

Rivers Coalition

June 24, 2015

Current conditions: Lake Okeechobee

Paul N. Gray, Ph.D.

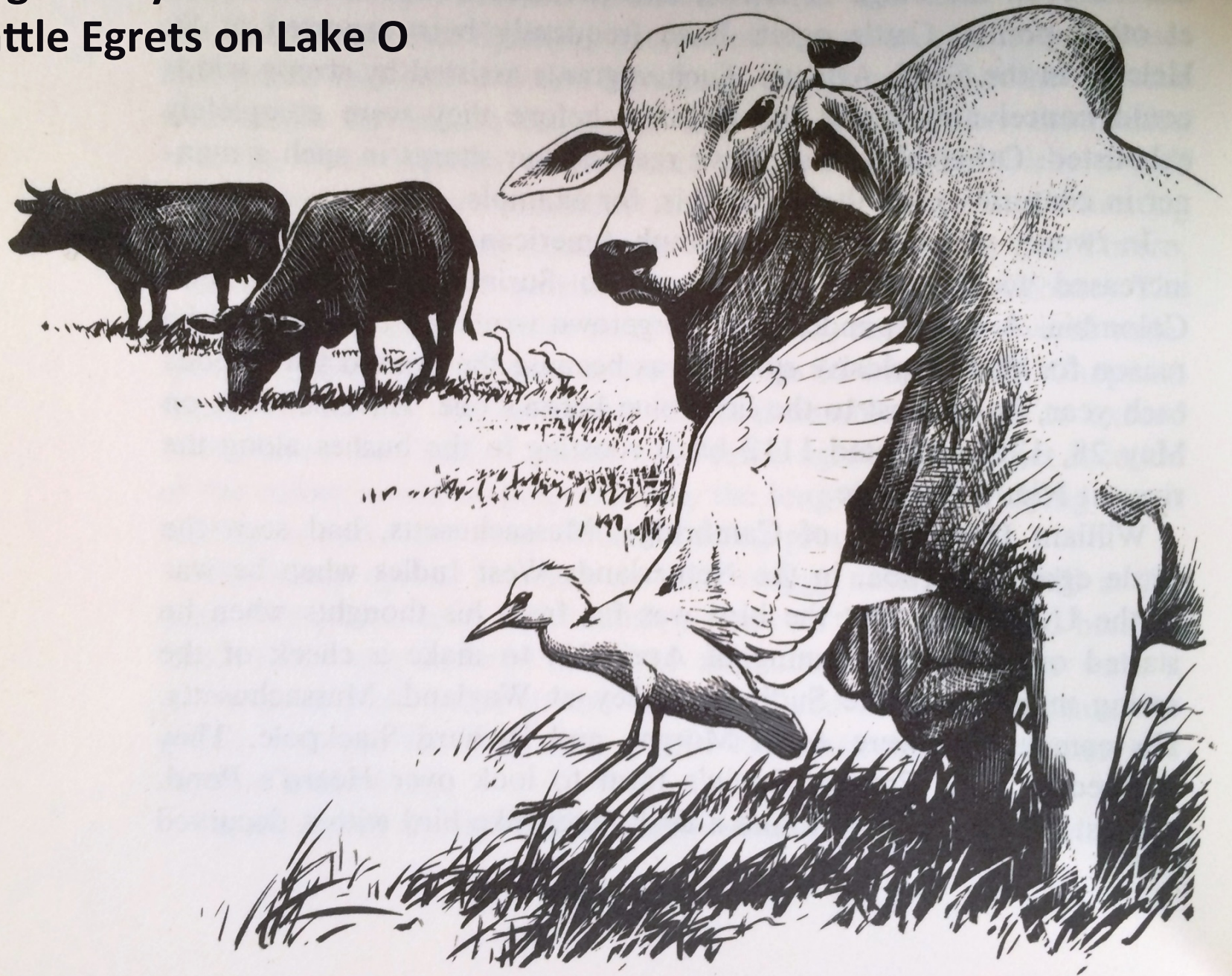


Audubon FLORIDA





**Roger Tory Peterson and
Cattle Egrets on Lake O**

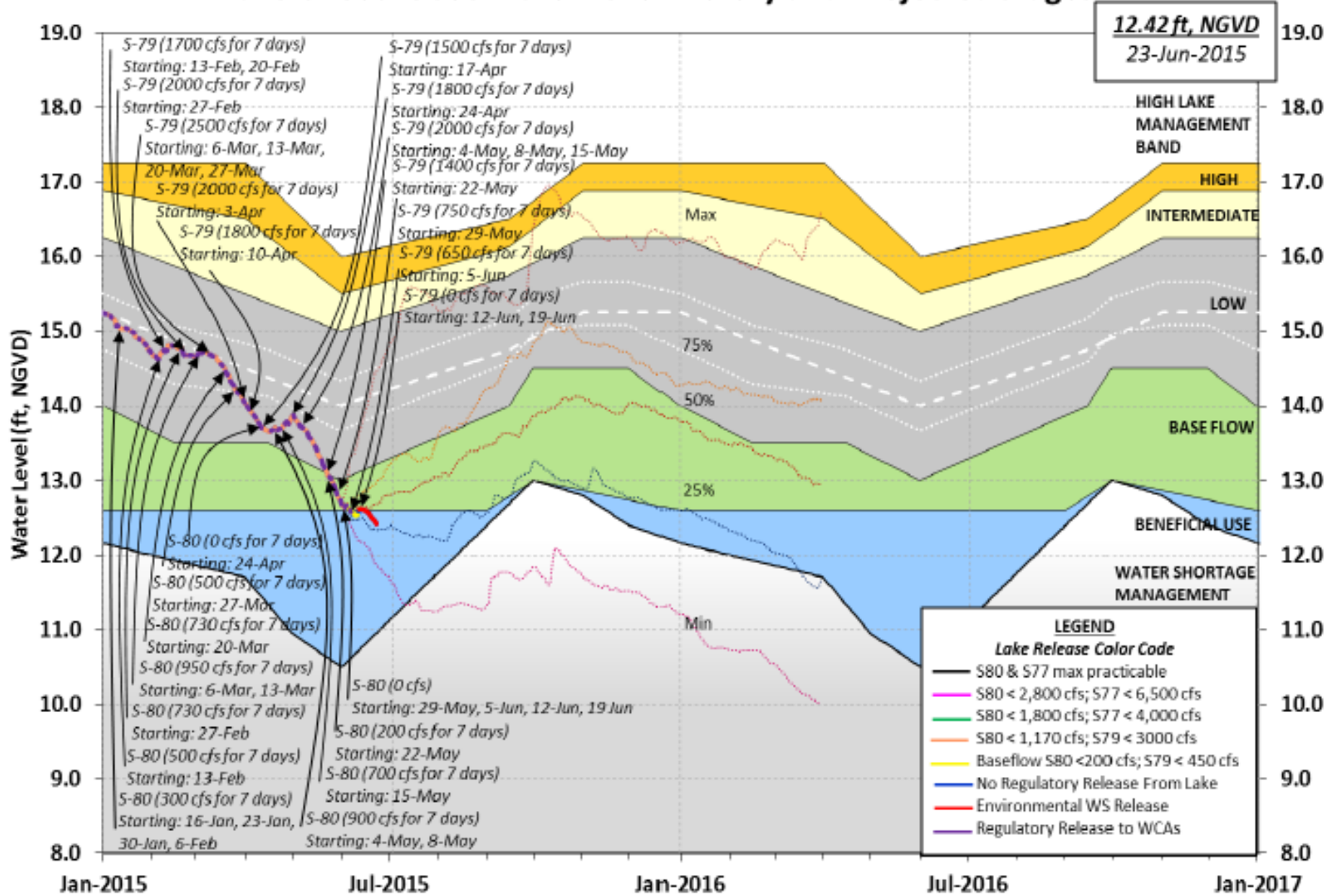


