Audubon

Corkscrew Swamp Sanctuary

The increasingly important role of inland wetlands on a developing landscape

DR. SHAWN CLEM, RESEARCH DIRECTOR

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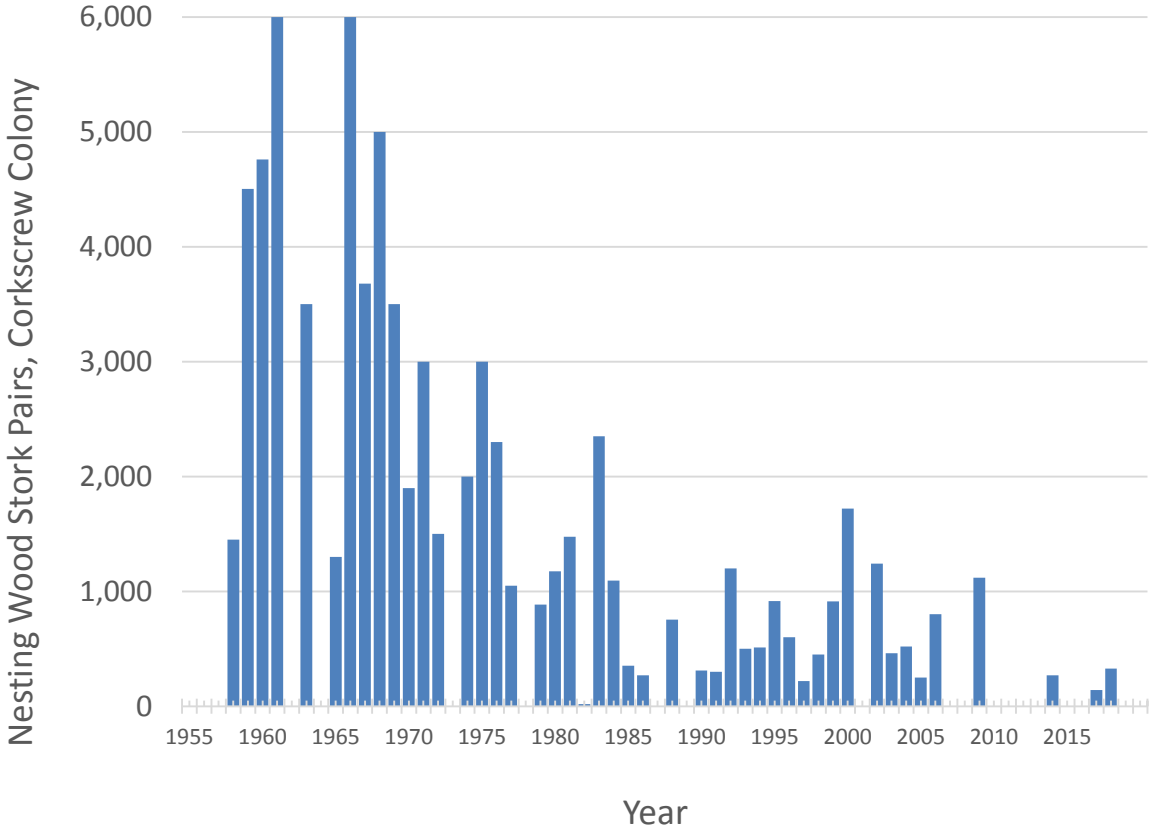
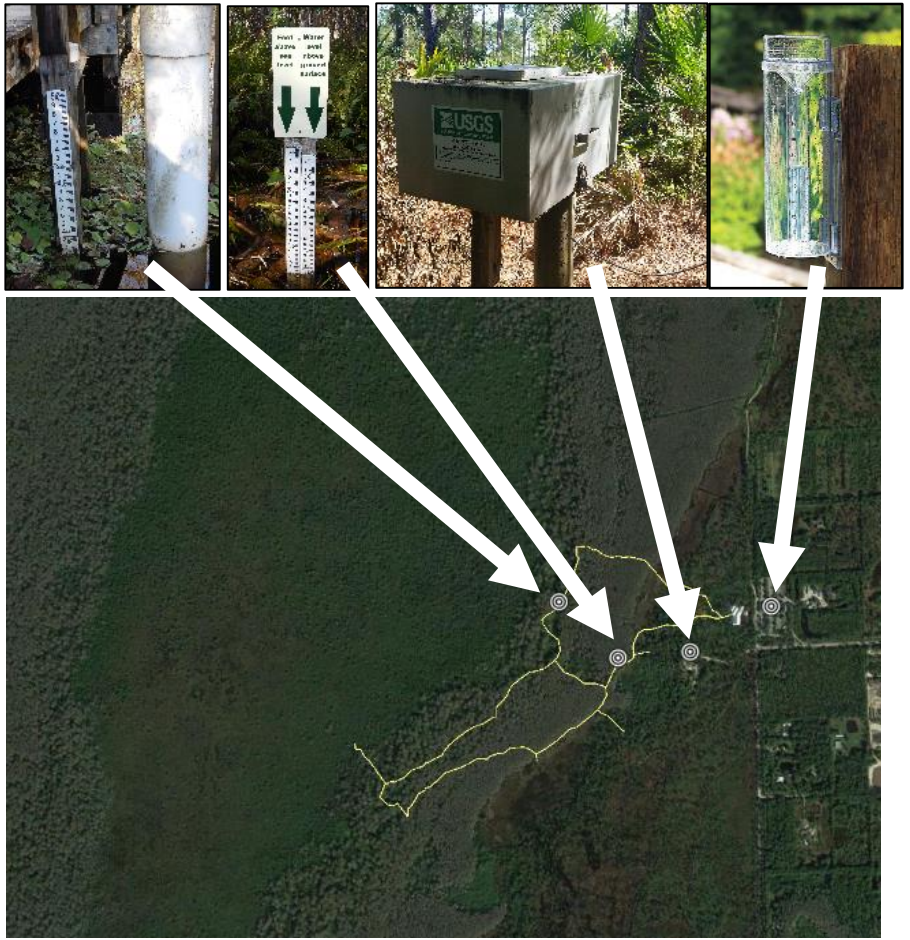


