

Water Storage and Everglades Restoration

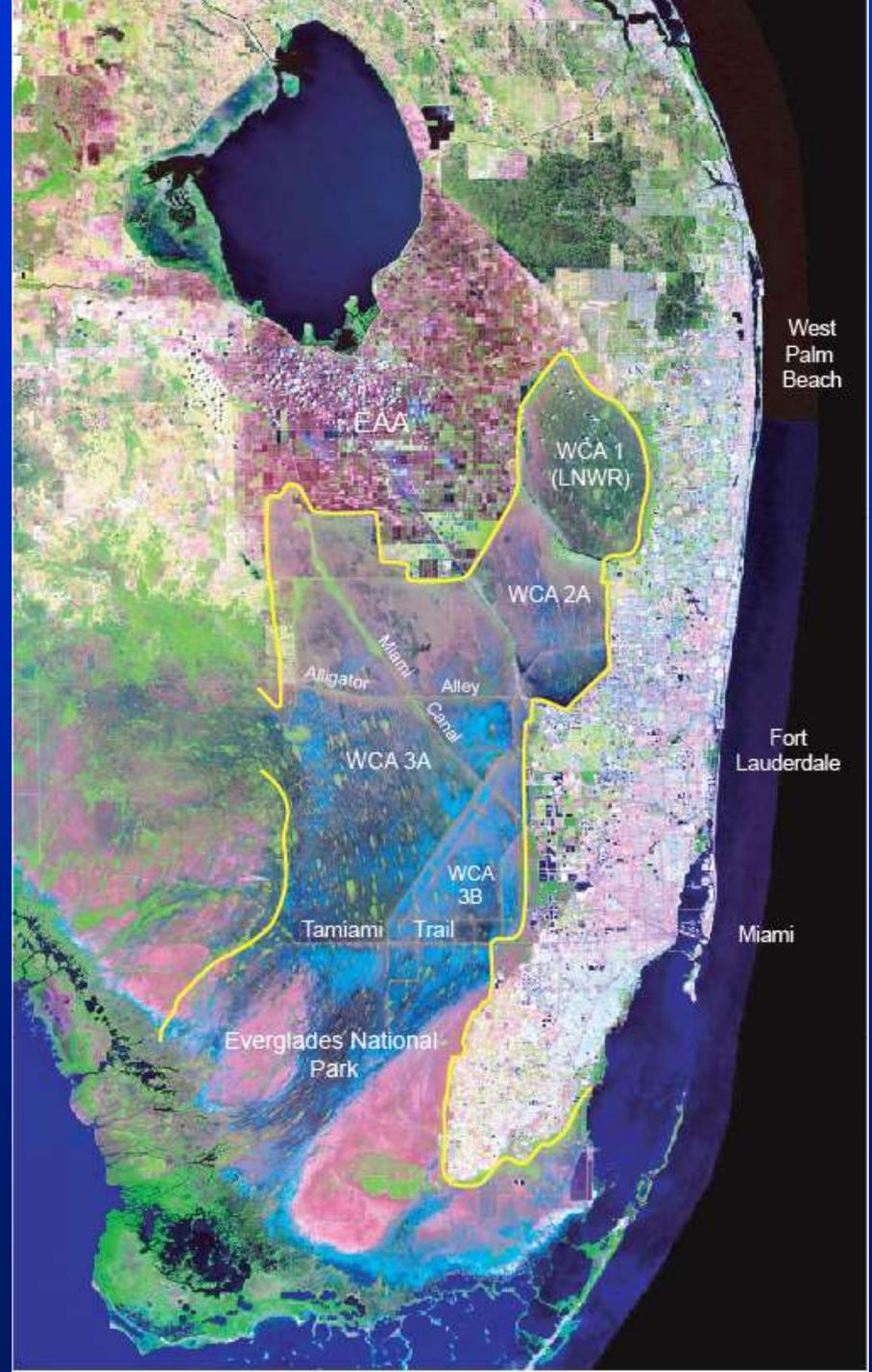