The jokes



a lake

Lake Okeechobee Water Level History and Projected Stages

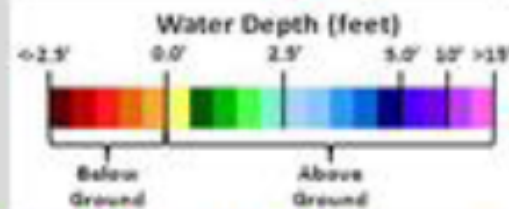
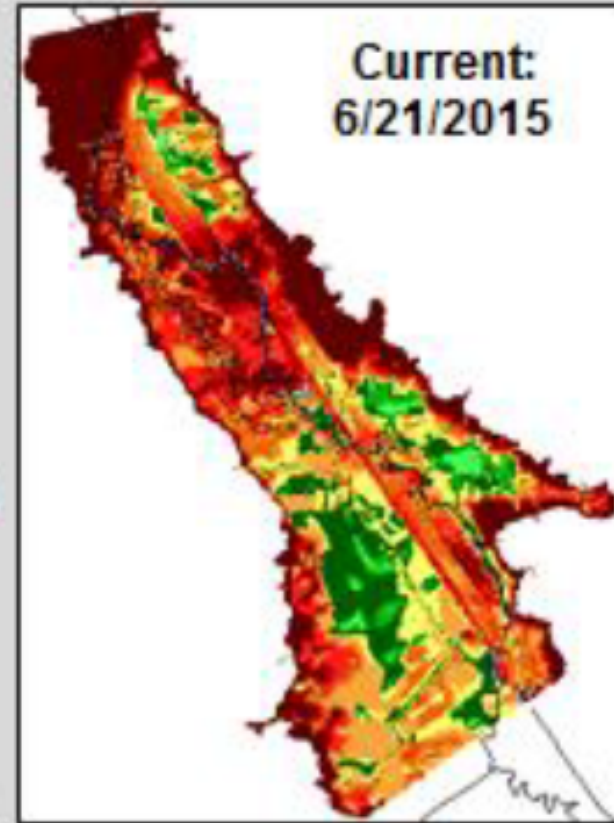
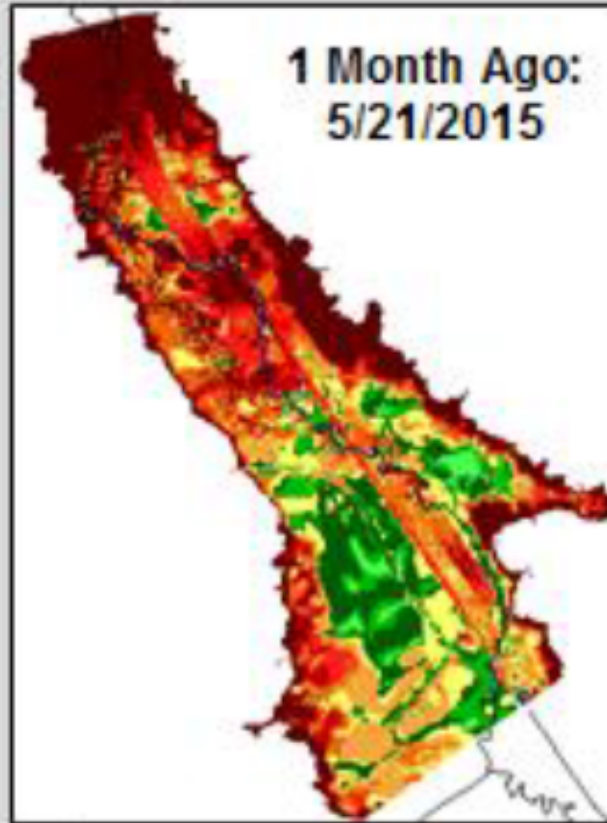
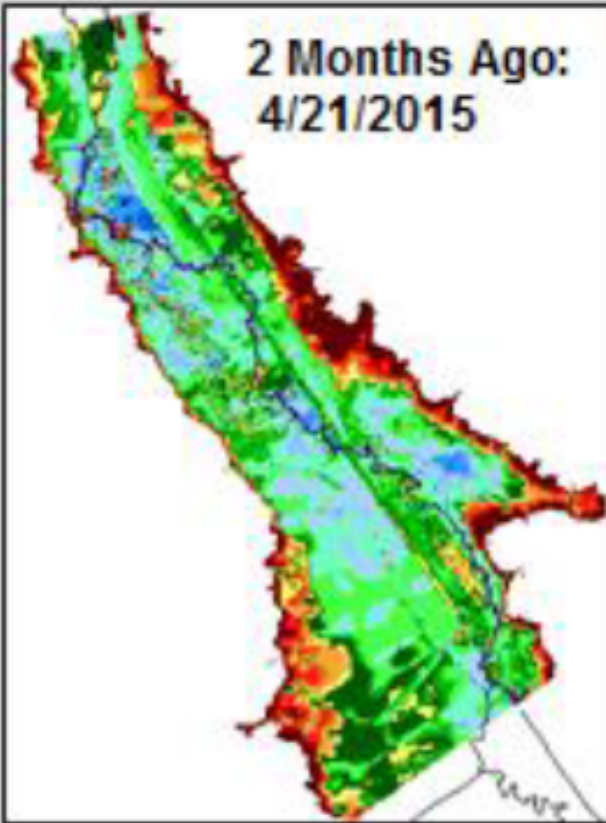


