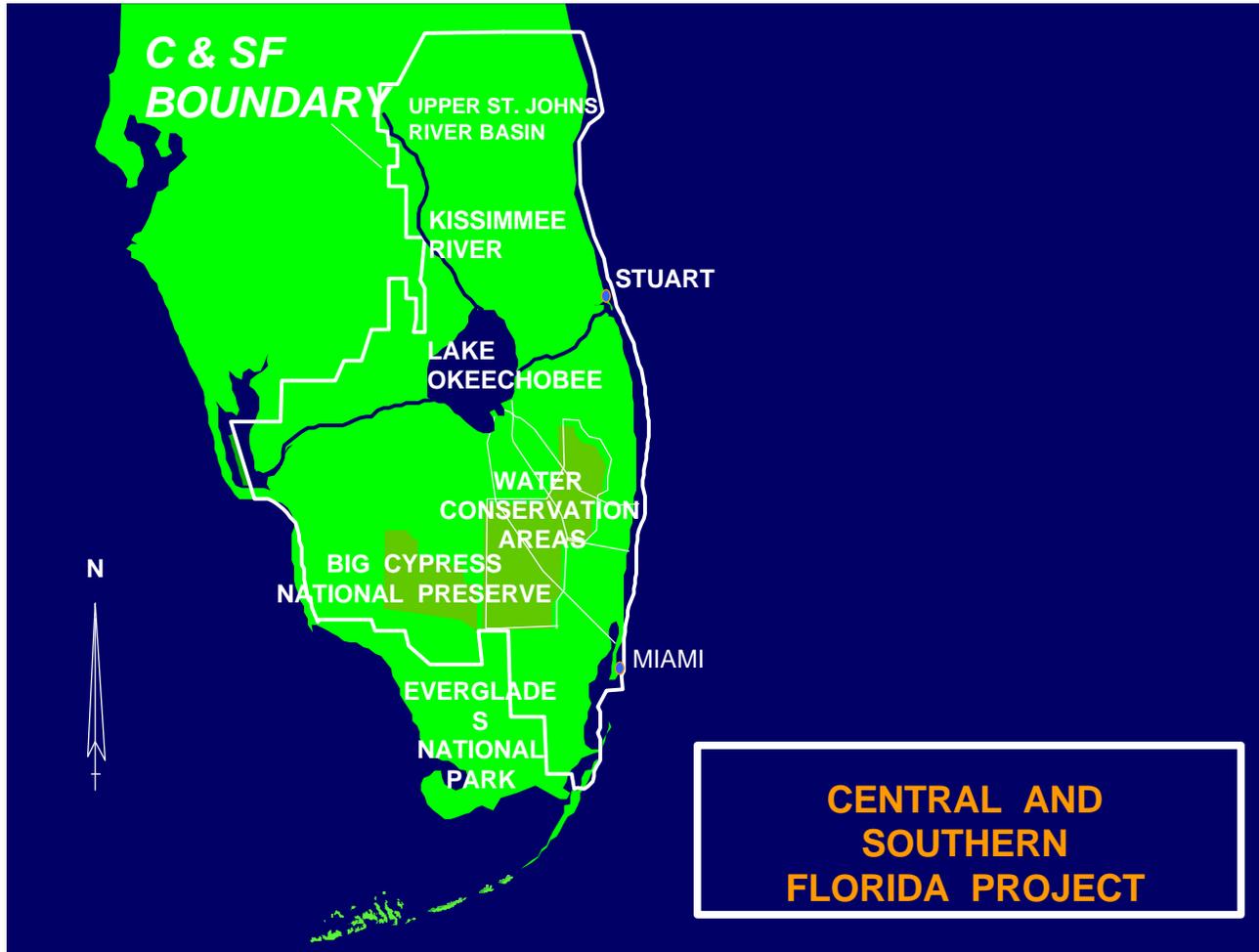
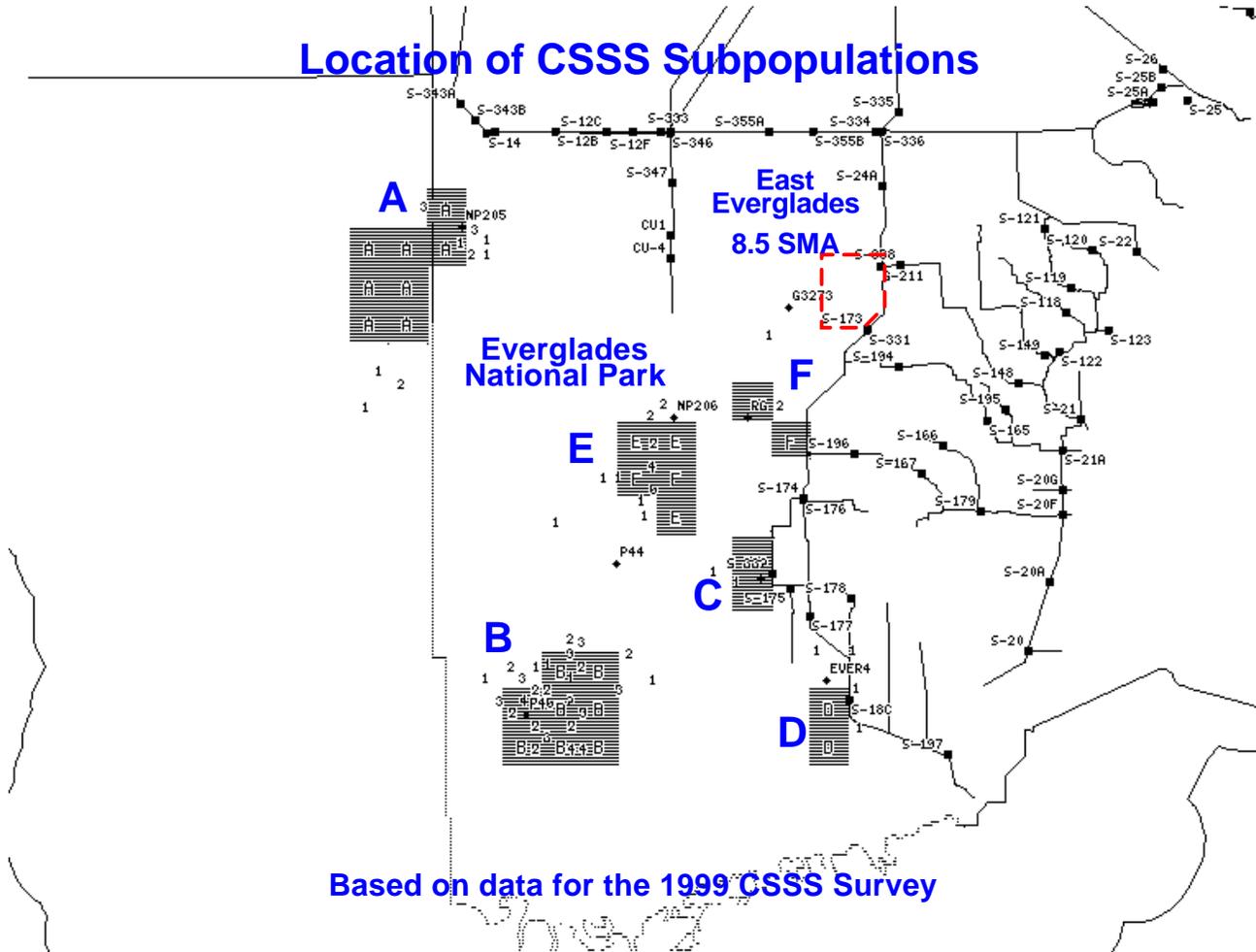