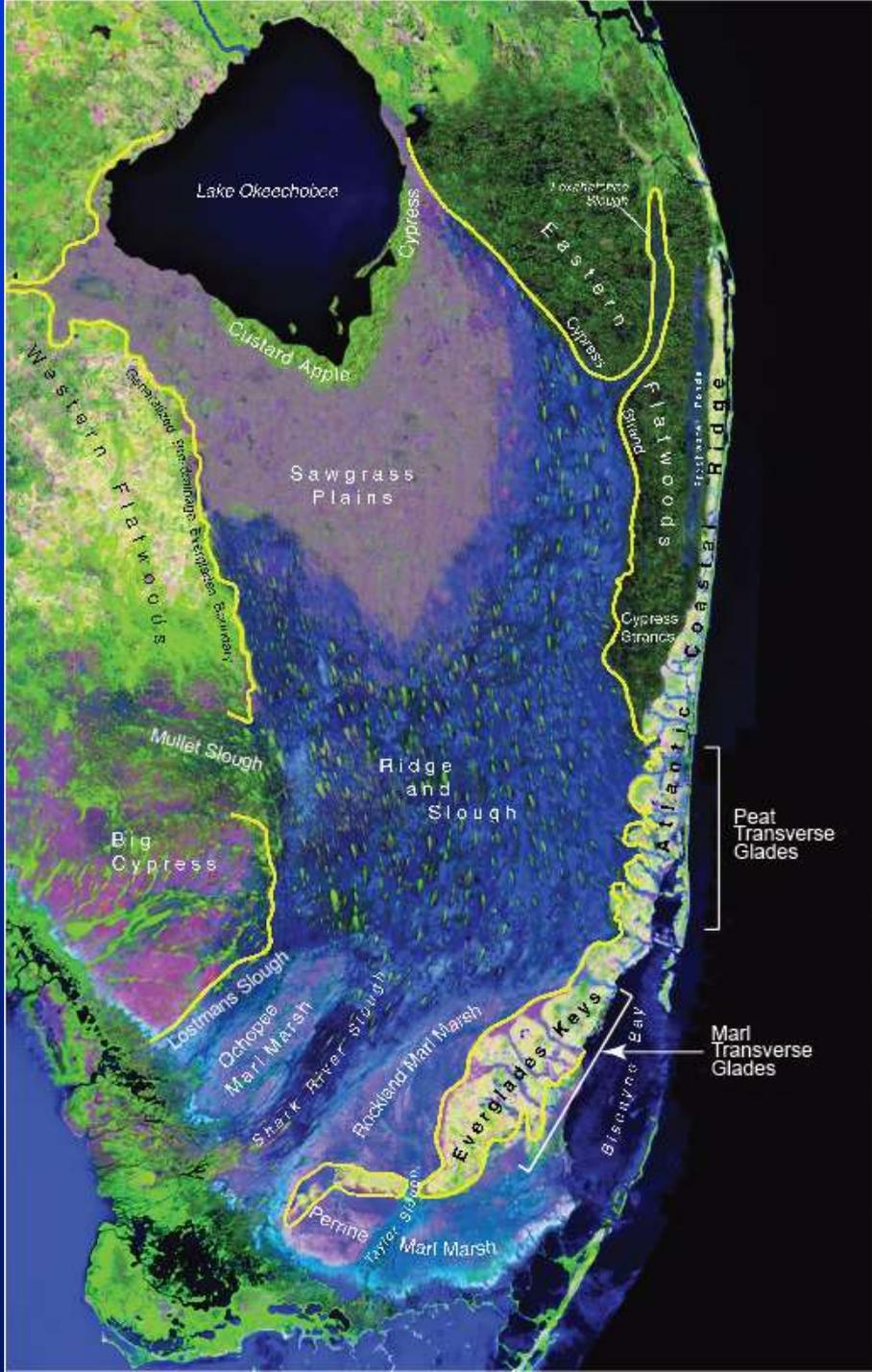
**Dr. Christopher McVoy
(for Robert Johnson, ENP)**