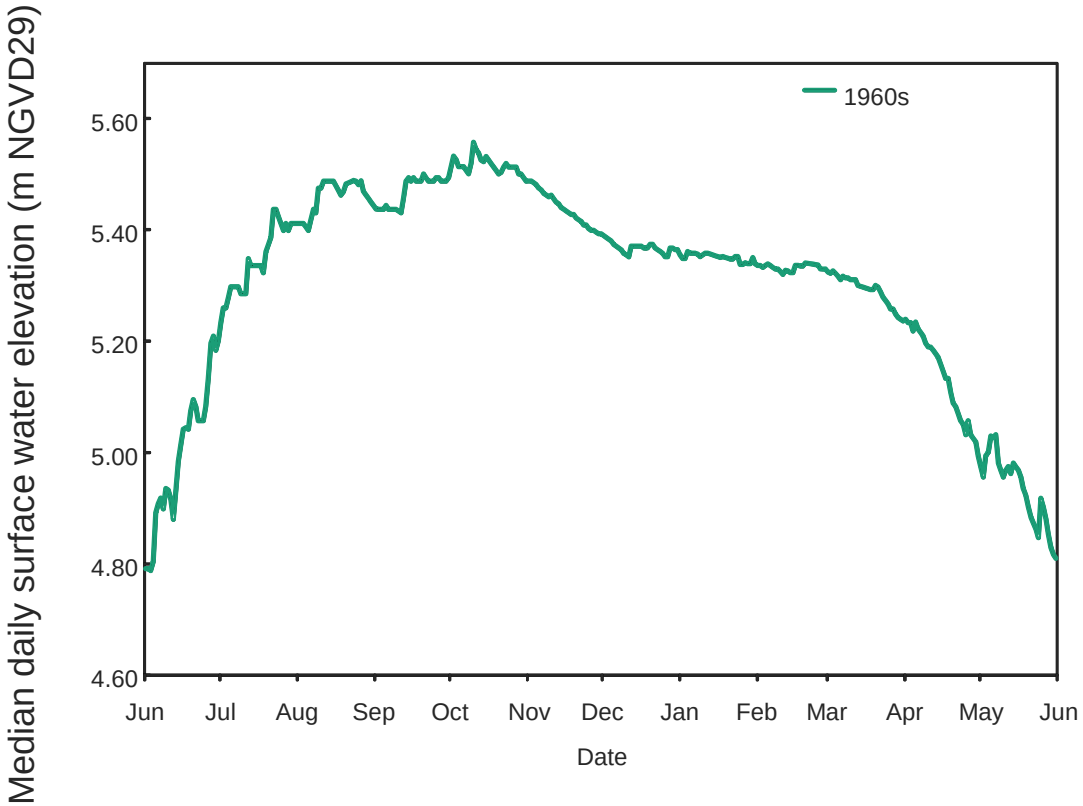
~1910: “100,000 birds”

