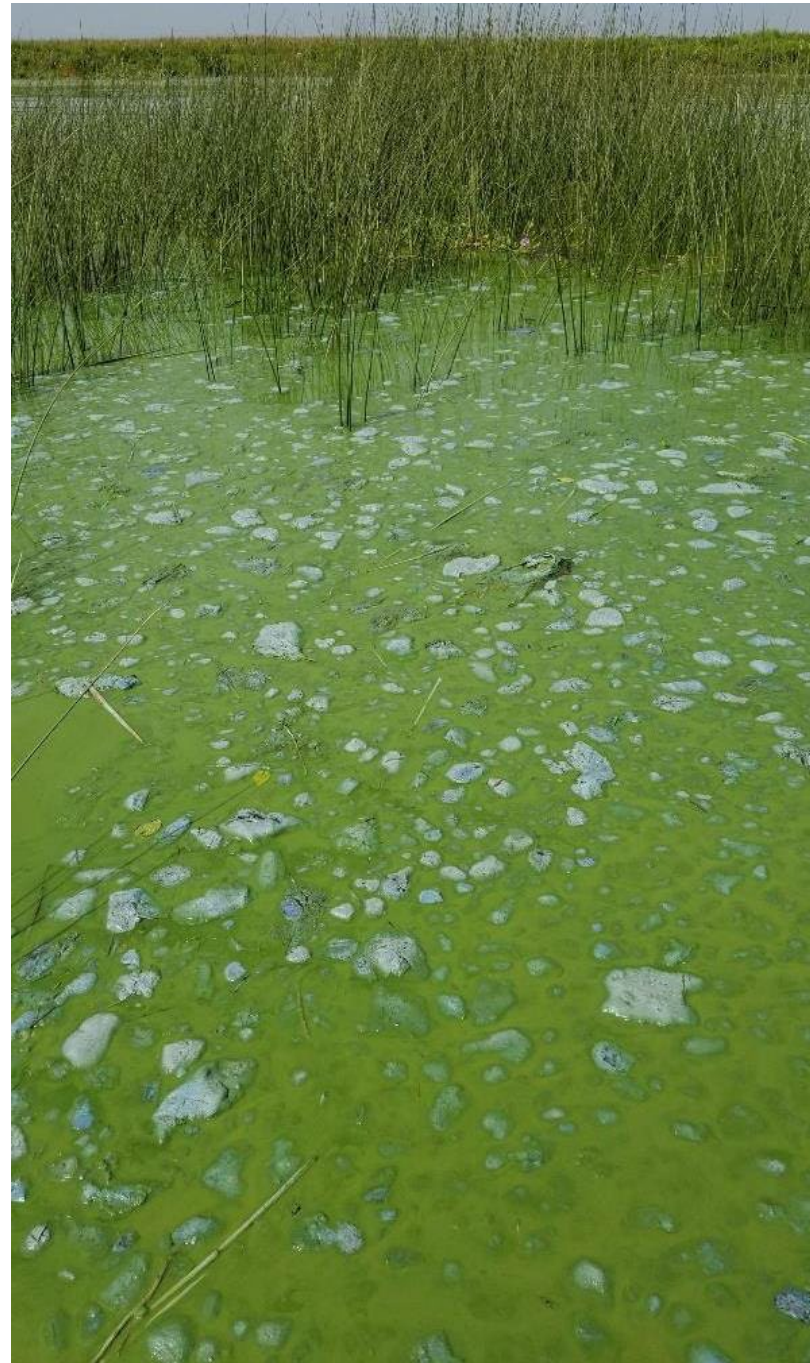
North Lake Okeechobee, Sep 2017