18 April, 2017

GEER

Outline

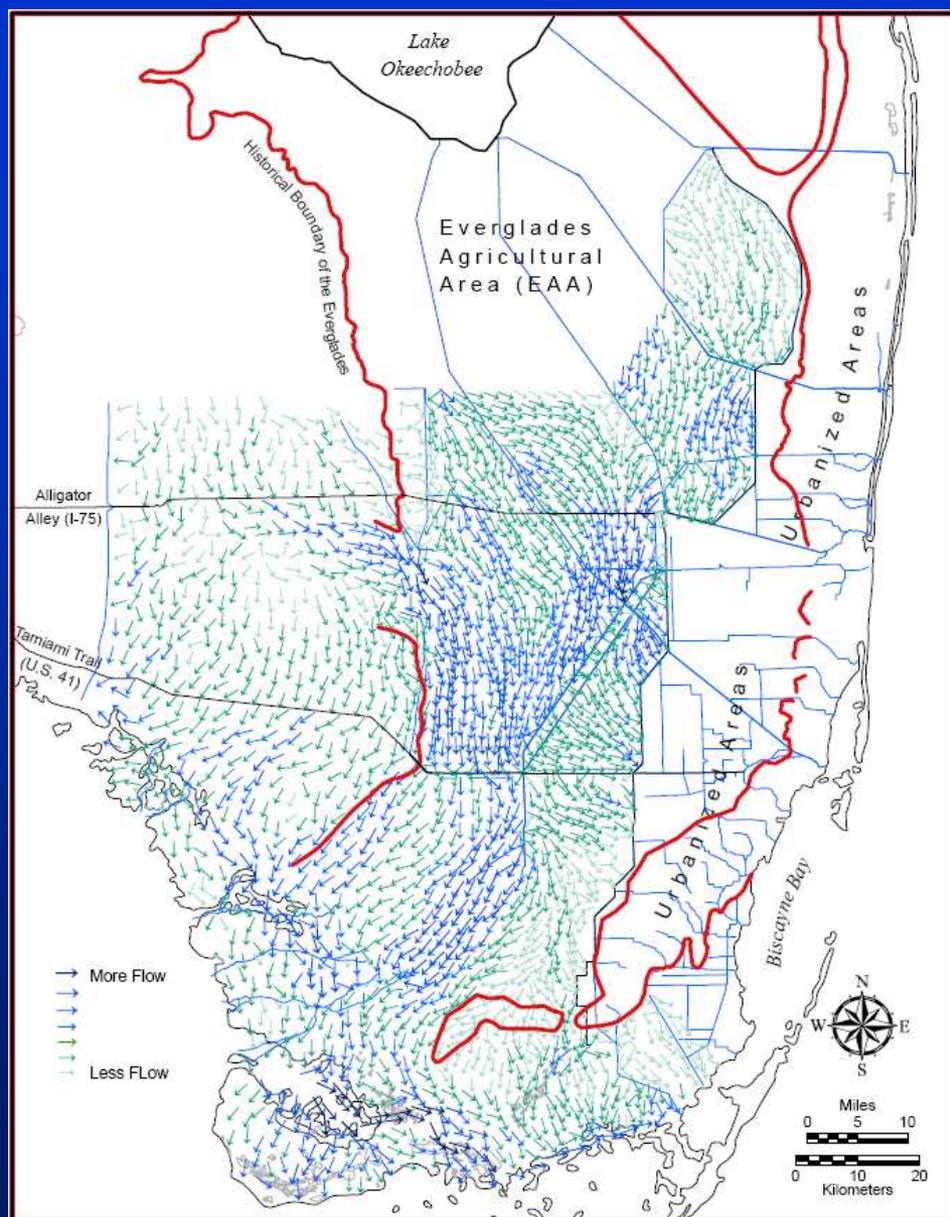
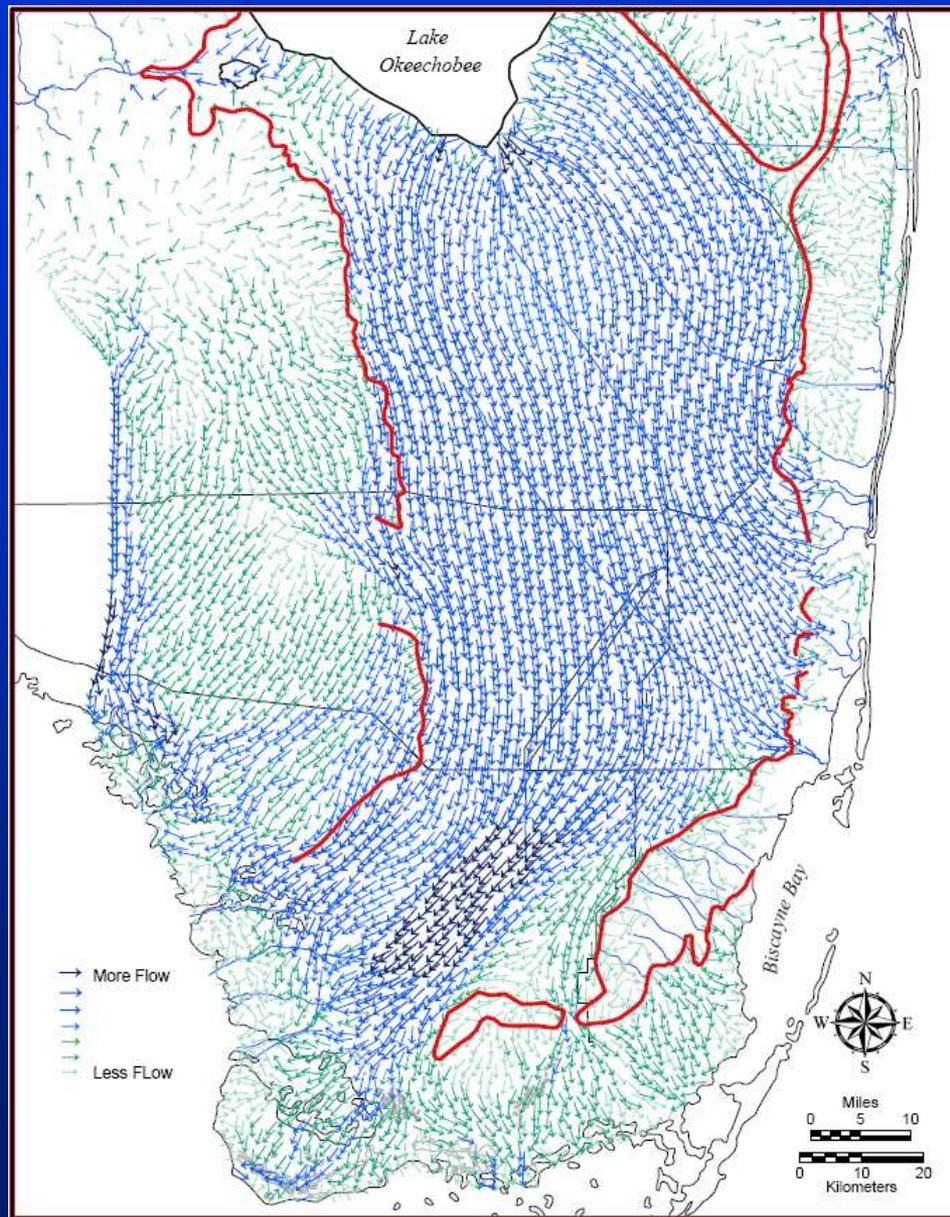
- **Pre-drainage Everglades**
- **CERP**
- **River of Grass / RECOVER “New Science”**
- **CEPP**
- **CERP / LOWP**