LORS-2008

Projected Stage Percentiles From
SFWMD-HESM Position Analysis

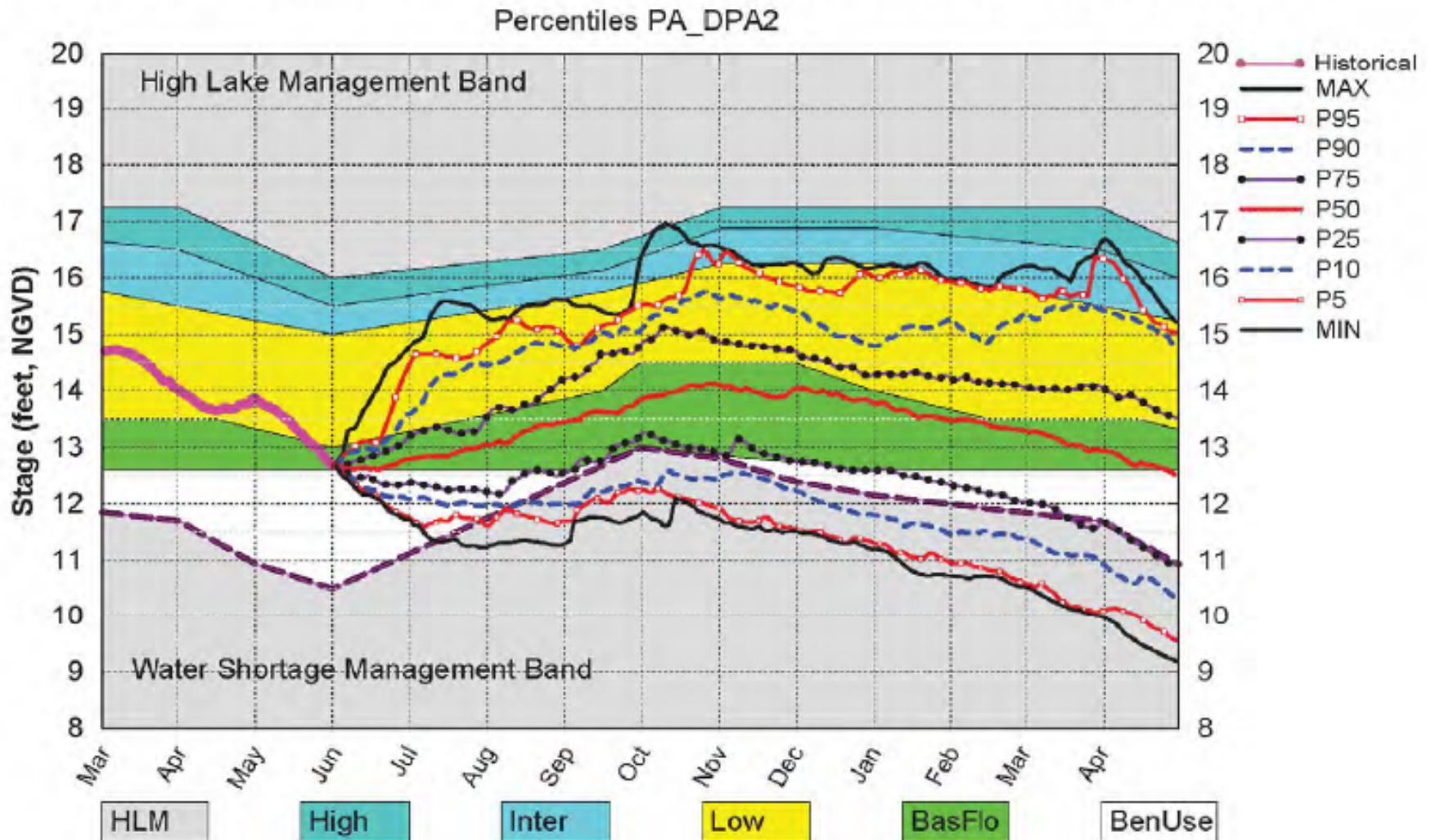
Adopted by USACE 28-April-2008

Kissimmee River floodplain is mostly dry



What does this tell you?

Lake Okeechobee SFWMM June 2015 Dynamic Position Analysis



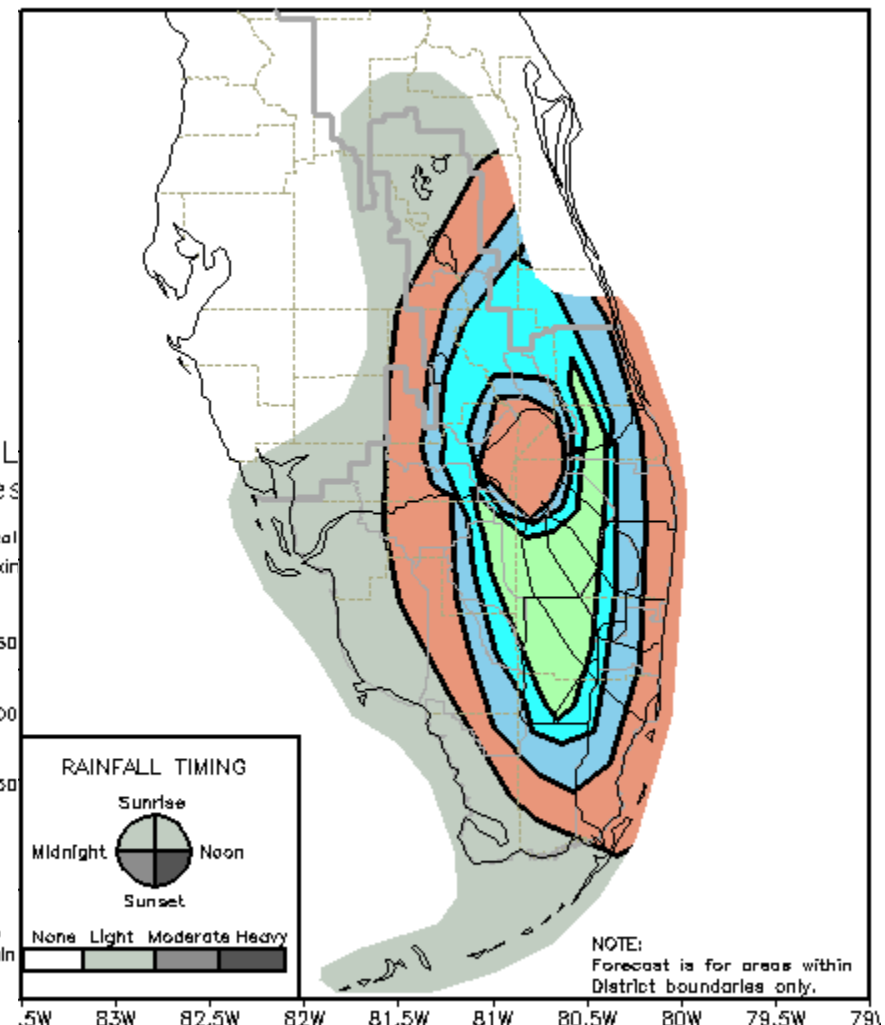
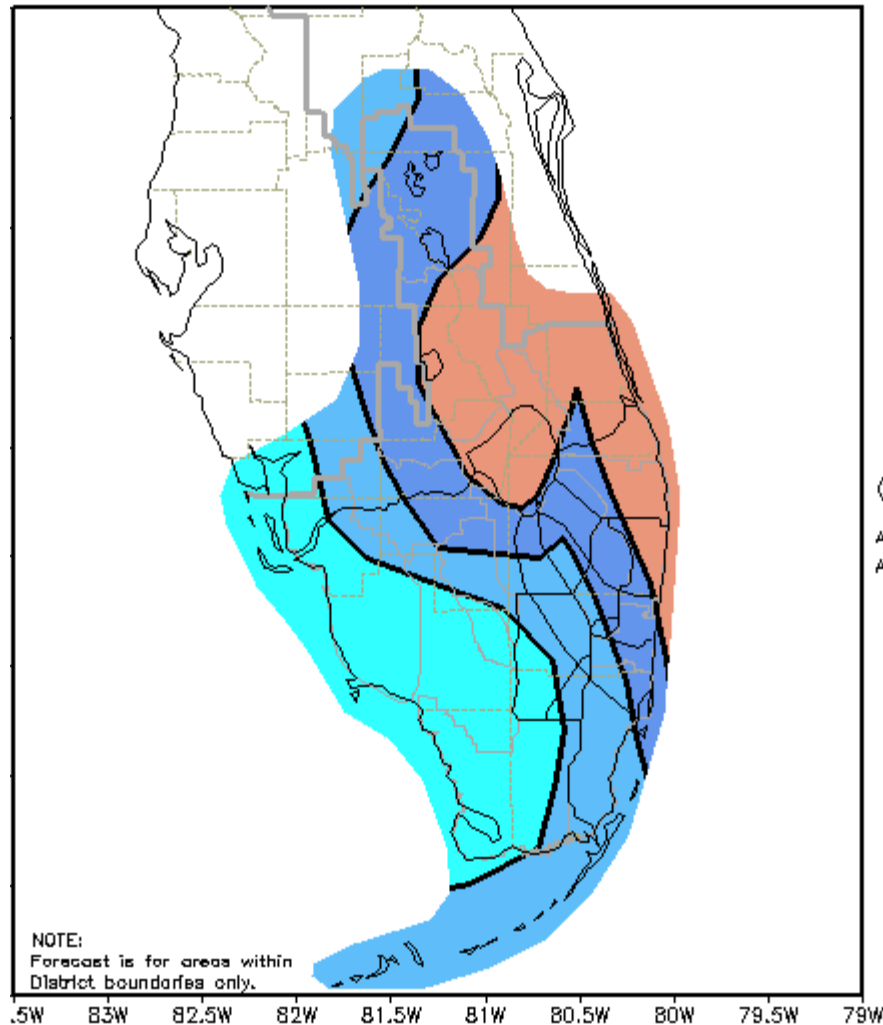
(See assumptions on the Position Analysis Results website)



Okeechobee influences local weather

SFWMDC QUANTITATIVE PRECIPITATION FORECAST
Day 1 24-Hour Period Beginning 7am EST MON

SFWMDC QUANTITATIVE PRECIPITATION FORECAST
Day 2 24-Hour Period Beginning 7am EST THU





Lake O Sanctuaries established 1938

letter from five Okeechobee citizens
to TIF,

“We value the business which
the Society brings to our
community. We appreciate
and believe in the work of the
Society and wish to cooperate
with it. We believe that
reasonable protection of the
wildlife, as practiced and
promoted by the Society,
helps our town economically
and increases the public
welfare.”