Cape Sable Seaside Sparrow
Year 2000 Results and Options
for 2001 Operations

11 October 2000



Location of CSSS Subpopulations

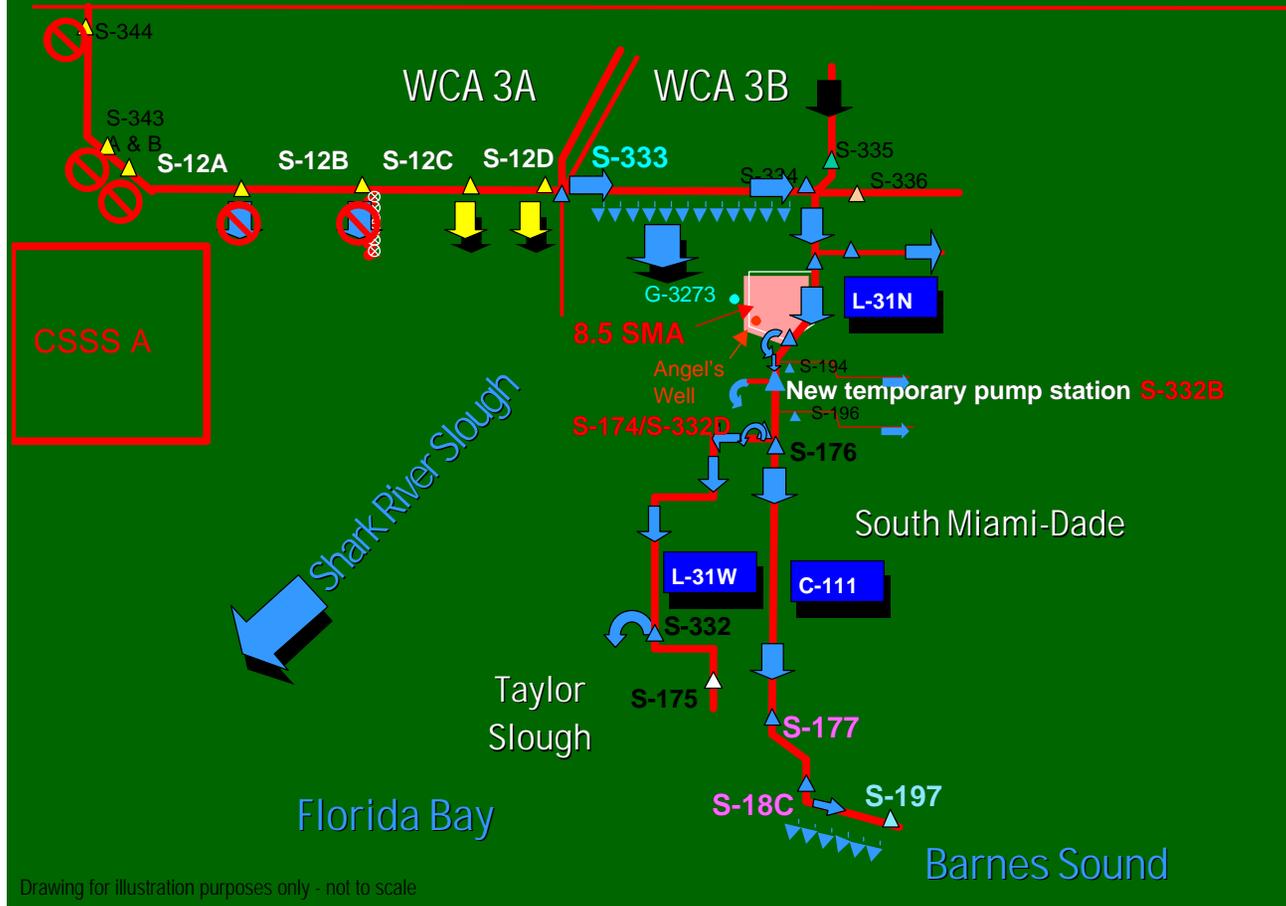


Based on data for the 1999 CSSS Survey

Year 2000 Where We Started

- **Hurricane Irene in Oct 99 produced extraordinary rainfall over southern part of system**
- **Extremely high water levels in WCA 3A and all points south (near record levels)**
- **Interim Structural and Operational Plan developed for 2000 breeding season**

ISOP 2000



ISOP 2000 Actions

- **12 Nov - Closed S-11's into WCA 3A**
- **16 Dec - Closed S-12 A**
- **18 Dec - Closed S-343, S-344A&B,
Opened culverts in L67 ext**
- **29 Dec - Closed S-12 B, Started
Pumping at S-332D**
- **5 Jan - Opened S-333, 334**
- **14 Jan - Awarded contract for S-
332B**

ISOP 2000 Actions (Cont'd)

- **27 Jan - Posted ISOP 1 on Web**
- **31 Jan - Completed Model Revisions**
- **15 Feb - Closed S-12 C & D**
- **17 Feb - Reduced S-332D pumping & inflows to SDCS**
- **17 Feb - Completed BO Base Modeling & ISOP 1, 2, 3, 4, 5 Modeling**

ISOP 2000 Actions (Cont'd)

- **17 Feb - Reduced discharges at S-332 & S-332D**
- **22 Feb - Tamiami Trail Flow Test**
- **1 Mar - Implemented ISOP schedule for operation of SDCS**
- **3 Mar - Concluded Tamiami Trail Test, pass total rainfall plan amount at S-333**
- **17 Apr - Began operation of S-332B in response to high rainfall**

S-332B Temporary PS

- **Temporary 575 cfs Pump Station and detention area**
- **Lies within footprint of C-111 permanent pump station and Detention area for land credit**
- **Detention area re-hydrates eastern areas**
- **Completed 13 Apr began pumping 17 Apr, 2000**

S332 B



- Necessary to meet RPA
- Completed 13 April
began pumping 17 April
- Detention area
rehydrates eastern
CSSS areas
- DEP Emergency Order