West Palm Beach

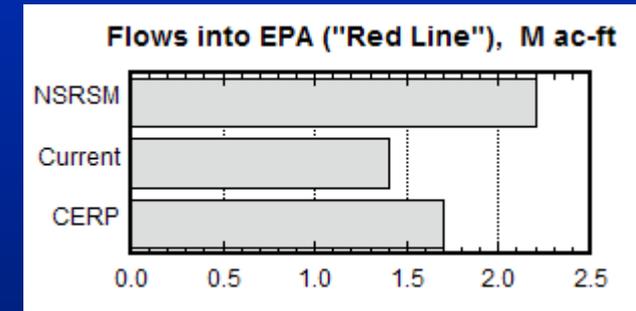
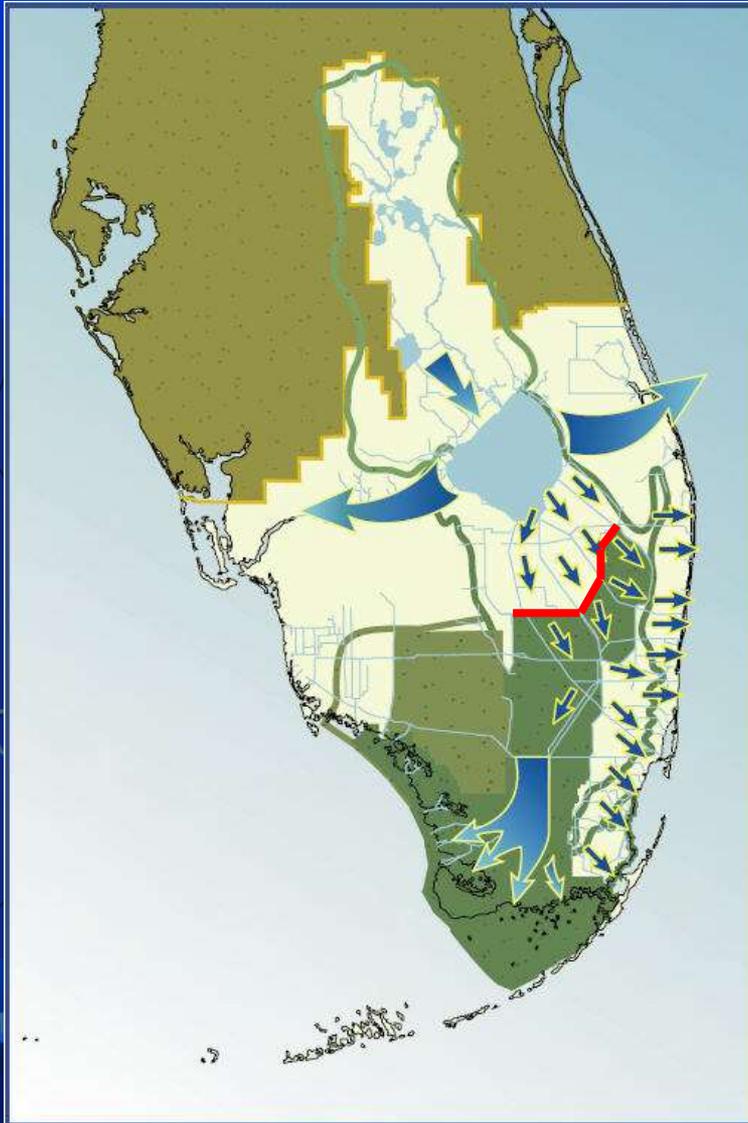
Fort Lauderdale