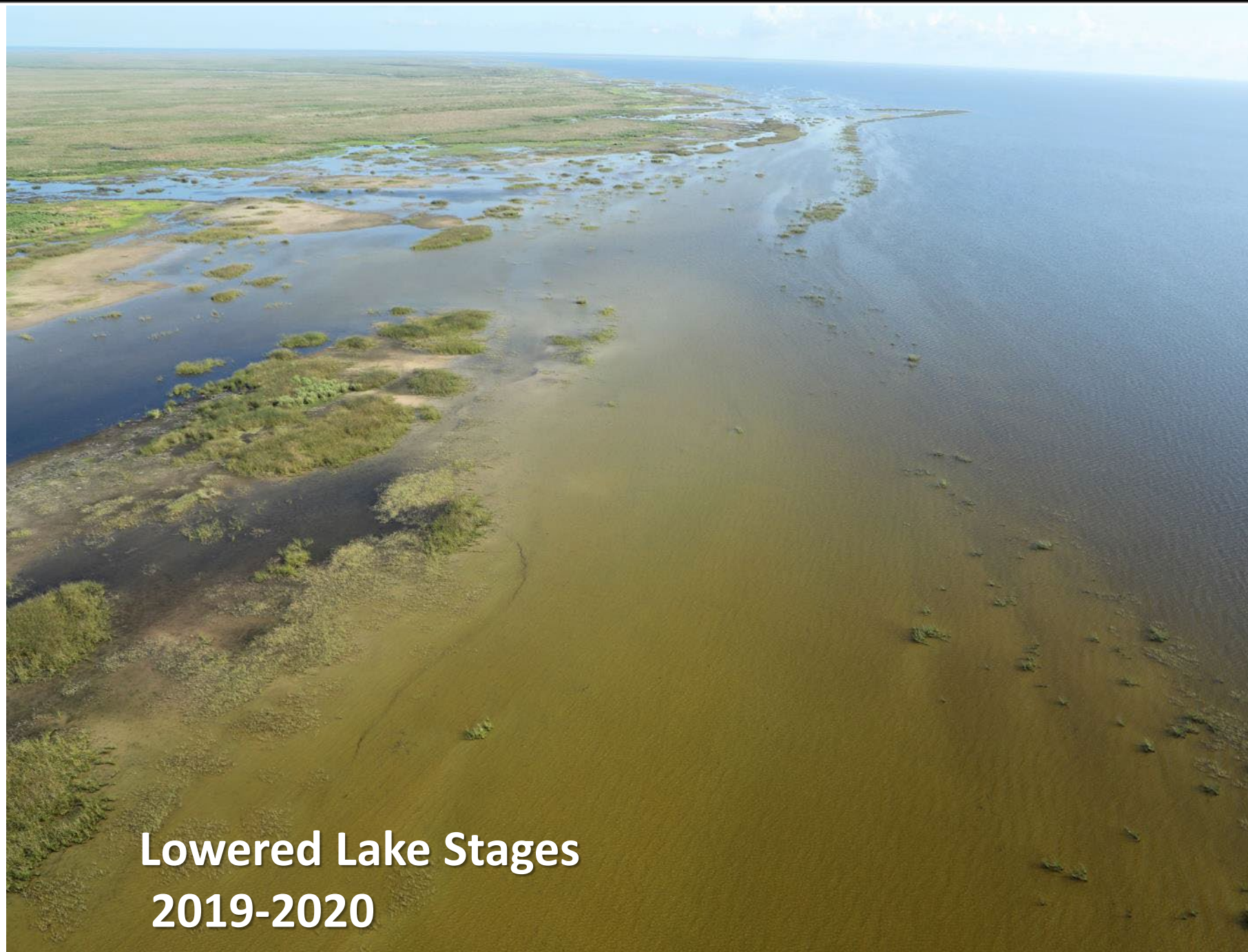
Harney Pond Canal