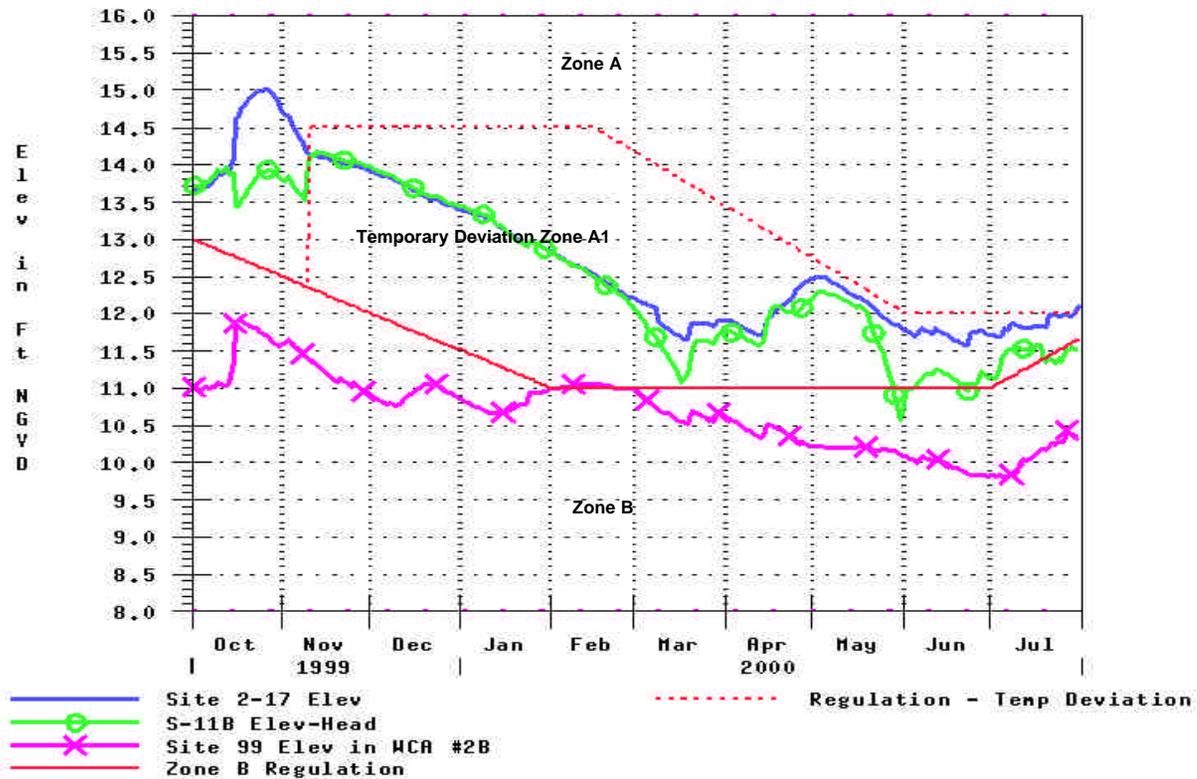
S332 B



- Extensive Monitoring
- Detention Area -
Percolation Test
- Weir Overflow at 8.0 ft
- Level of Flows needed to meet RPA

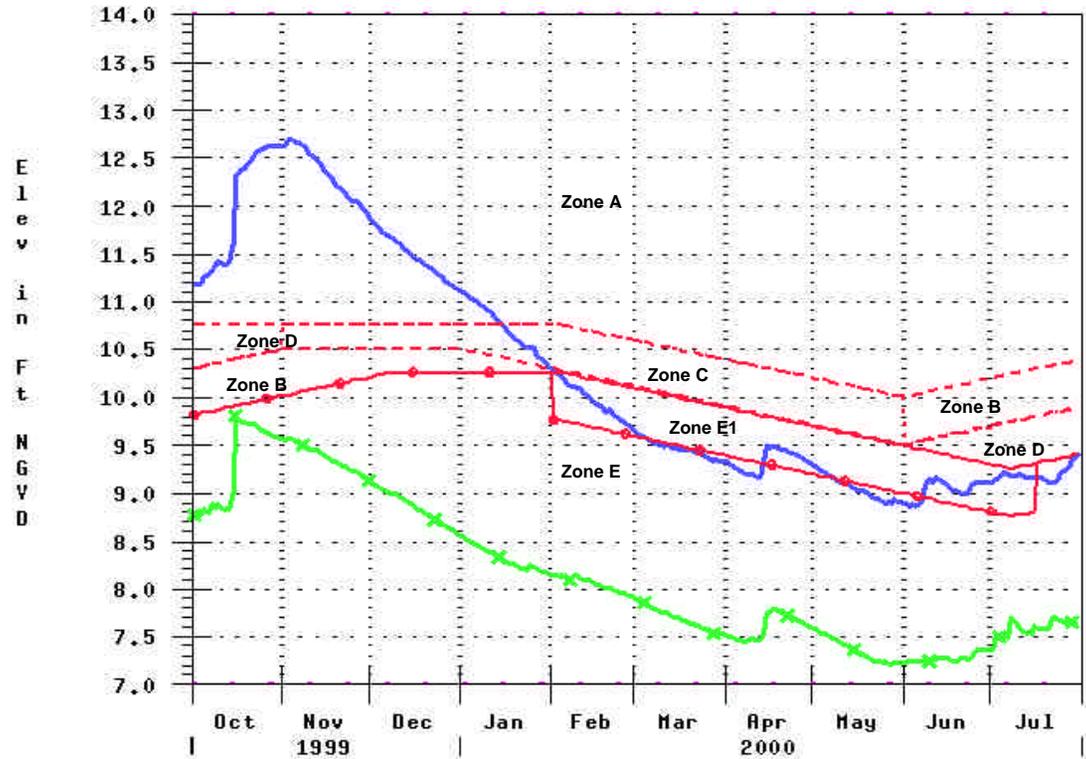
Results of ISOP 2000

Water Conservation Area #2A



The temporary deviation was put in place on Nov. 9th and the S-11's were closed on Nov. 12th. Coastal releases were maximized.

Water Conservation Area #3A

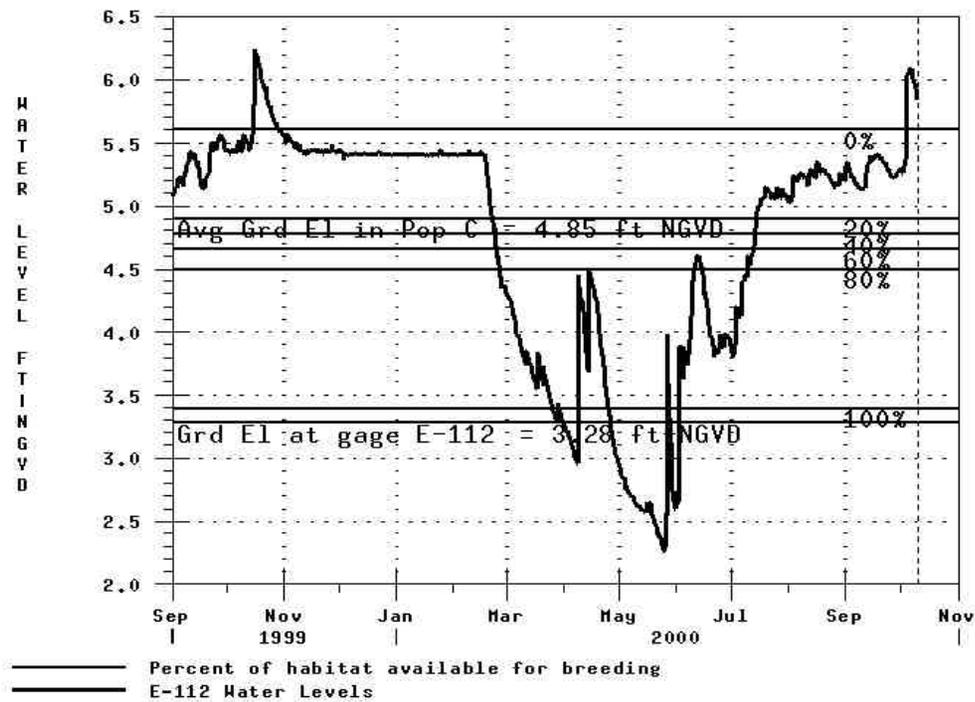


- | | | | |
|--|----------------------------|--|----------------------------|
| | Avg Elev (Site 63, 64, 65) | | Zone D Regulation |
| | Site 71 Elev in WCA #3B | | Zone E Regulation |
| | ZONE C ELEV-REG | | Zone E1 Spring 1999 & 2000 |
| | Zone B Regulation | | Zone A1 Spring 1998 |
| | Zone C Regulation | | |