(Sprunt, Florida Bird Life 1954)





From Tyler Beck, FWC



Tyler Beck, FWC

American Bitterns from Wisconsin migrated to Florida.

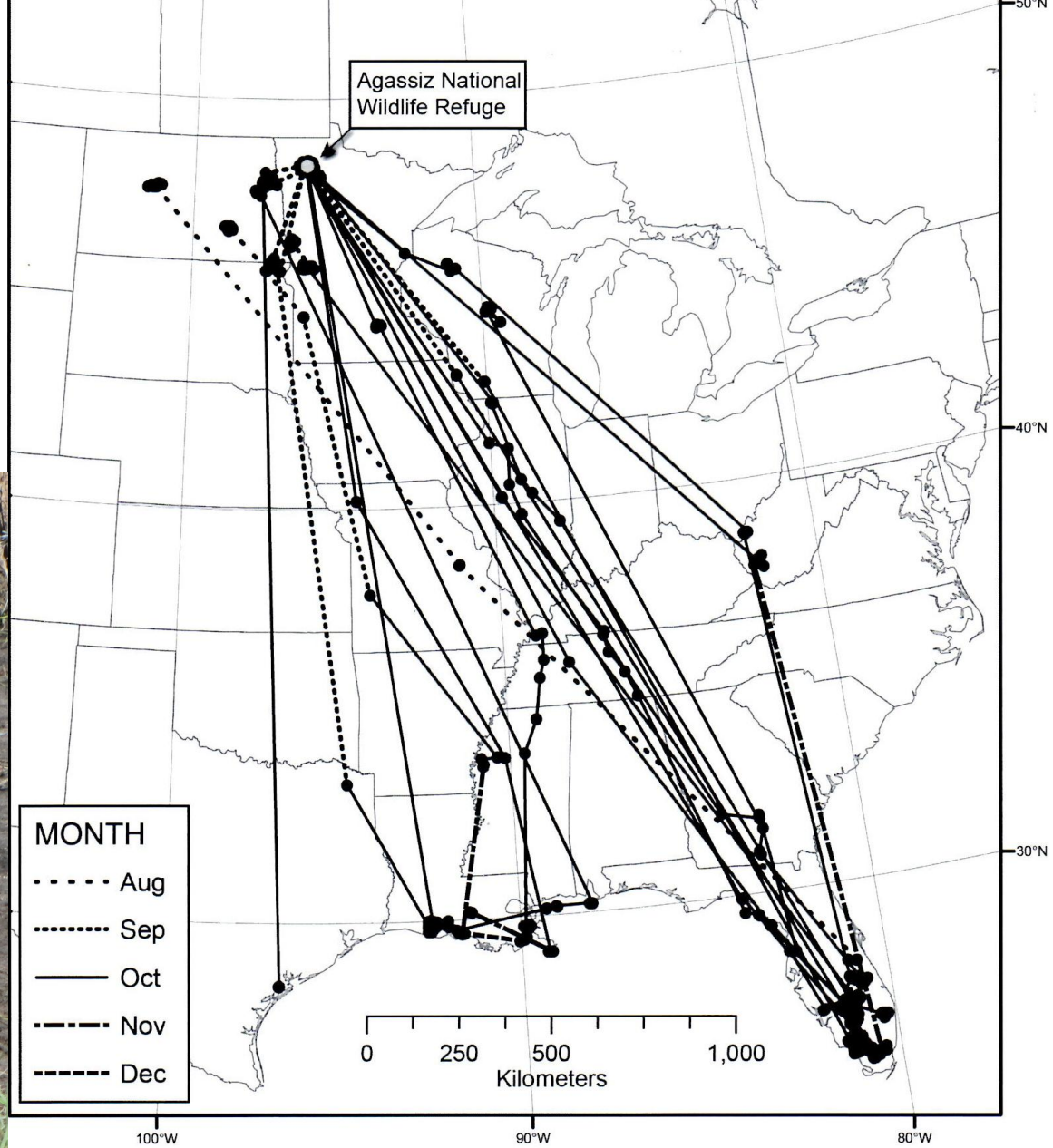


Figure 1. Nineteen southward migrations by 17 adult male American Bitterns (*Botaurus lentiginosus*) marked with miniature platform transmitter terminals on their breeding grounds in the Agassiz National Wildlife Refuge and the Prairie Pothole Region of the north central United States. Line style of each movement vector denotes the month of respective arrival date.