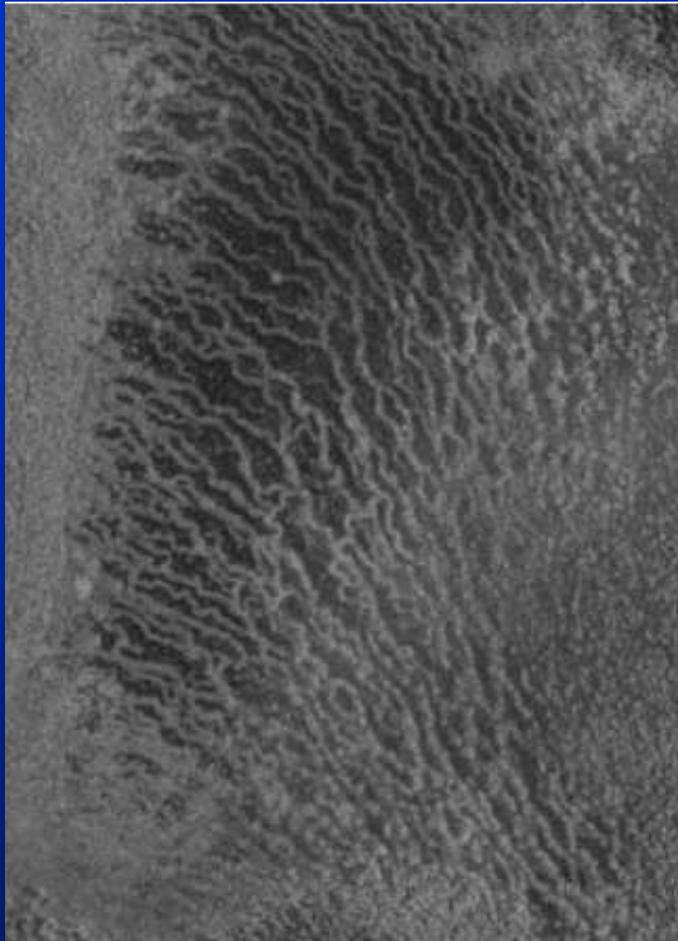
Miami



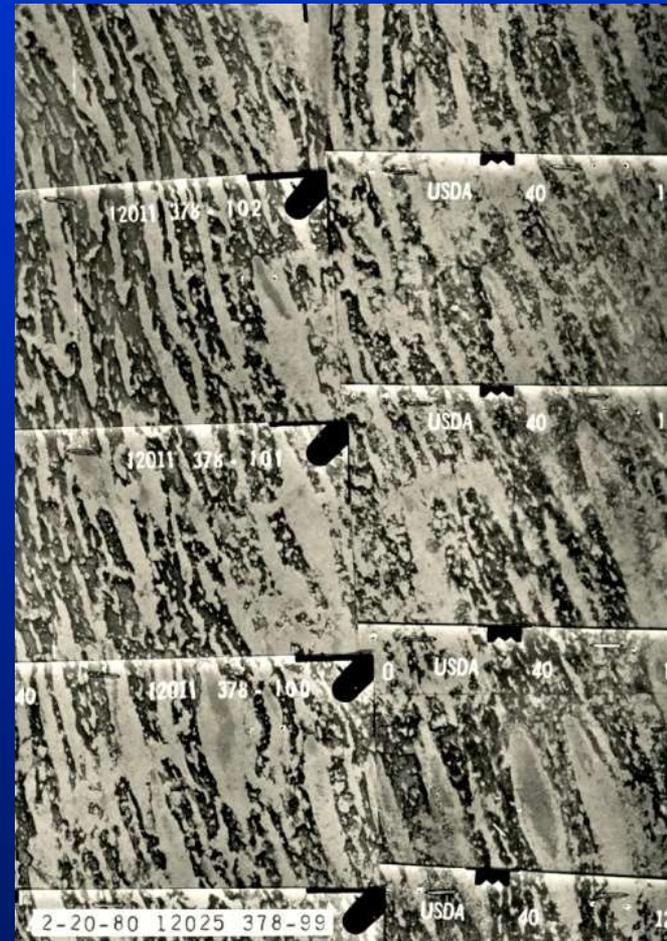
Regional Water Balance

Who We Are and What We Do





Boreal Patterned Fen



Everglades Ridge & Slough

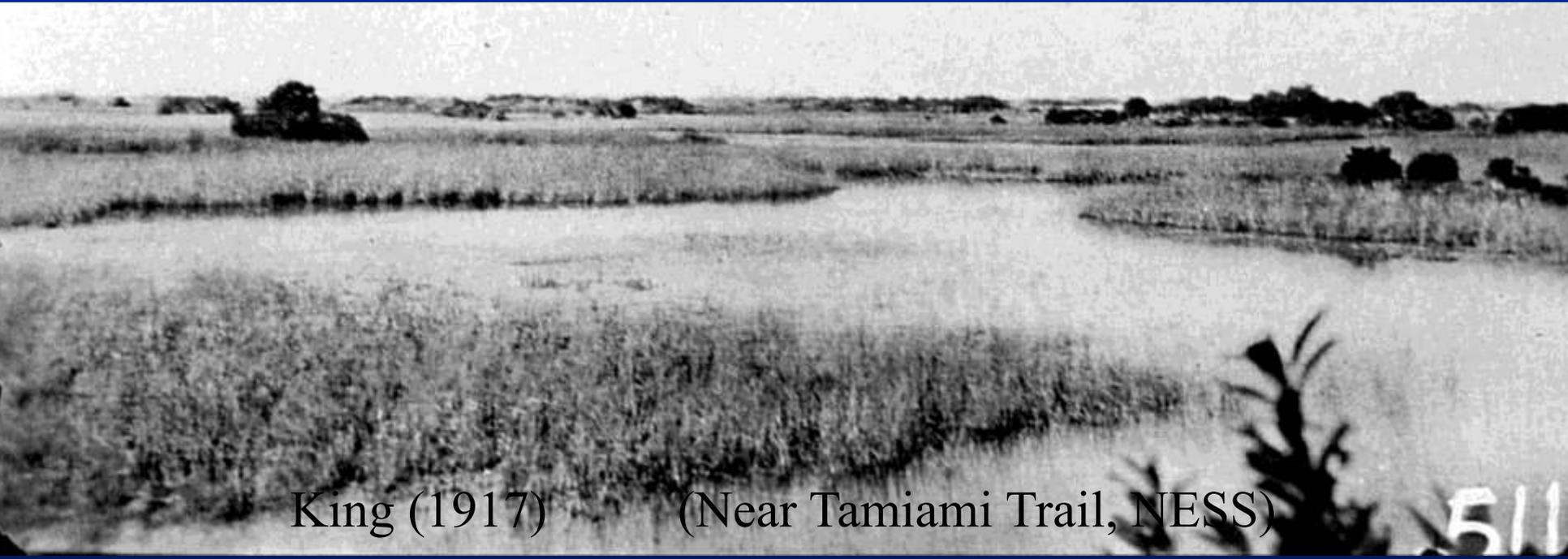
The Ridge and Slough Landscape

“We have plenty of water at present, go along with a great deal of ease.”

(Col. Harney, 1840)

“...saw-grass ridges alternating with open leads of water running approximately in a southeastern direction...”