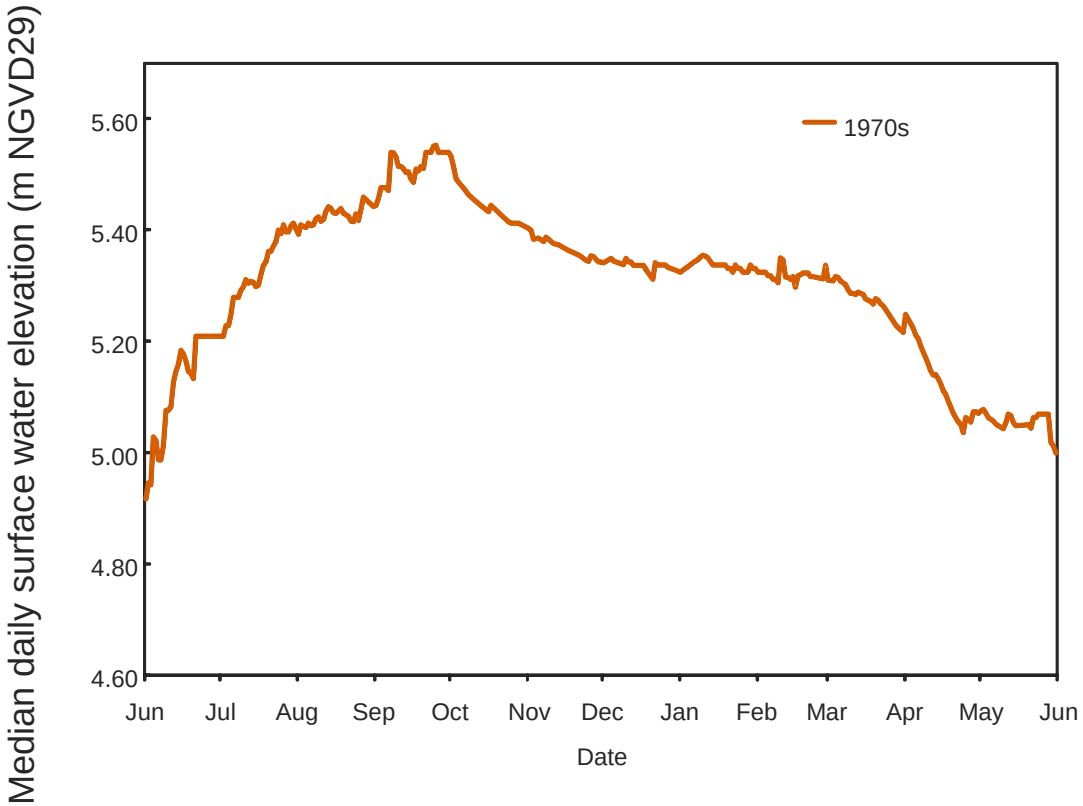
RAINFALL
1959-

SURFACE WATER
Staff Gauges
1959-

GROUNDWATER
Well (C-492)
1973-




Median daily surface water elevation (m NGVD29)
1960s
5.60
5.40
5.20
5.00
4.80
4.60
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Jan
Feb
Mar
Apr
May
Jun
Date