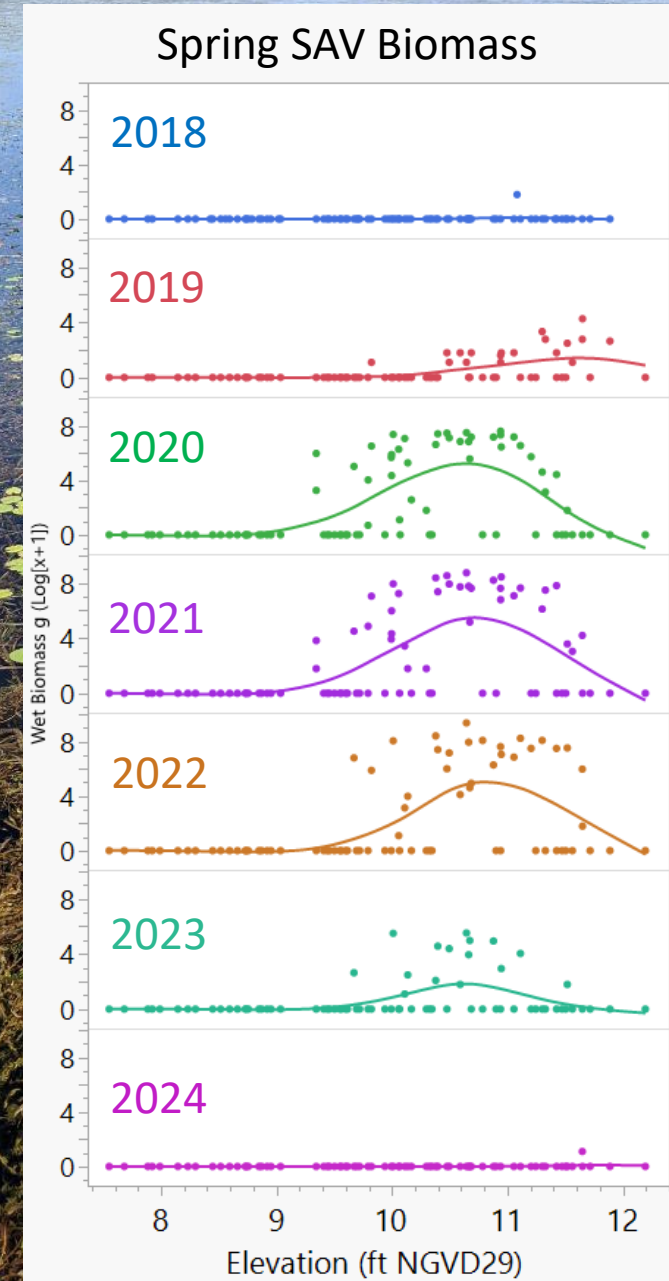
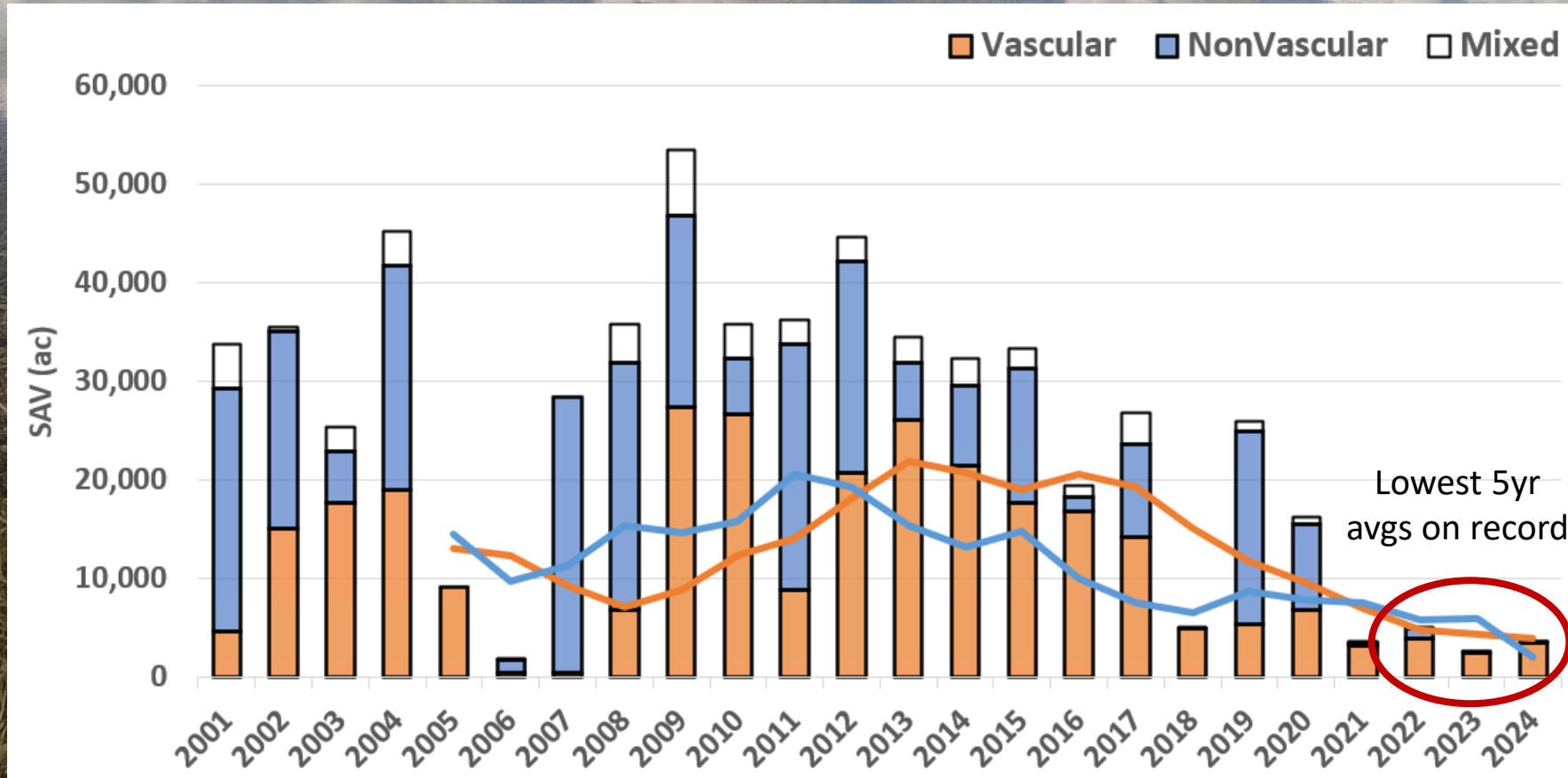
Indian Prairie