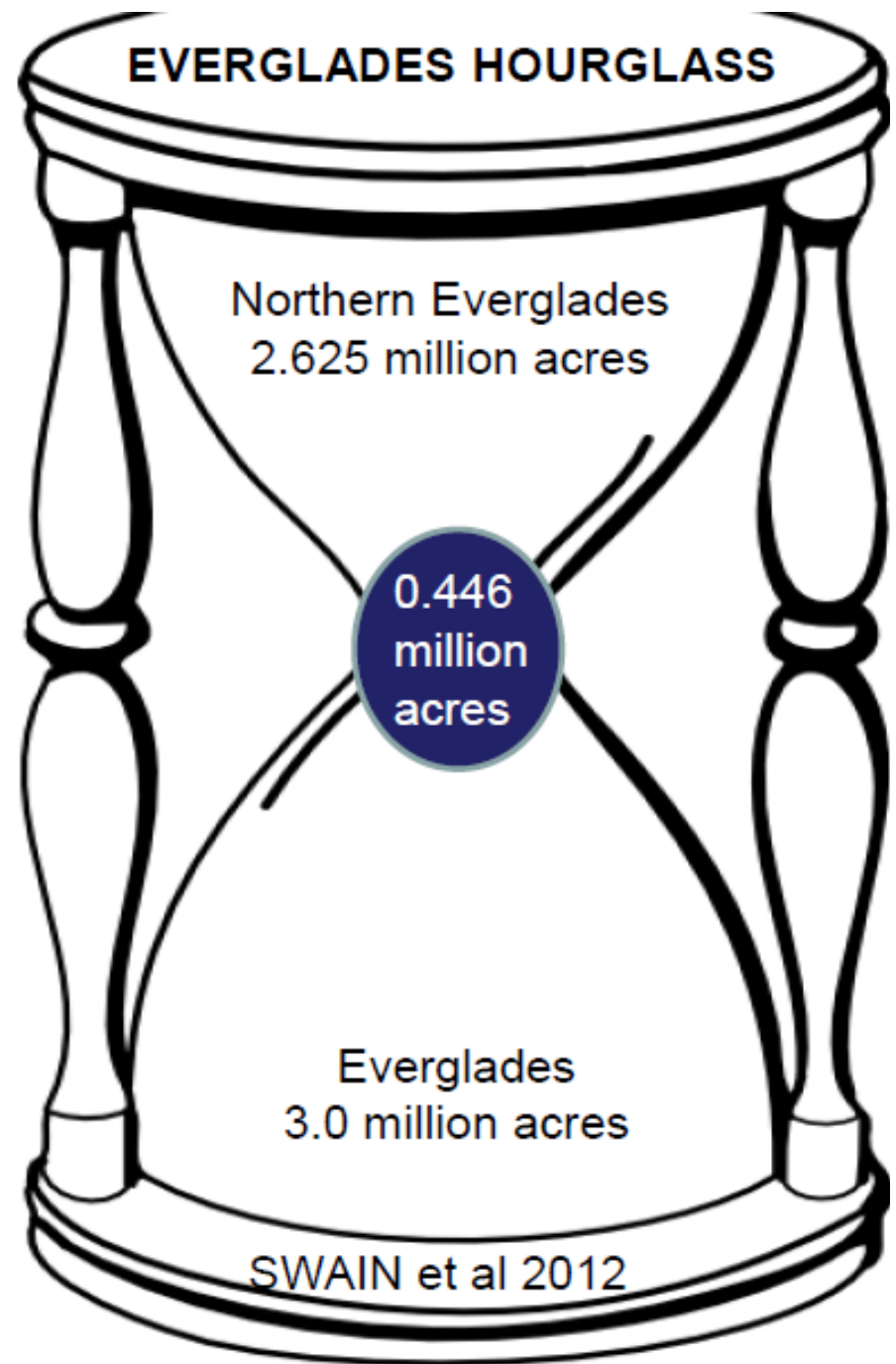
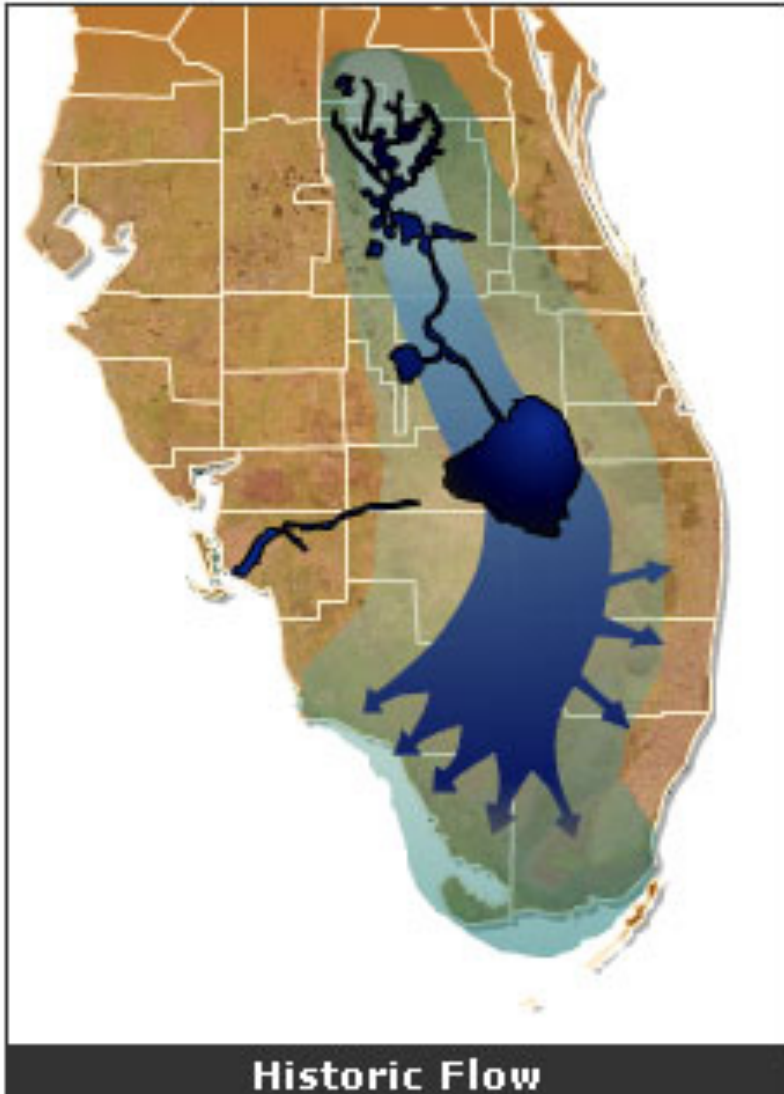
Marshall Foundation Interns and FWC, June 2015



Okeechobee Resources

- Everglade Snail Kite: second most important breeding area
- Wading birds: 50,000 foragers, 5-8,000 nests
- Fishery: “1 million” crappie, 500+ bass tournaments, commercial catfish and bluegill
- Waterfowl: hundreds of thousands
- Alligator hunts
- Okeechobee gourds: endangered, endemic
- Recreation and tourism (Okeechobee waterway)