Median daily surface water elevation (m NGVD29)
5.60
5.40
5.20
5.00
4.80
4.60
1970s
Jun
Jul
Aug
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Nov
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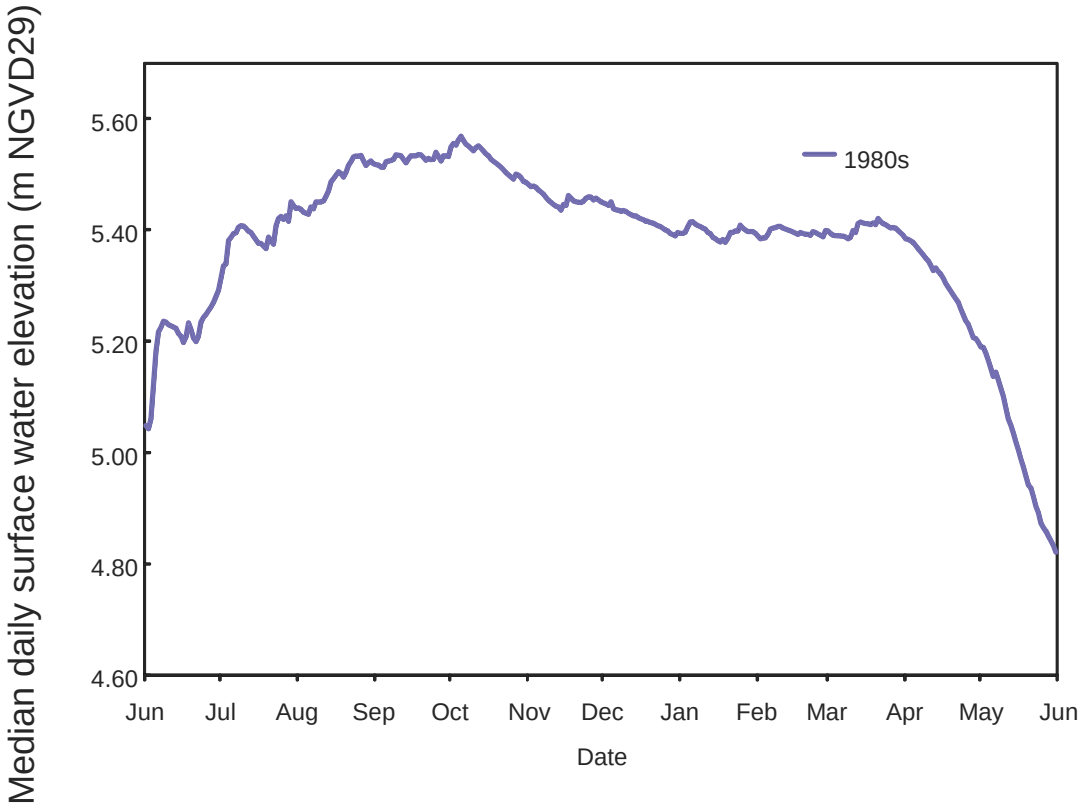
Apr
May
Jun
Date