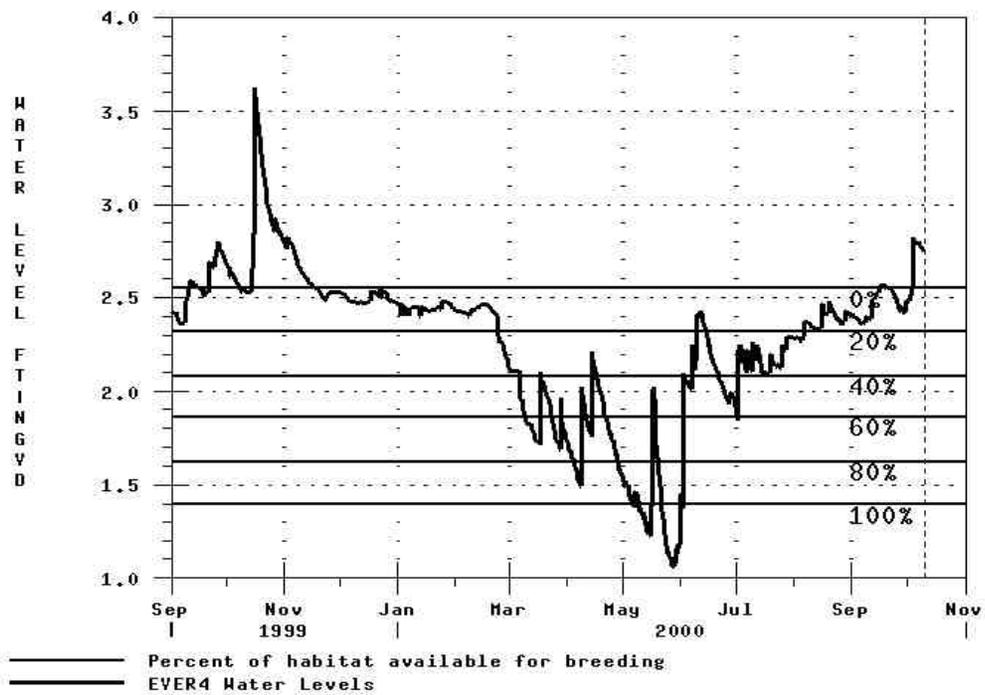
Data are provisional and subject to revision

Eastern Subpopulations
RPA Conditions Met

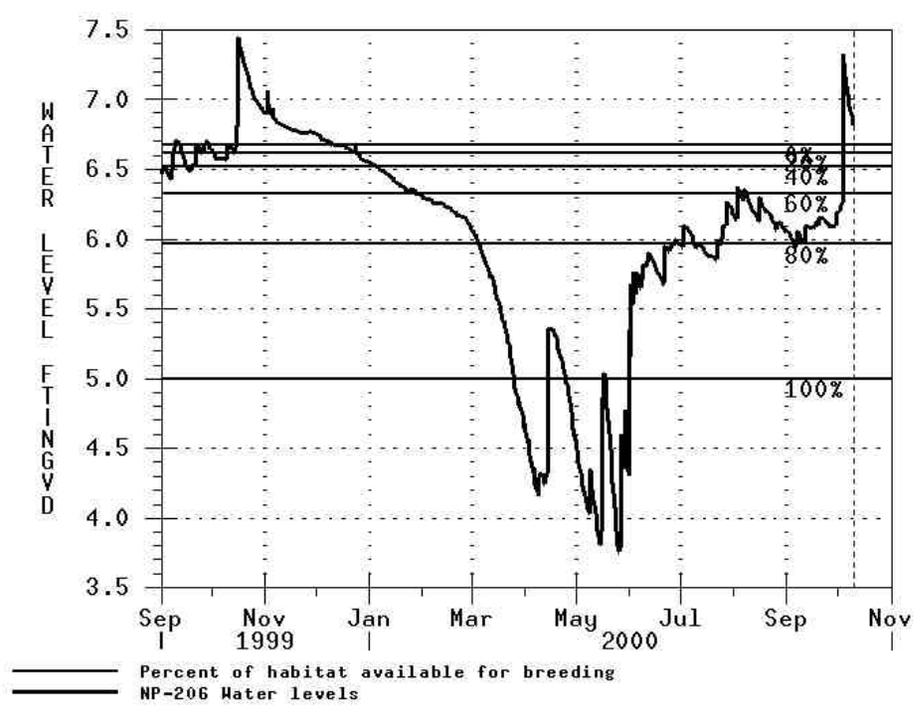
Eastern Marl Prairie Habitat, Subpopulation C



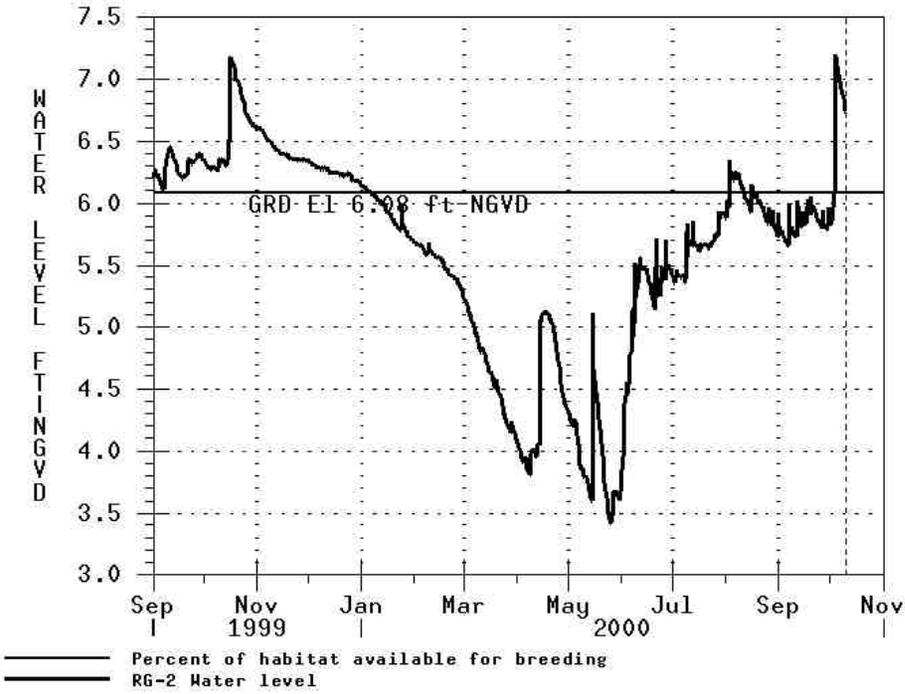
Eastern Marl Prairie Habitat, Subpopulation D