And, S. FL's single most important water management feature

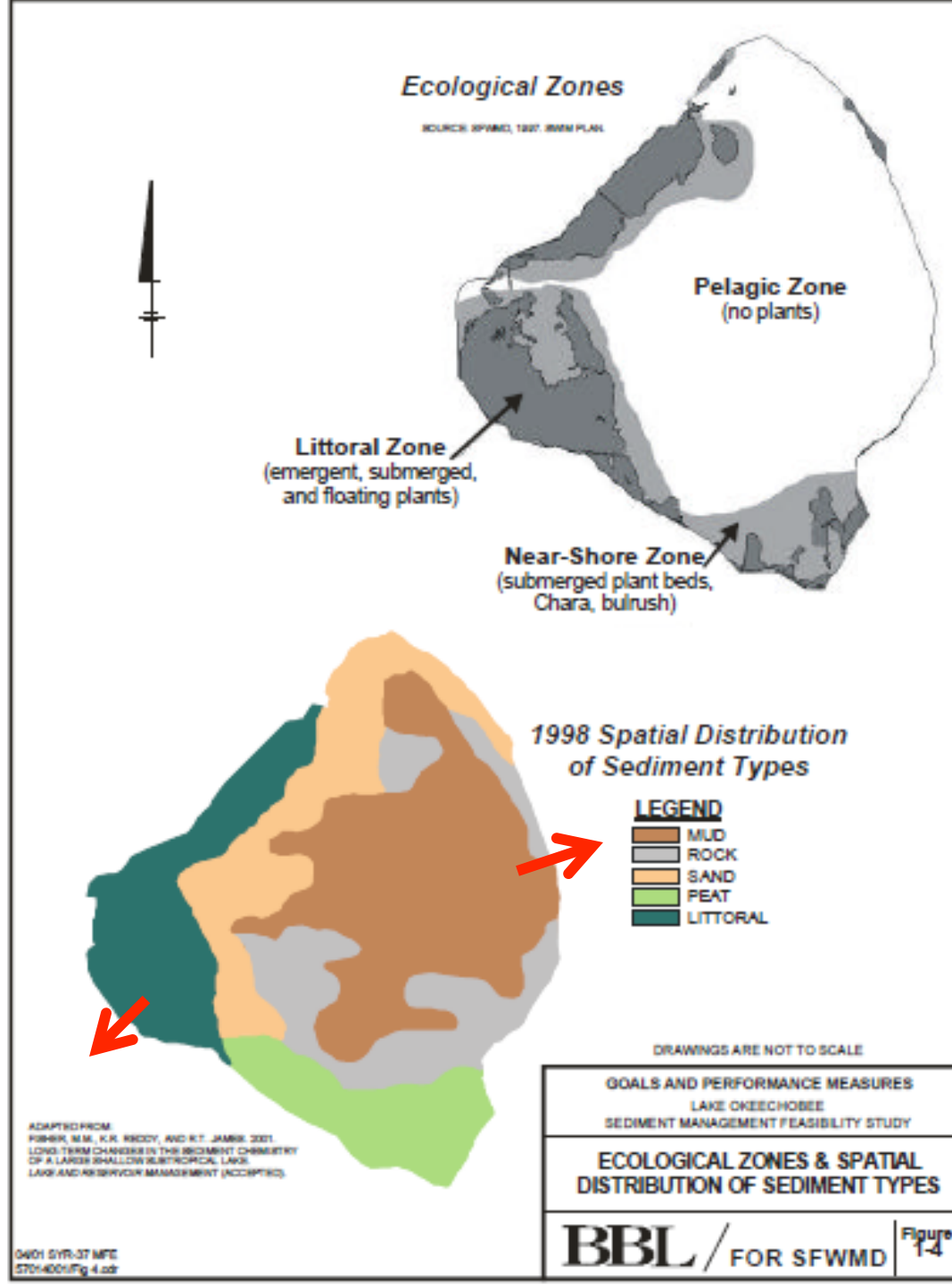


Port Mayaca structure, April 25, 2015

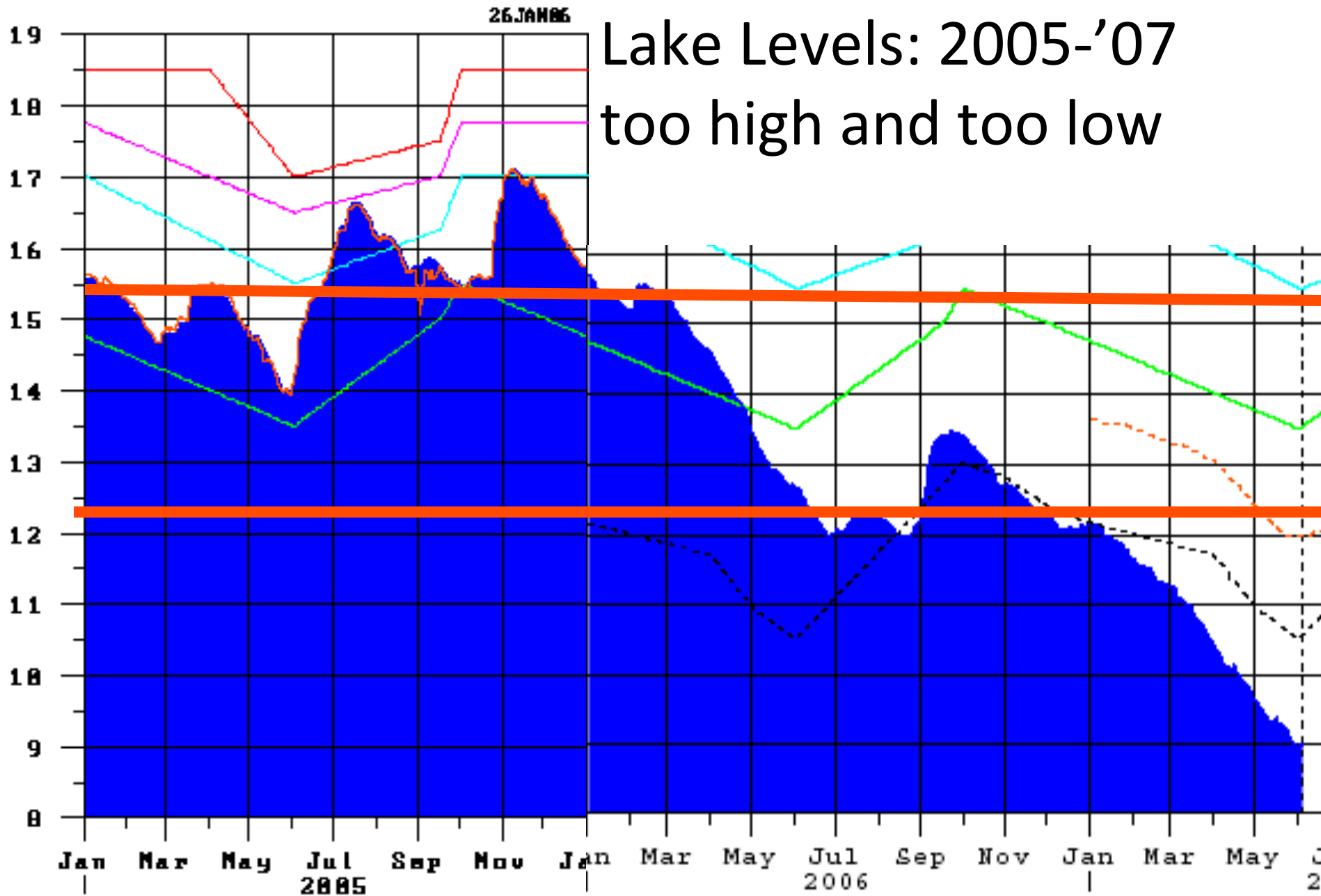


**Gray areas
marshy:
clean water**

**Brown area
muddy:
dirty water**



Lake Levels: 2005-'07 too high and too low



Lake O water budget: Average Year

Total inflow (flow and rain)	Evaporation	Human use	“Dumps”
7.5 feet	5 feet	1.5 feet	1 foot

Lake O water budget: 20% Wettest Years

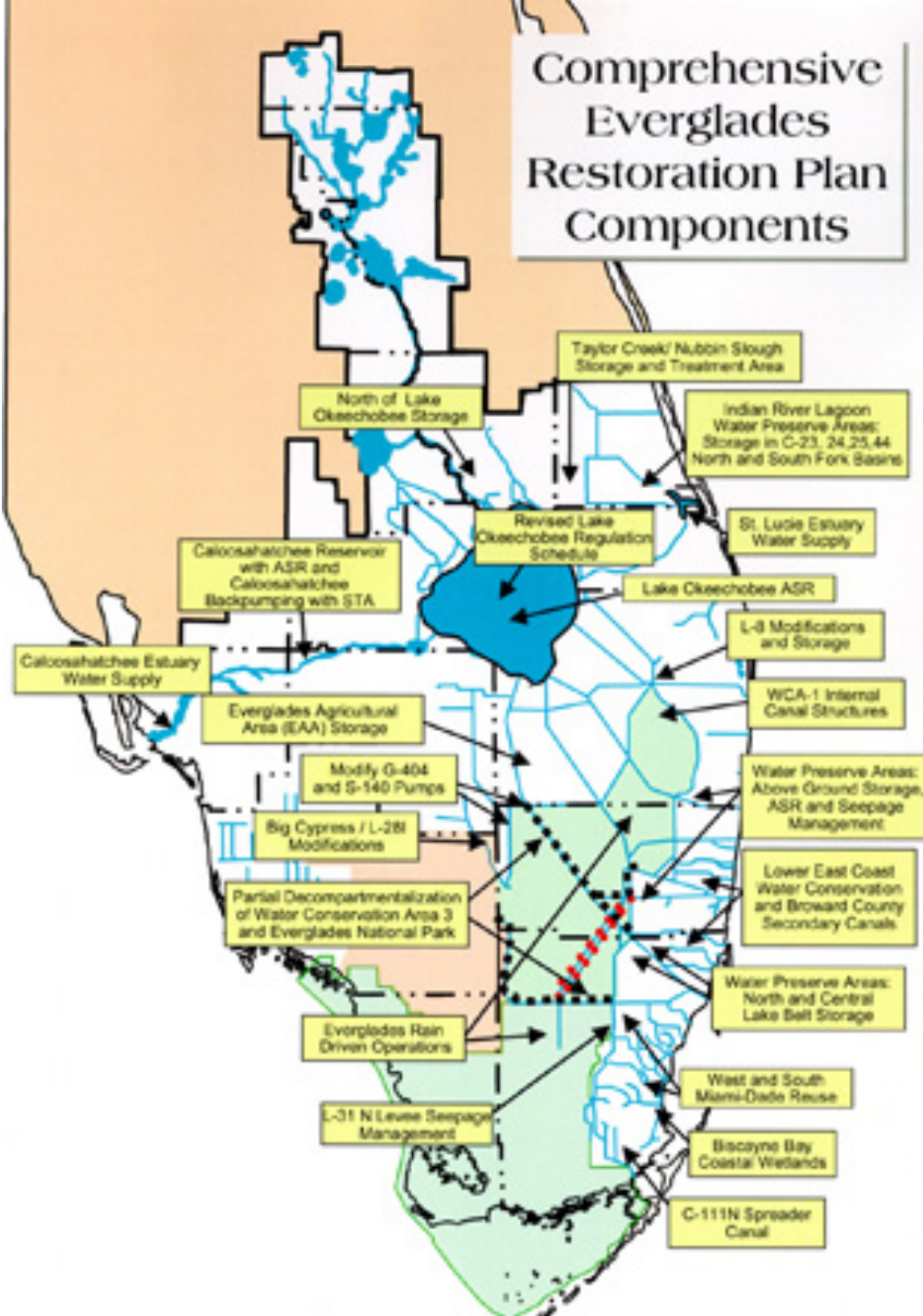
Total inflow (flow and rain)	Evaporation	Human use	“Dumps”
>10 feet	<5 feet	<1.5 feet	3+ feet