Post Hurricane Irma

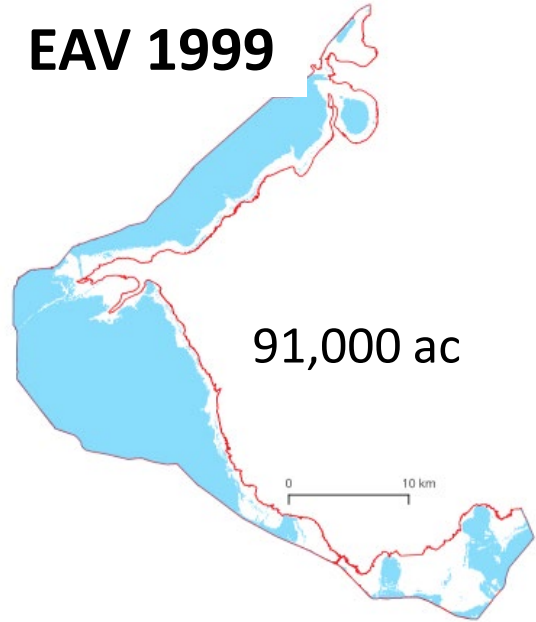




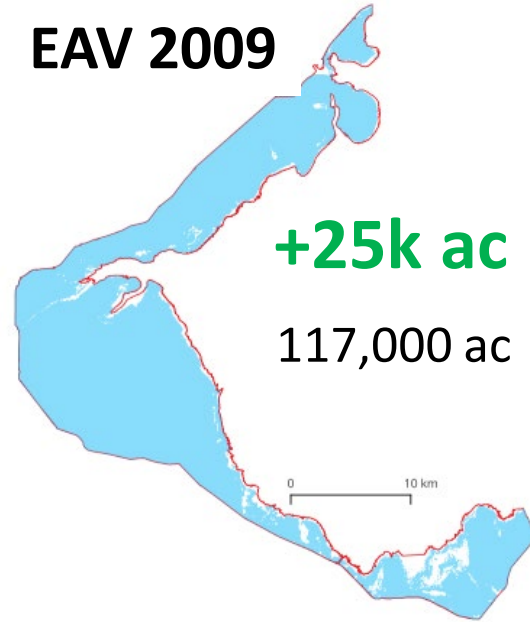
**Lowered Lake Stages
2019-2020**



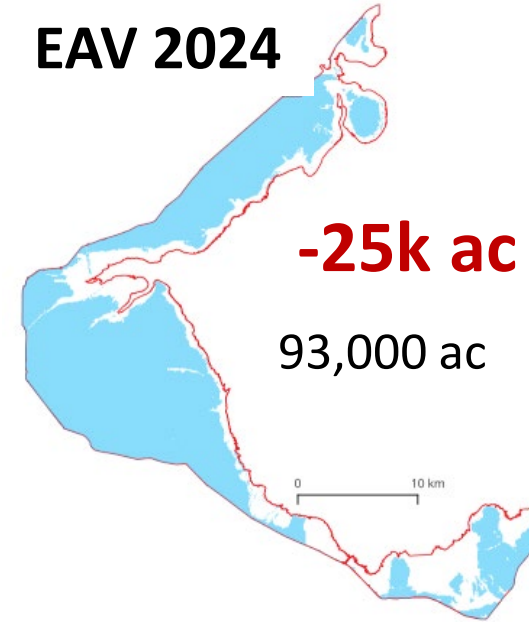
EAV 1999



EAV 2009

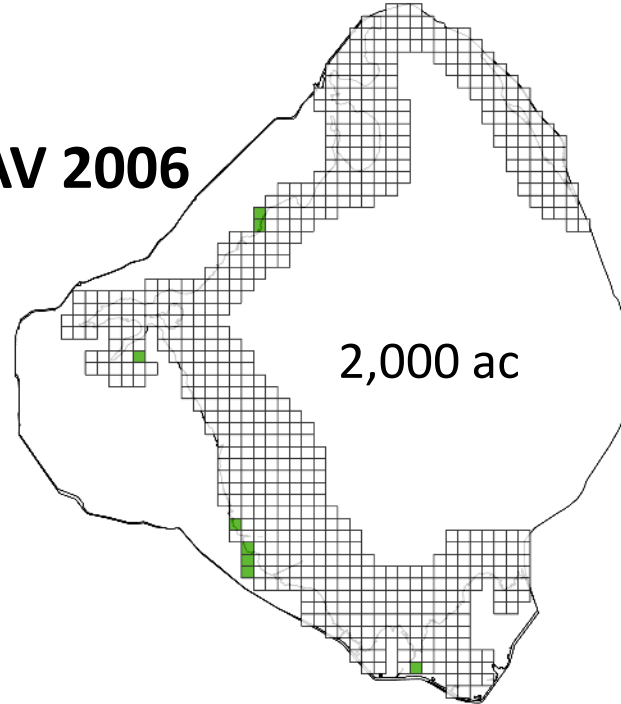


EAV 2024

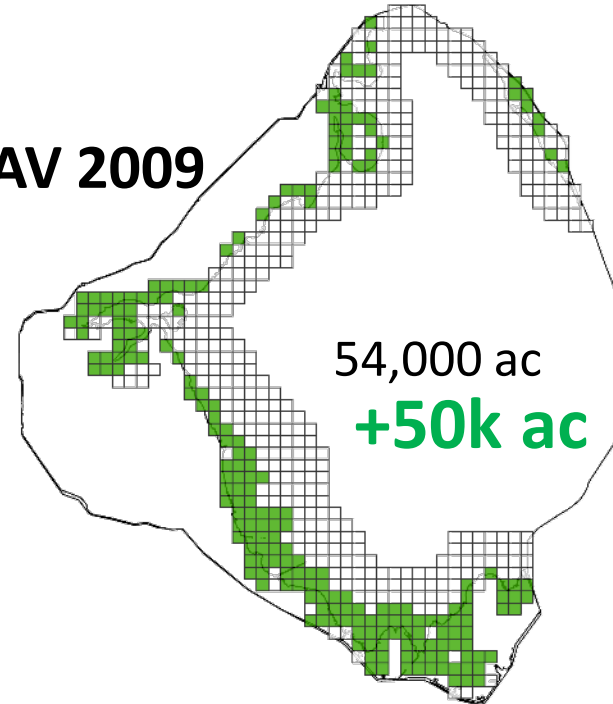


Historical Comparisons

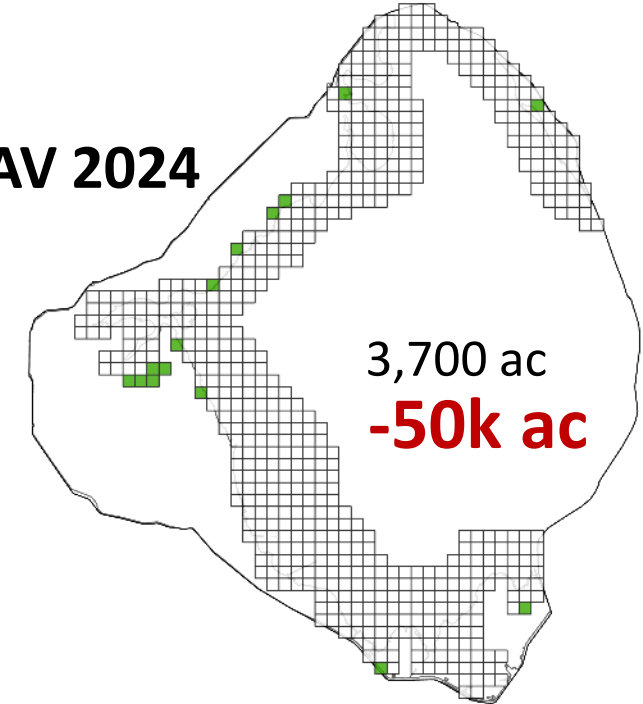
SAV 2006



SAV 2009



SAV 2024





1999



2024

- Calls for drawdown
- Concerns for SAV and fishery
- Algal blooms, loss of littoral zone

Summary

- Conditions – not good, but not unprecedented
- Considerable storm/high-water impacts
- Prior recoveries associated with extreme droughts



Indian Prairie March 2025



SW Shore April 2025

Summary

- Good news - early signs of SAV rebound under LOSOM Recovery operations

Up next...

- Water quality
- Fishery
- Wading Birds
- Habitat management

SW Shoreline April 2025