(E.W. Chadwick, surveyor, 1907)



King (1917)

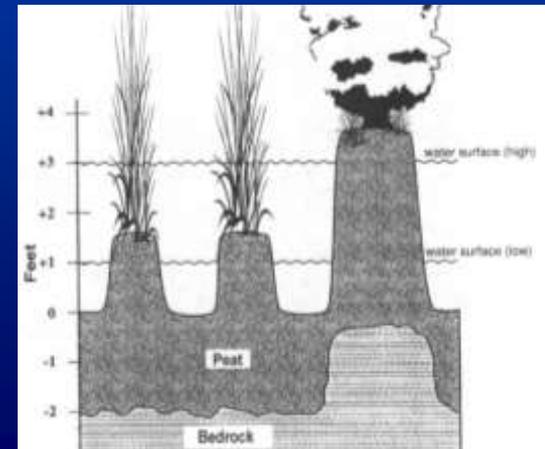
(Near Tamiami Trail, NESS)

Ridge & Slough Landscape

Pattern
(plan view)

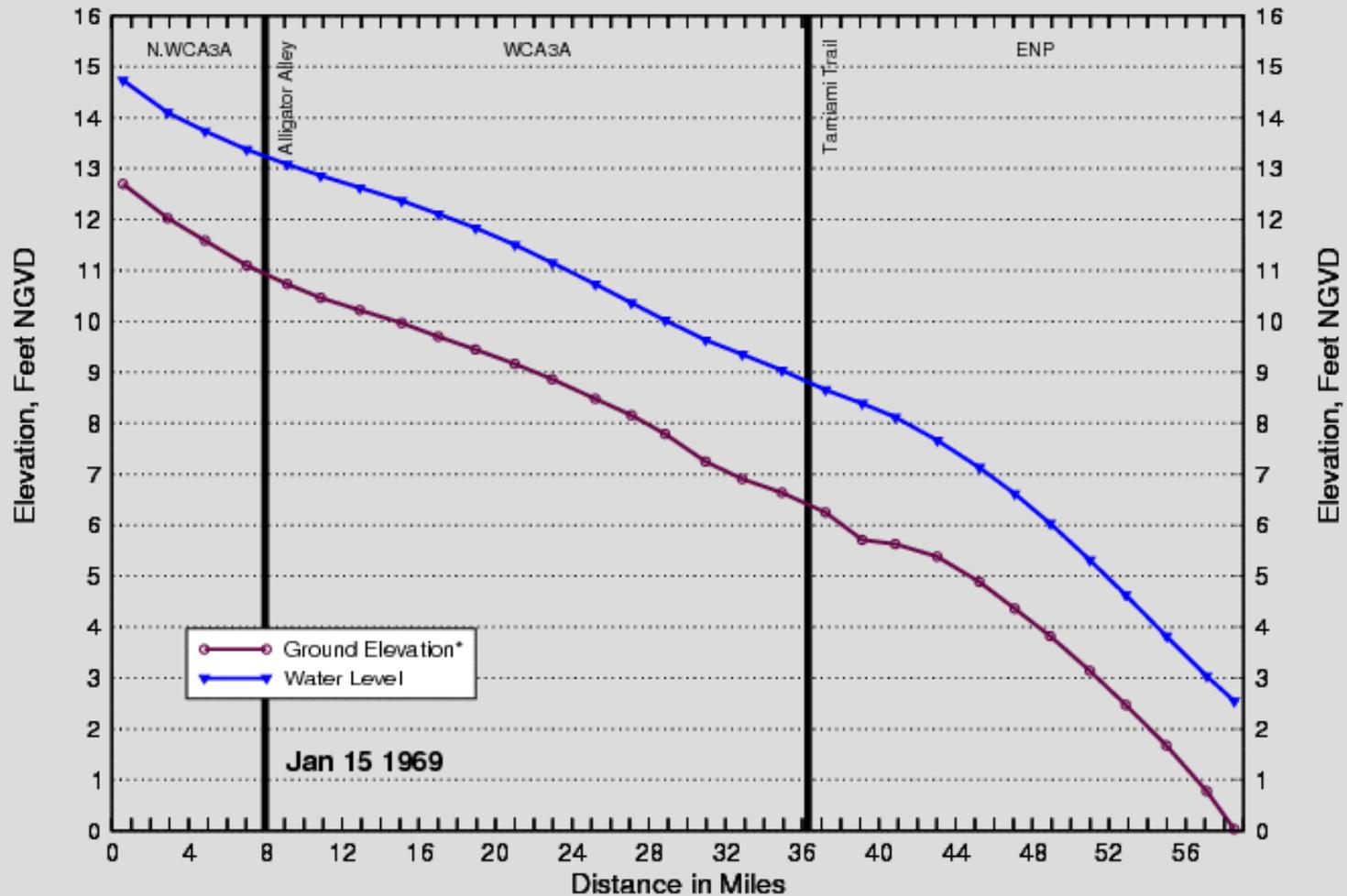


Microtopography
(x-section)