Lake O water budget: 20% Driest Years

Total inflow (flow and rain)	Evaporation	Human use	“Dumps”
<4.5 feet	>5 feet	2 feet	2.5' deficit

= Chronic problems

- 20% wet years and 20% dry years means 40% of years are major problems
 - Other years are lesser problems
- Both wet and dry problems can be helped through more storage
- Send it south (conveyance): helps Northern Estuaries AND the Everglades



Comprehensive Everglades Restoration Plan Components

Long term fixes:
**CERP/CEPP/
 SLRWPP/CEWPP**

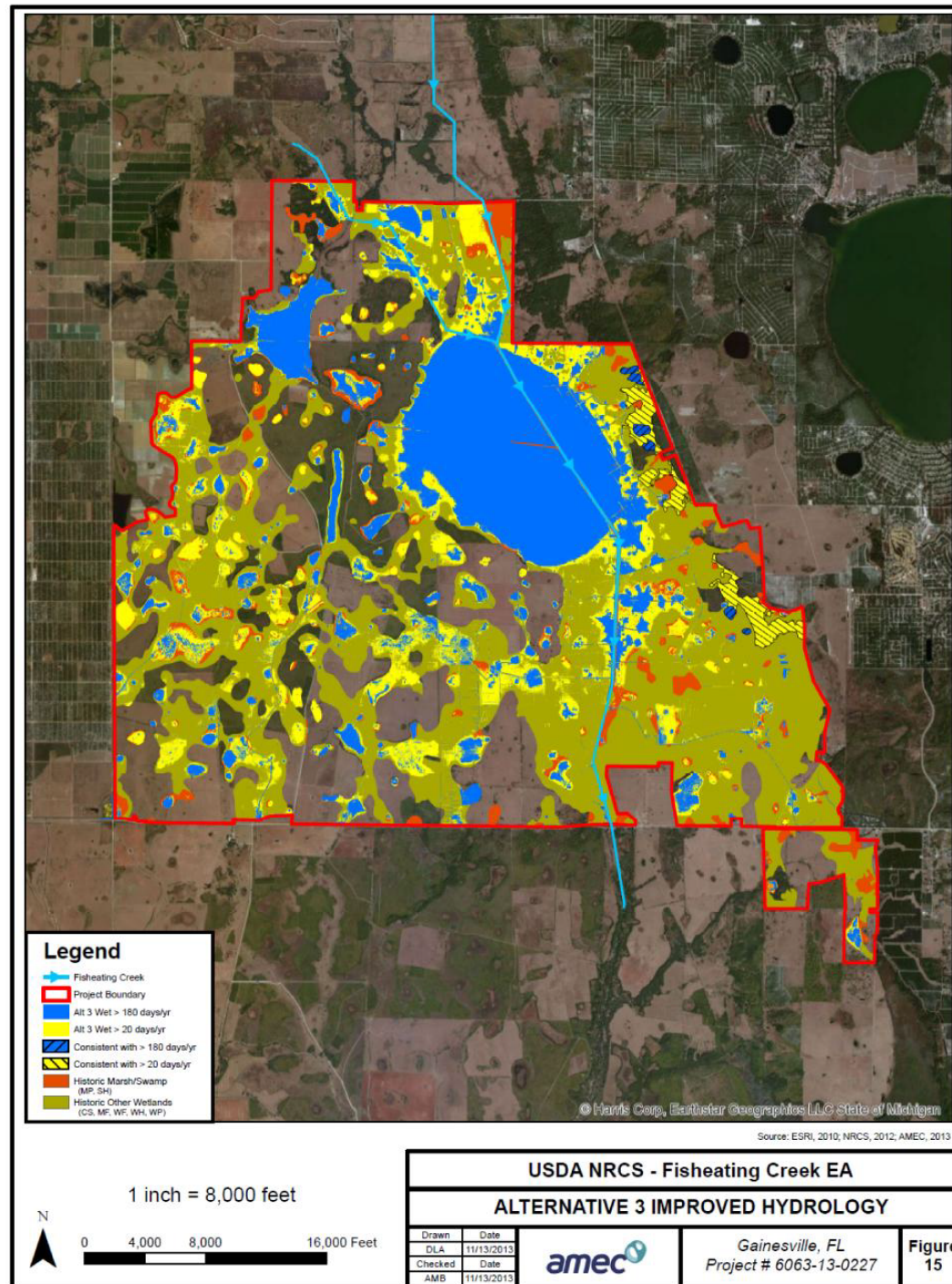
Water storage and treatment projects everywhere

Allapattah Flats restoration

Federal:
Wetlands
Reserve
&
IRL-S project



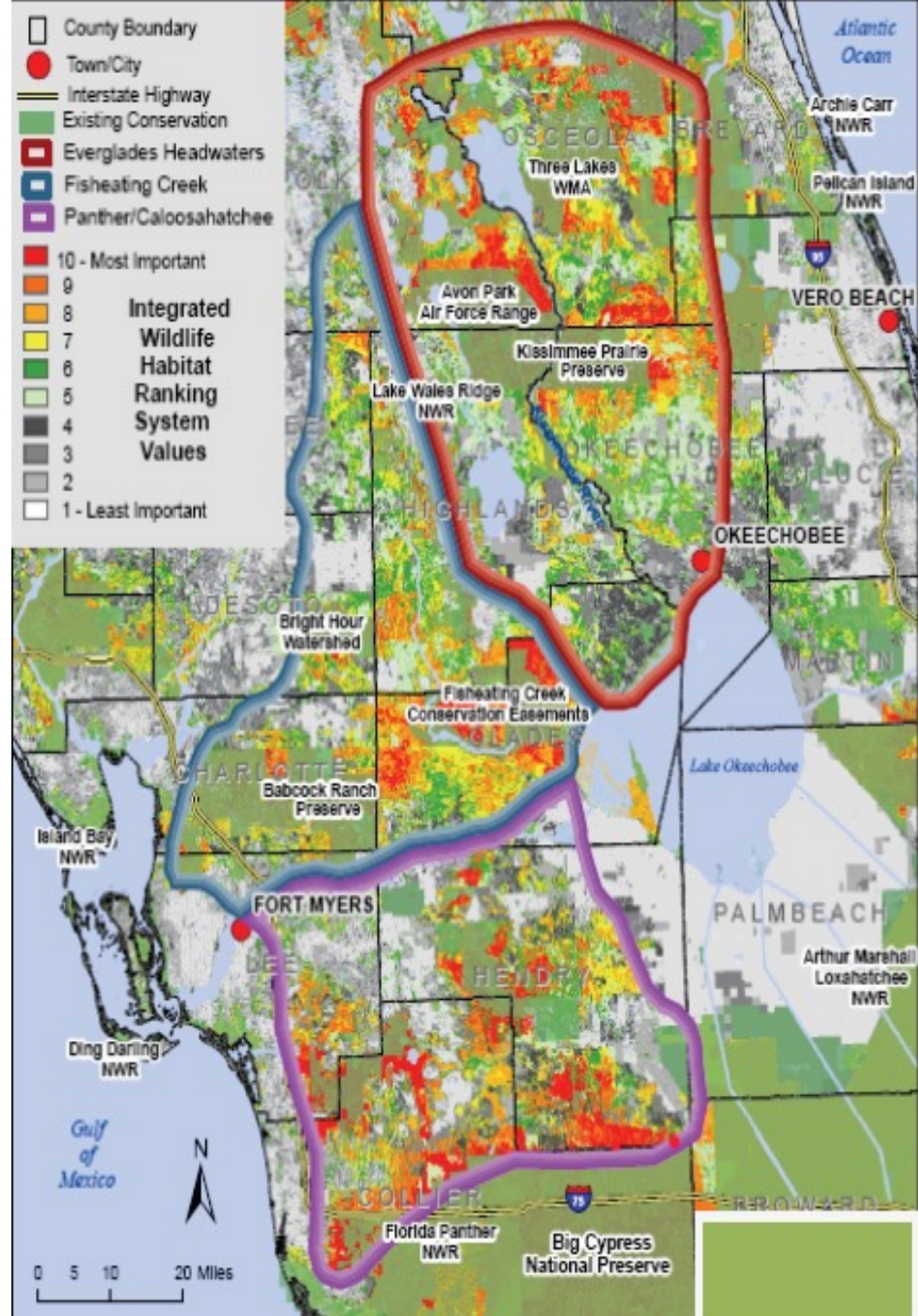
Fisheating Creek Wetland Reserve Program Easement