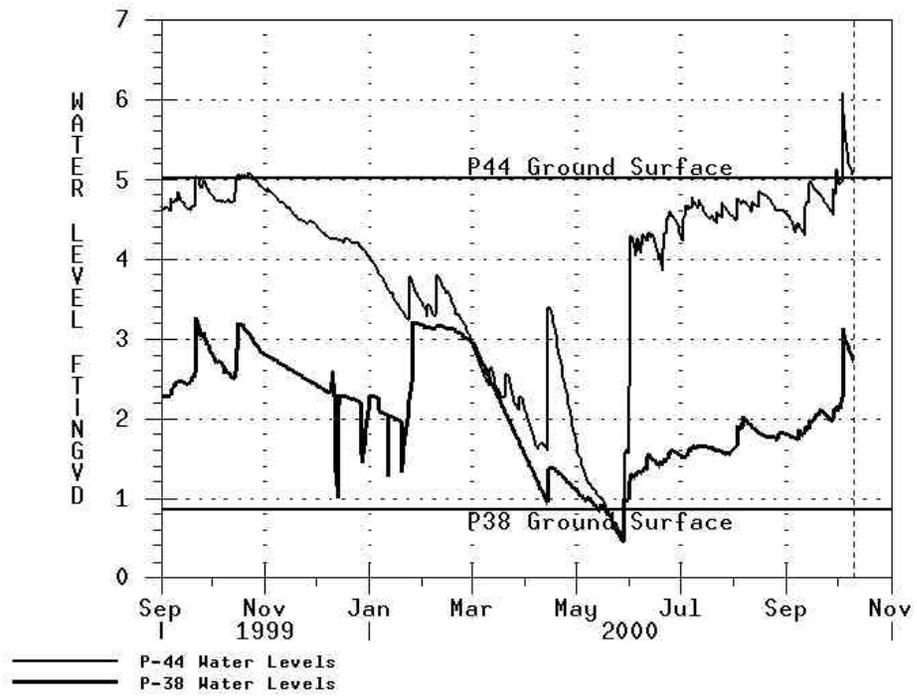
Eastern Marl Prairie Habitat, Subpopulation E



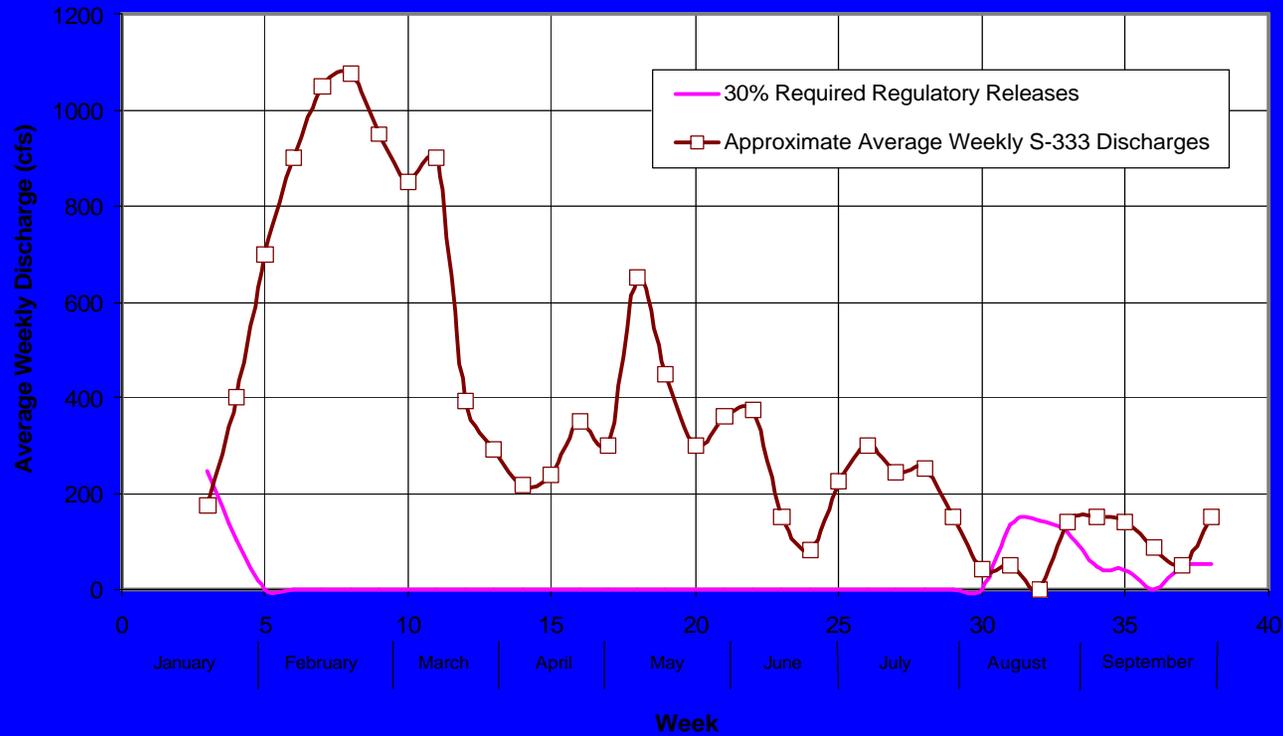
Eastern Marl Prairie Habitat, Subpopulation F



Inghram Highway - Subpopulation B



2000 WCA-3A Releases



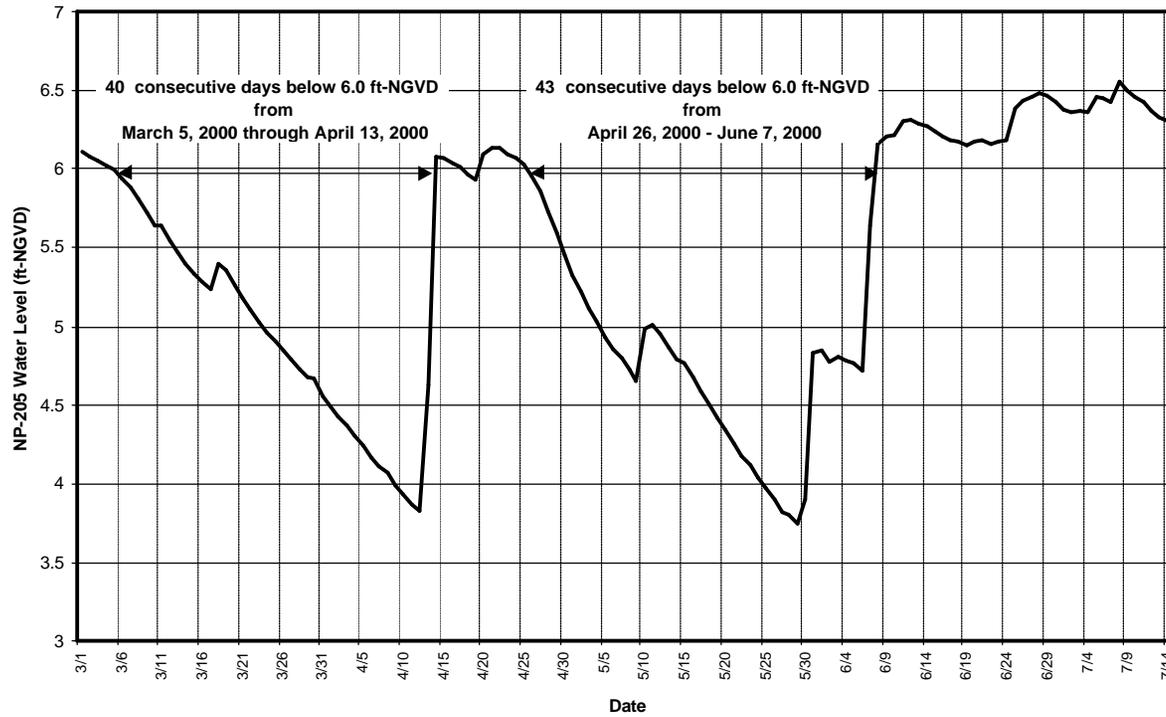
The RPA requirement of passing 30% of the WCA-3A regulatory releases to NESRS has been met or exceeded for this year due to below normal rainfall and lower water levels throughout the C&SF system.