Water Depth Viewing Window

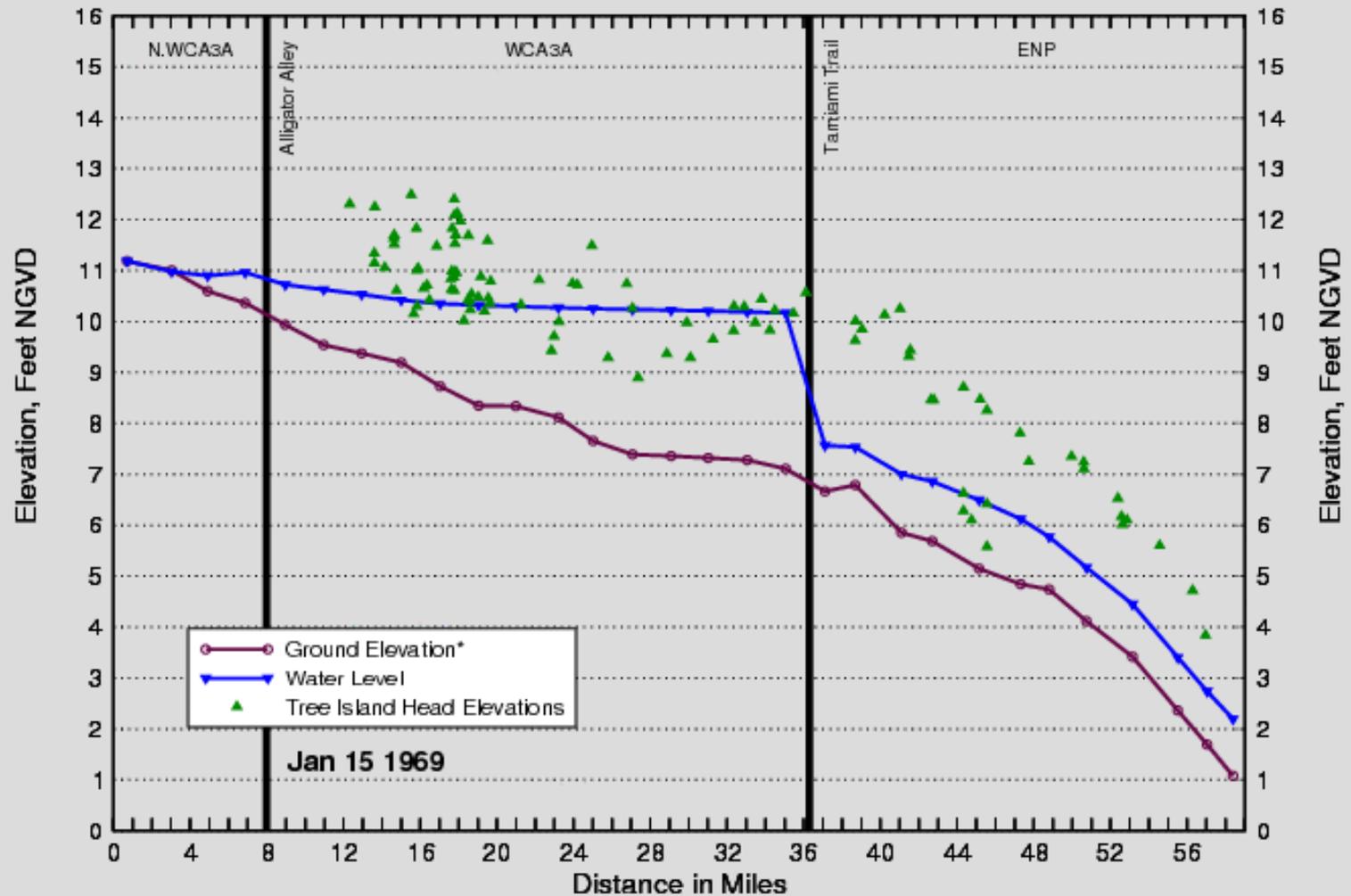
Transect L1 for Pre-drainage NSRSMv3.3



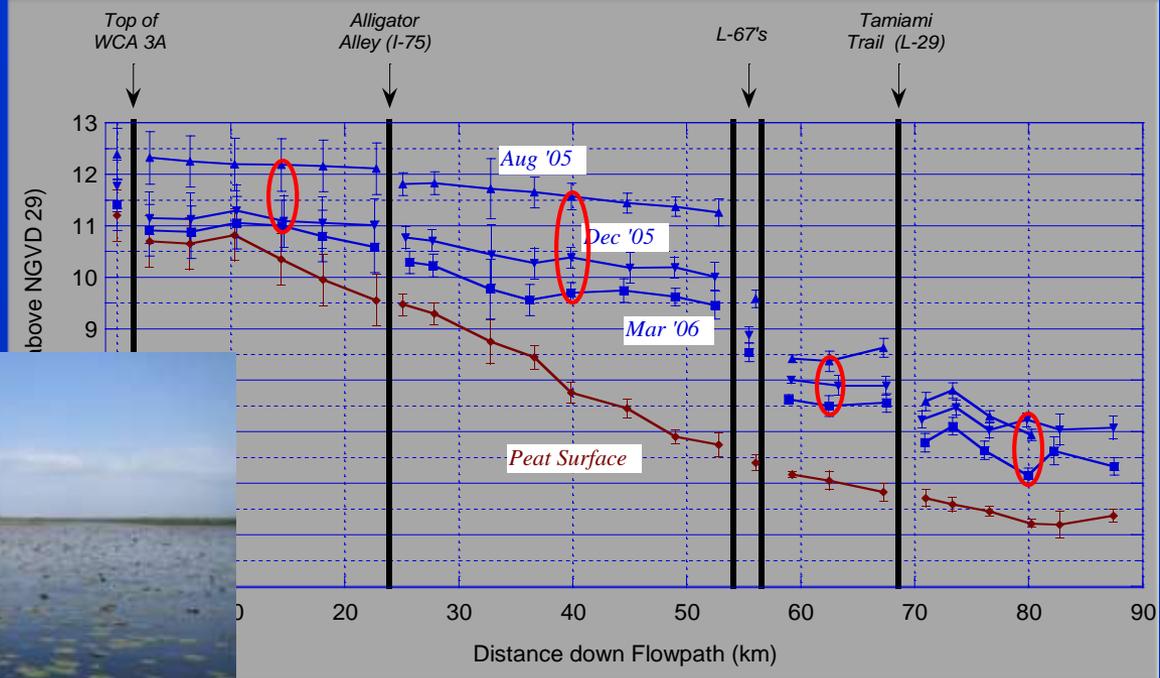
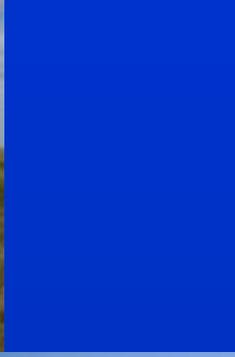
* Within the ridge & slough landscape, ground elevation = slough bottom.
For other landscapes, ground elevation = average model ground surface.