Headwaters National Wildlife Refuge and Conservation Area

150,000 acres

Larger visions,
corridors





March 10, 2013

The C-38 canal and remnant river channels in the Pool A (unrestored) section of the Kissimmee River



February 18, 2015

Phase I restoration area looking north at the MacArthur/Fulford Connector

(Discharge was 4,466 cfs at S65A on February 18)



March 15, 2012

A diversity of wading birds take flight in the Phase I restoration area



Florida at Night

Devoting our lives to it

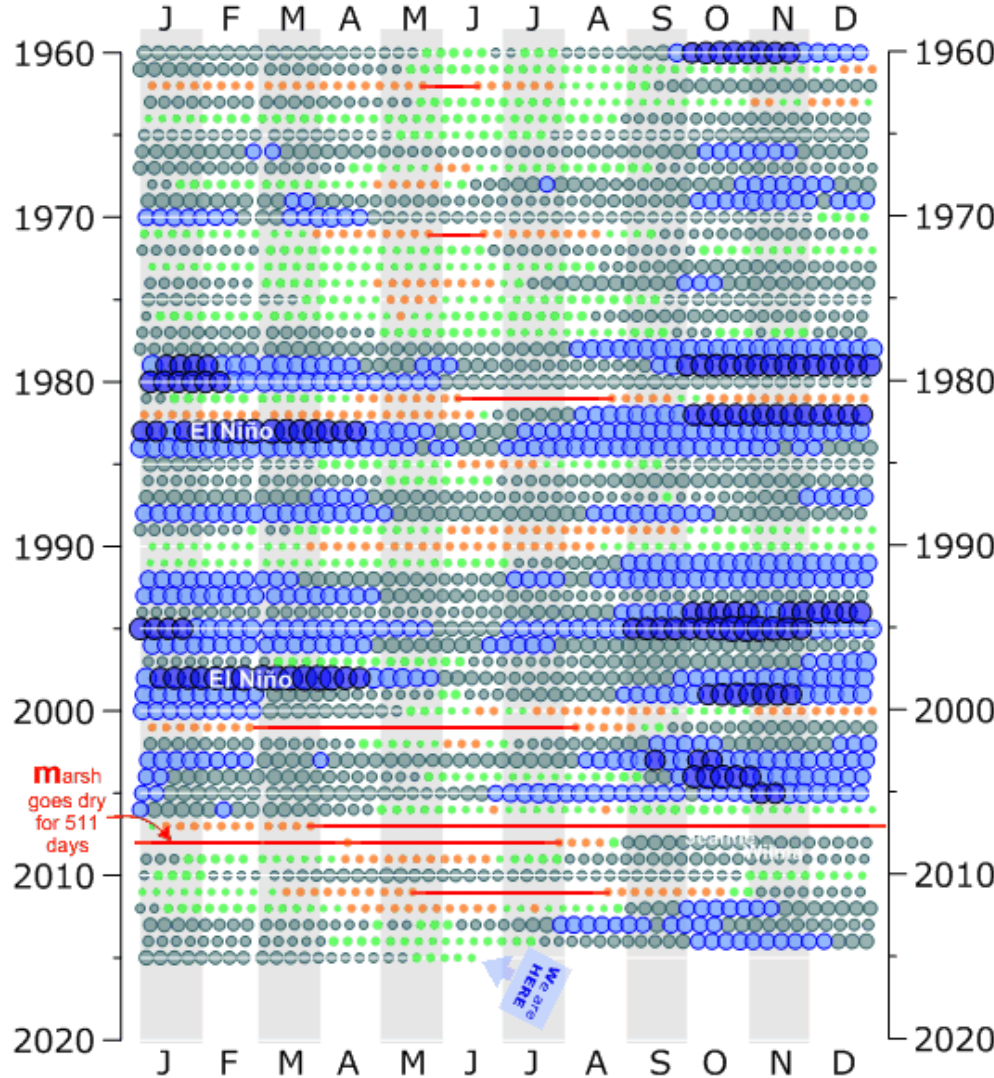




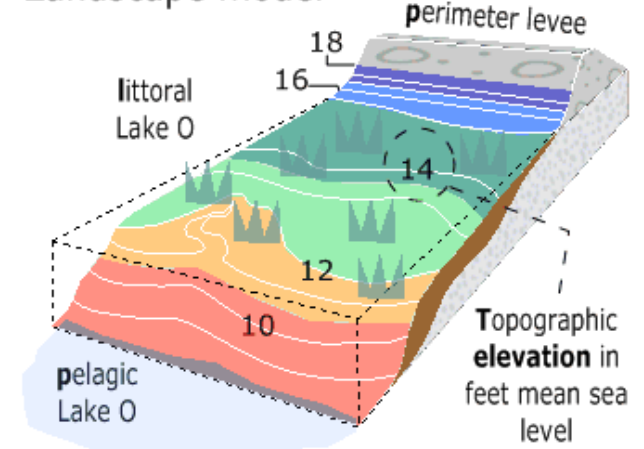
Ecological and Operational Setting of the **Wetting Front** for Lake Okeechobee

Explanation

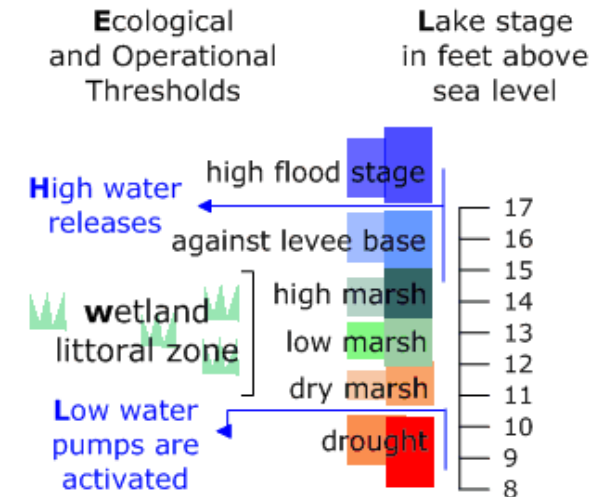
Color coding shows lake stage relative to ecological and operational thresholds



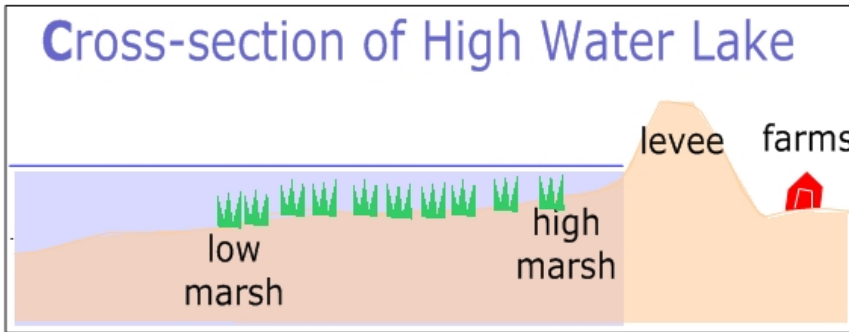
Landscape model



Expanded vertical scale



Lake Okeechobee High-Water Years



volume
millions of
acre feet