Subpopulation A
NP-205
60 Consecutive Days Not Met

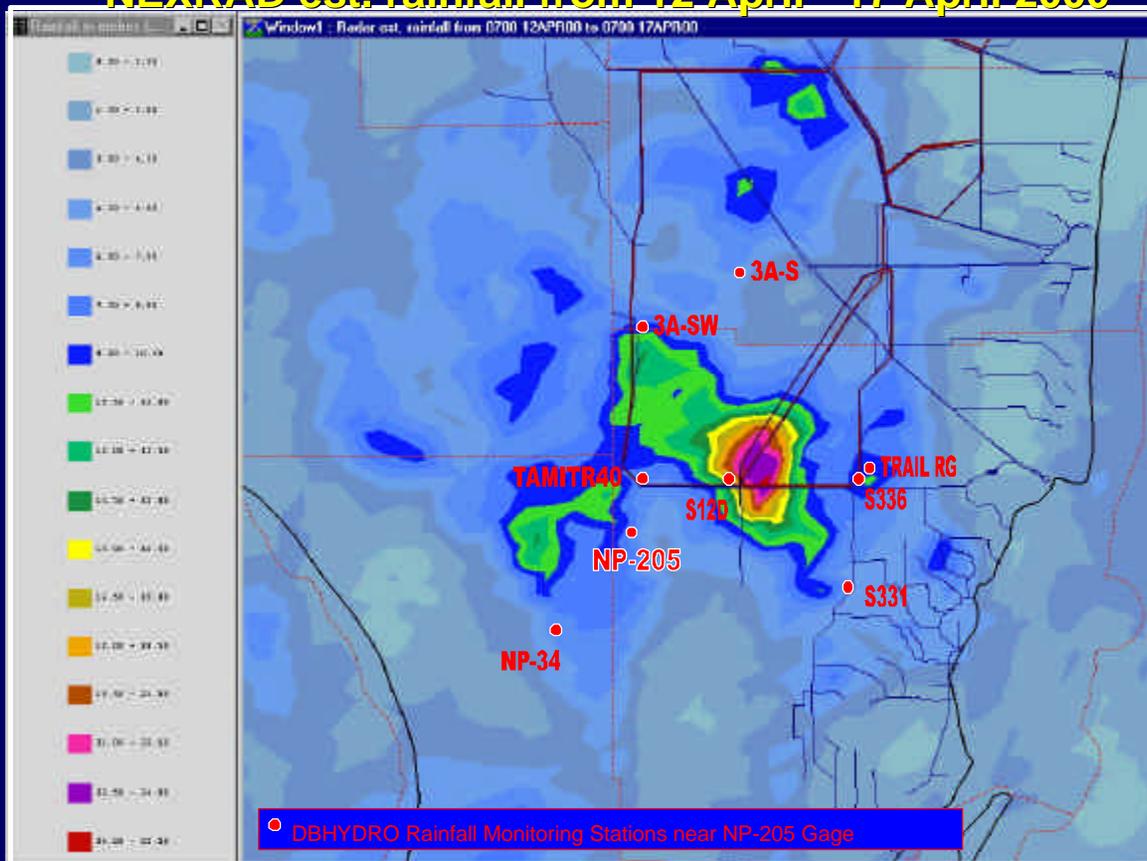
Despite high water levels throughout the C&SF project due to Hurricane Irene, and the above normal April rain event, the Corps position is that the requirements for subpopulation A have been met and exceeded. 40 days before the April rainfall, then only max. of 0.14 ft above the 6.0 ft, then 43 days before start of wet season rainfall in late May / early June.

2000 Nesting Season Water Levels

Sub-population A conditions represented by NPS gage NP-205



NEXRAD est. rainfall from 12 April - 17 April 2000



Monday, APRIL 17, 5 Day total Rainfall at Selected Sites

<u>Rainfall</u>	<u>13th</u>	<u>14th</u>	<u>5-Day Total</u>
	(inches)	(inches)	(inches)
Site 65:	<u>6.80</u>	2.24	<u>9.25</u>
S12D:	<u>6.60</u>	2.16	<u>8.53</u>
S11A:	0.68	4.24	4.95
Site 1-7:	0.79	1.83	5.30
Site 1-8T:	0.79	1.19	6.13
S10D:	0.56	1.97	3.16
40 Mile Bend ENP	0.01	<u>4.14</u>	<u>6.26</u>
NP-205	0.03	1.29	<u>3.80</u>
WCA-1 Average			4.11
WCA-2 Average			2.69
WCA-3 Average			3.66
<u>April Historical average rainfall</u>			<u>2.44</u>

Lessons Learned ISOP 2000

- ISOP Concept
 - Will work, did work very well technically for moving water and minimizing other impacts
 - However, subpop A event reconfirmed that there are natural events that will continue to challenge us.
 - Differences between model world and operational world
 - Some Problems

Lessons Learned ISOP 2000 (Cont'd)

- S-332D
 - Reduction of pumping must be more gradual (>4 days) to avoid adverse Fish Impacts experienced
- S-332B
 - Infiltration Rate lower than expected
 - Need additional detention area
 - Increase distribution of flow
 - Reduce overflow in ENP

Lessons Learned ISOP 2000 (cont'd)

- Water Quality
 - Monitoring of pumping at S-332D and S-332B indicates spikes of Phosphorus, providing valuable data for future refinement of design and operation.
- Modeling Results
 - Pumping between 200 and 350 cfs is needed at S-332B to meet RPA
 - Better closure scheme needed for S-12's to maximize Subpop A conditions.