Water Depth Viewing Window

Transect L1 for Scenario RSM_PCB1_GLD_rev_4848

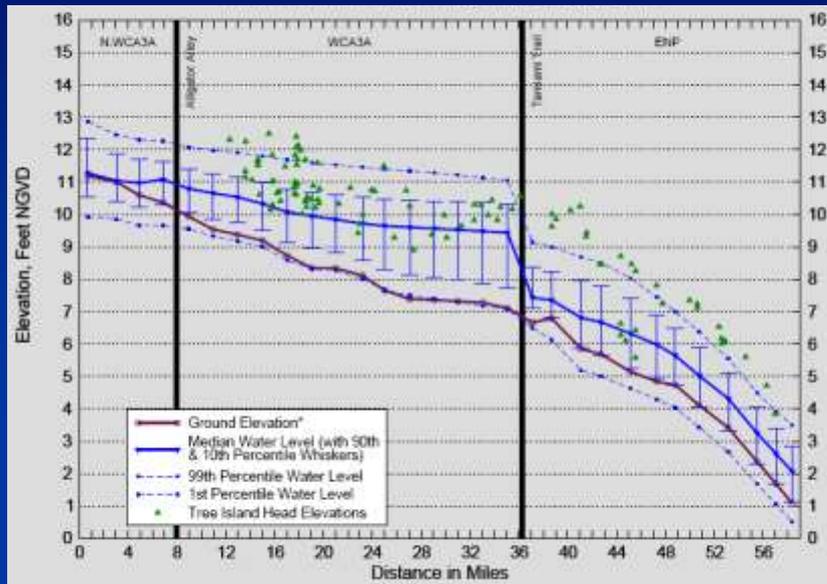


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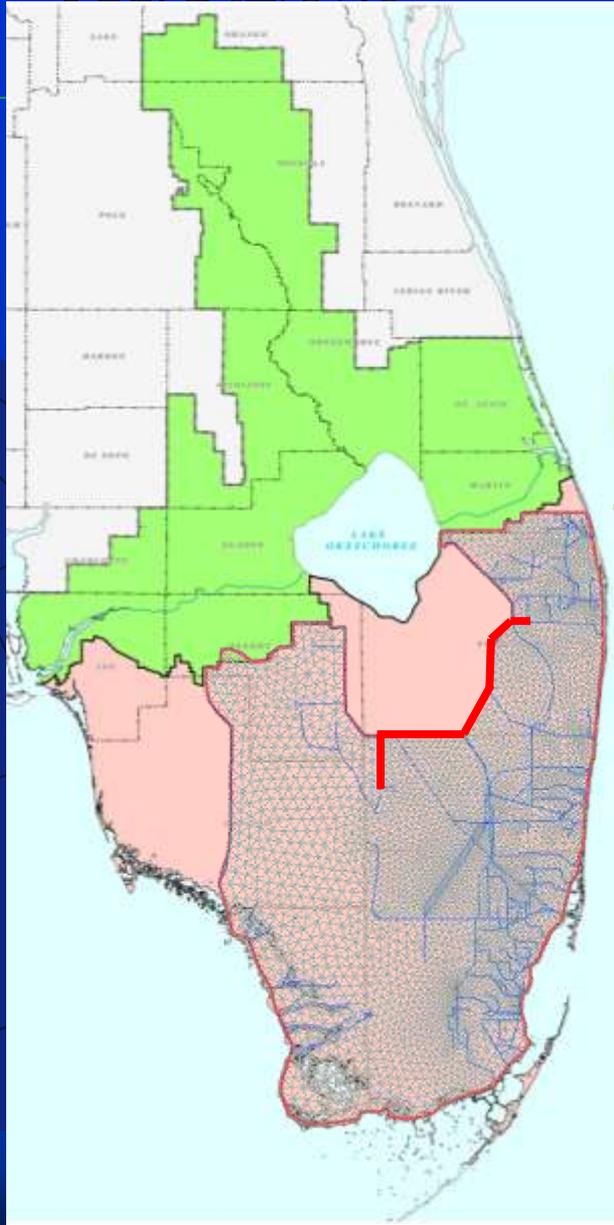




Landscape pattern trajectories



Do



	Storage (kAc-ft)	Flow (kAc-ft yr ⁻¹)	
Pre-drain	Lots!	Lots!	
CERP	N250+S360+ASR	+300	Buffered
ROG	1500-2000	+500	
CEPP	S 120	+200	Dry Ssn
CERP/LOWP	N + ASR	+250-400	

Reasons Suggesting More Storage Needed

- Flow uncertainties
- Water Quality issues - P
- Water Quality issues - Ca
- ASR uncertain-t-es
- Climate Change uncertainty