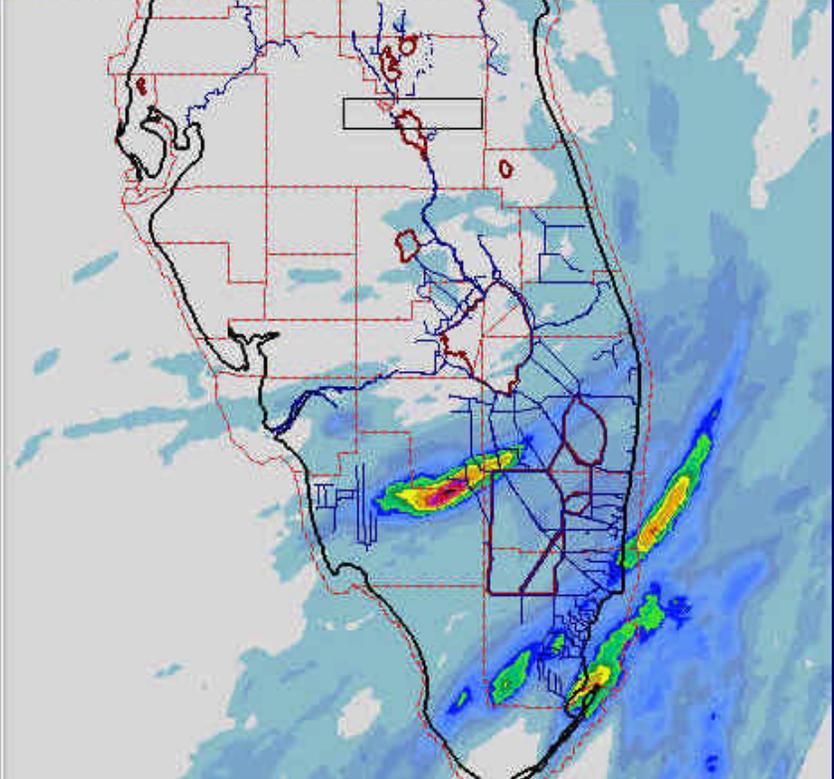
ISOP 2000 Continuing

ISOP 2001 Current Conditions

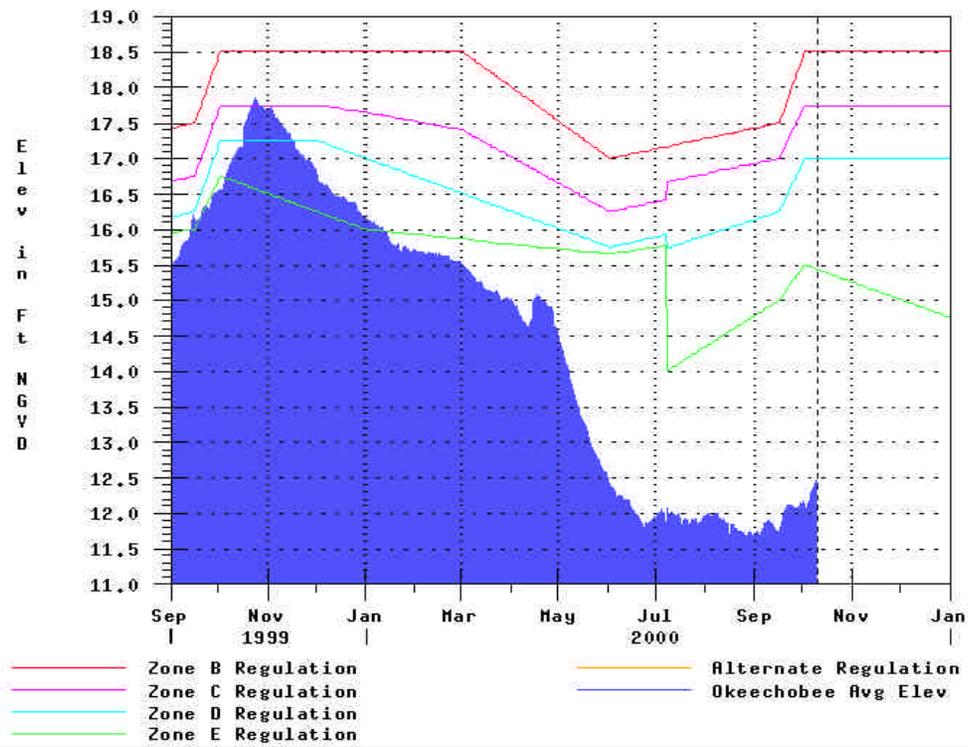
Rainfall in inch.



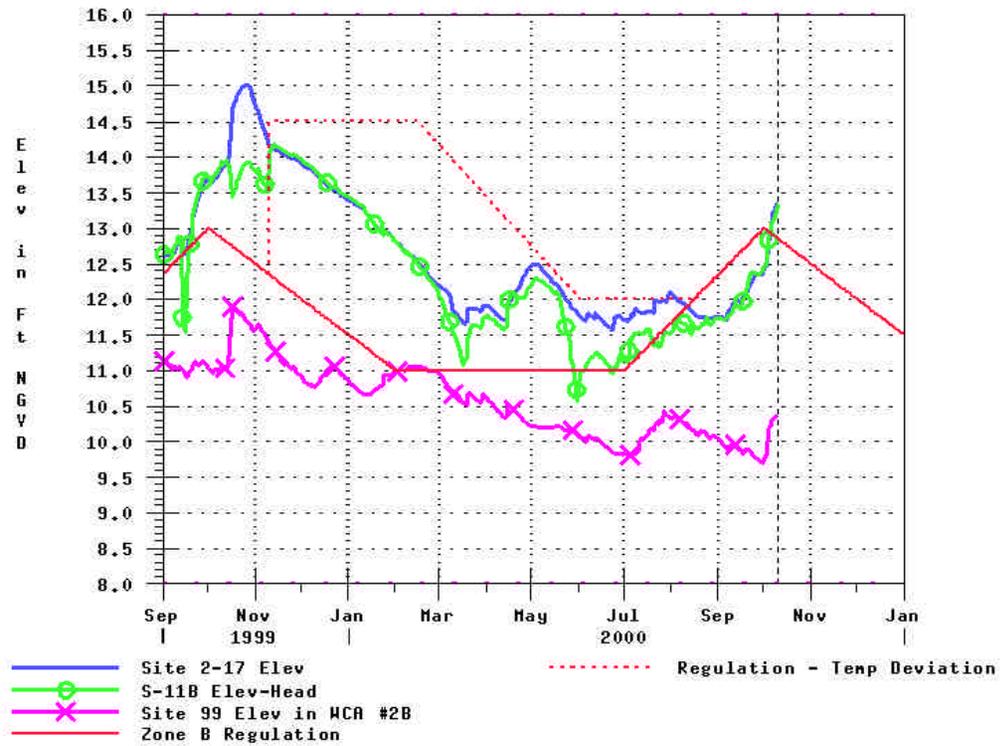
Window1 : Radar est. rainfall from 1300 03OCT00 to 1300 04OCT00



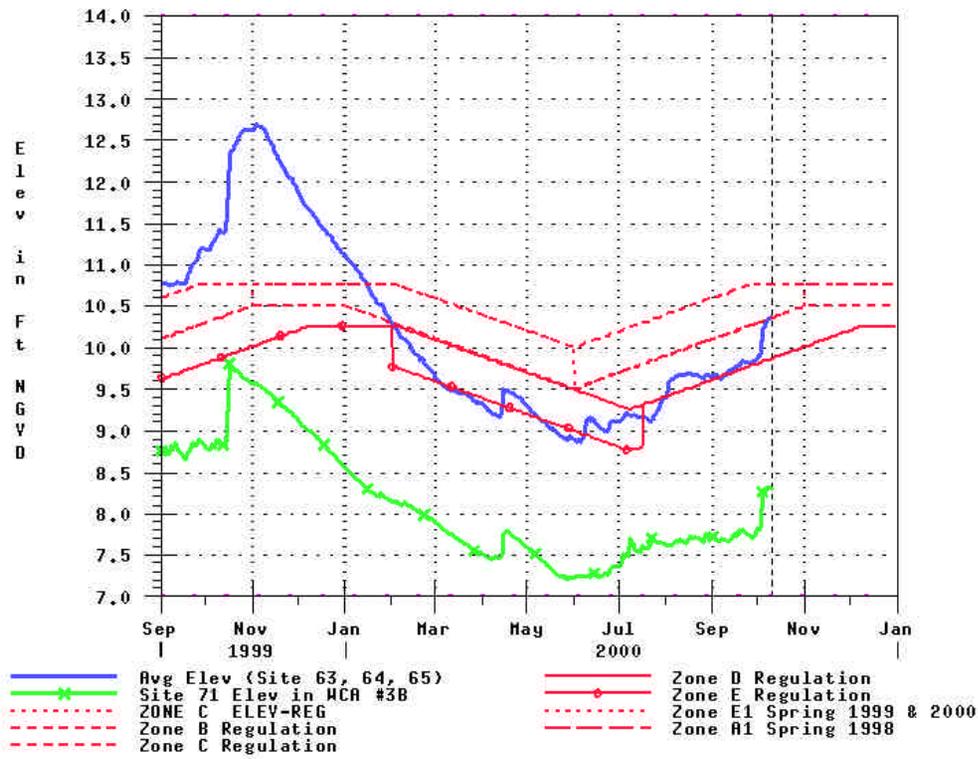
Lake Okeechobee



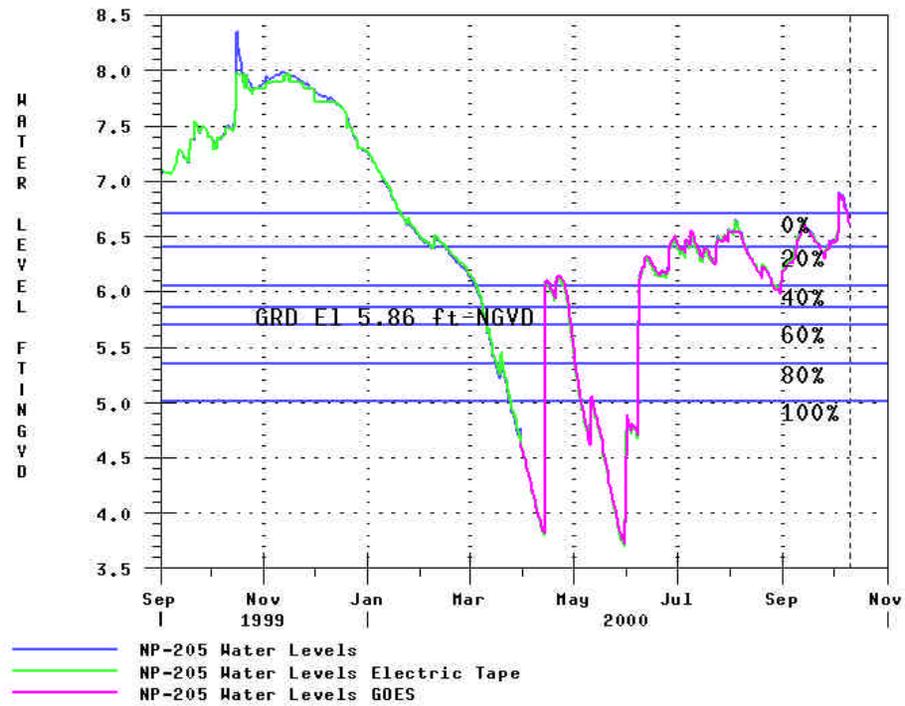
Water Conservation Area #2A



Water Conservation Area #3A



Western Marl Prairie Habitat - Subpopulation A



Climate Prediction Center

- **Above Median forecast for October based on enhanced tropical cyclone activity**
- **Nov - Dec prediction is for normal conditions**
- **Jan - Mar prediction is for below normal precipitation**

ISOP 2001

- 1 Nov - Close S343A&B, S344 and 12A
- Raise Zone D by 0.5' - 1 Nov-10 Feb
- Public Safety - Structural integrity of levees for WCA 3A will not be compromised. Should stage reach 11.25', the operation of the S12's will be modified to ensure safety
- Oct/Nov - Construct new S-332B detention area

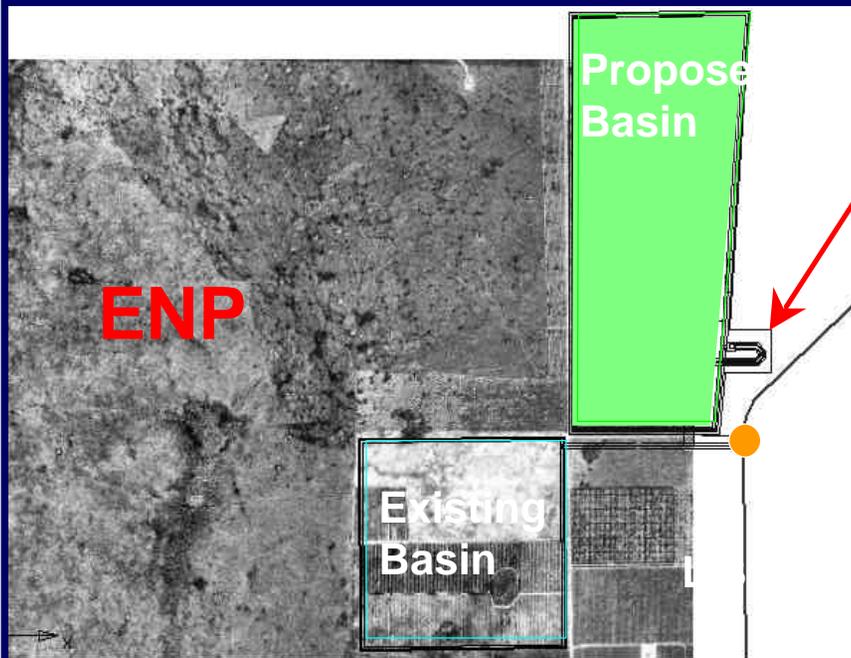
ISOP 2001 (Cont'd)

- Nov - Complete modeling of higher L-31N canal levels and implement if appropriate
- 1 Jan - Close S-12B, Reopen L-67e Culverts
- 1 Feb - Close S-12C
- 15 Feb - Begin gradual reduction of S-332D pumping
- 1 Mar to 15 July - Monitor System response and rainfall

S332 B



- Must have 200-325 cfs to meet RPA
- Wet season infiltration rate is ~110 cfs
- Additional detention area to northeast
- Wider distribution of flow
- Overflow weir if necessary for flood control



**Proposed STA
Test Facility**

**32B Pump
Station
Canal**



Not to Scale

**Notes: Existing Basin ~ 155 Acres
New Basin ~ 245 Acres**



**S-332B
Study Area
Figure 1**

**US Army Corps of Engineers
Jacksonville District**

Expected Accomplishments

- **Maximum probability for success in Subpop A. Closure scheme same results as closure all year.**
- **Better flow distribution and improved hydrologic performance for S-332B pumping**
- **Maintaining flow through S-12D coupled with use of S-333 will eliminate potential impacts to WCA 3A while improving hydrologic performance of subpop E.**
- **No adverse impacts to private property, agriculture, nor CSSS**

ISOP 2001 to Start
1 November

Interim Operational Plan

IOP Status

- Draft EIS for IOP placed ON HOLD by CEQ during June conference call pending completion of 8.5 SMA analysis.
- Draft EIS coordinated with DOI to provide Planning Aid Letter
- Conclusions of draft IOP EIS thus far recommends continuation of modified 2000 ISOP until 8.5 SMA is in-place.

Schedule to Complete IOP

- 1 . Revise IOP EIS & PAL by 10/31
- 2 . Distribute for comment 11/17
- 3 . Complete comment period 01/2
- 4 . Publish Final EIS 02/16
- 5 . Complete Comment period 03/18
- 6 . Sign ROD 05/18

Schedule assumes 12 Oct 00 Decision

CSSS and Future of Everglades Restoration



- Comments?