Median daily surface water elevation (m NGVD29)
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1980s
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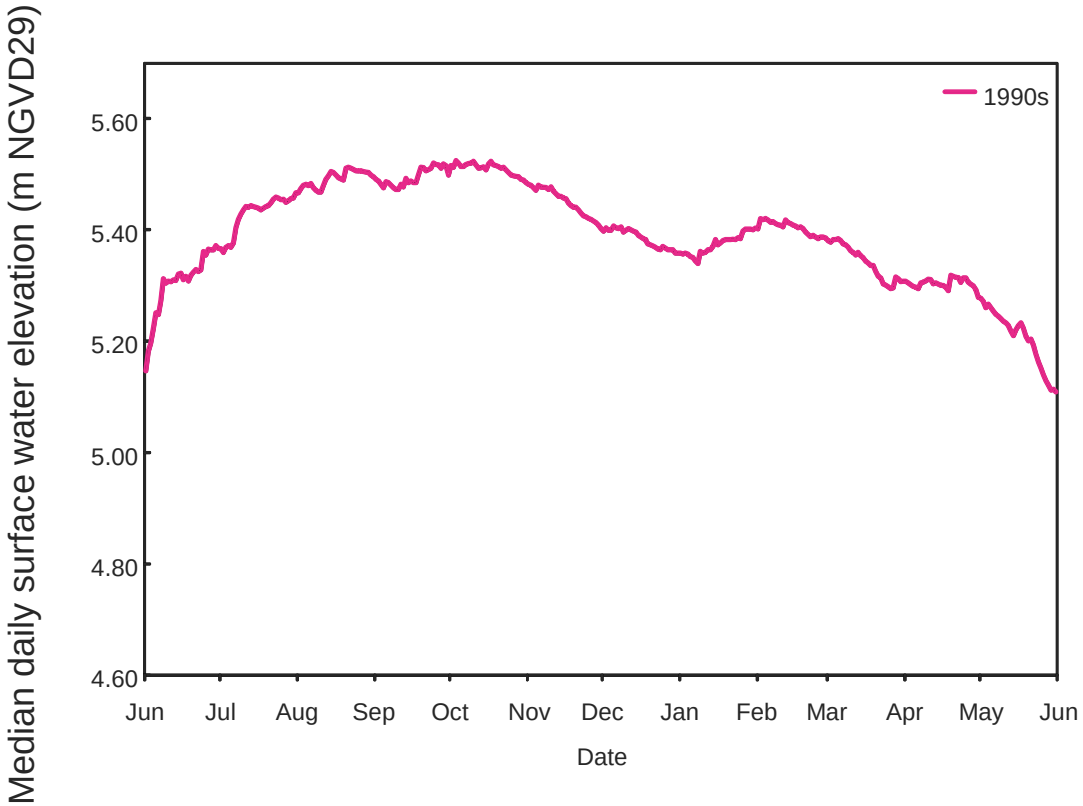
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1990s
5.60
5.40
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4.80
4.60
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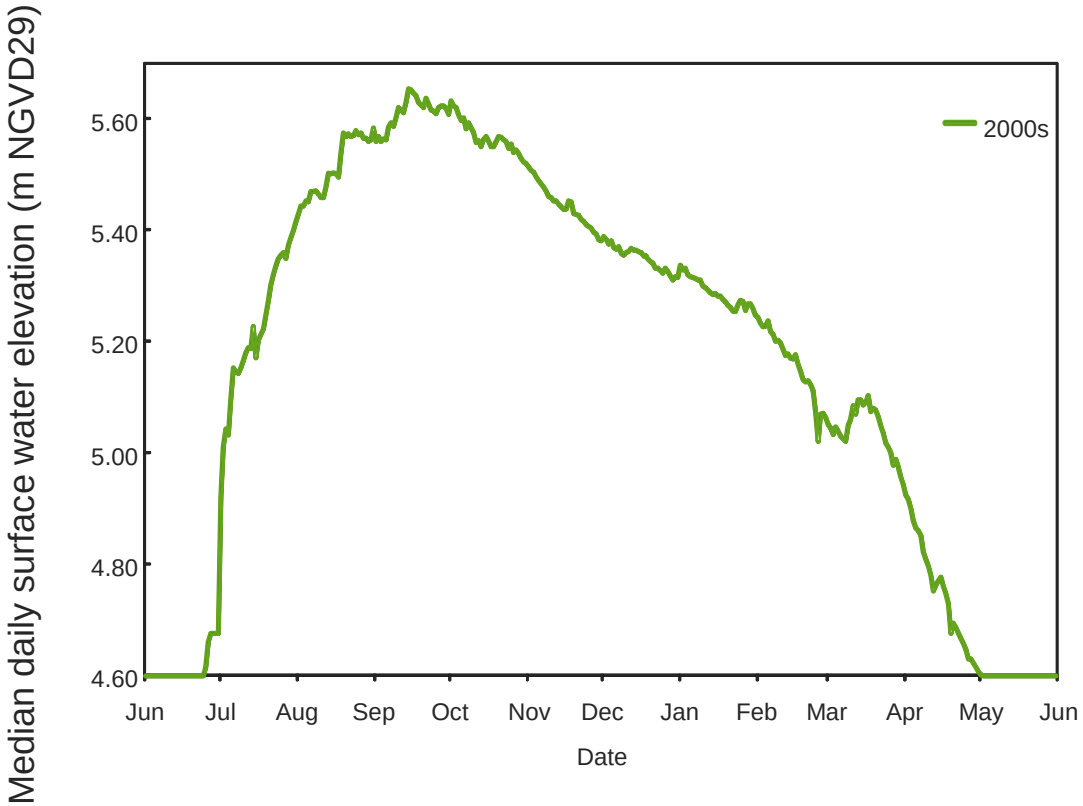
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2000s
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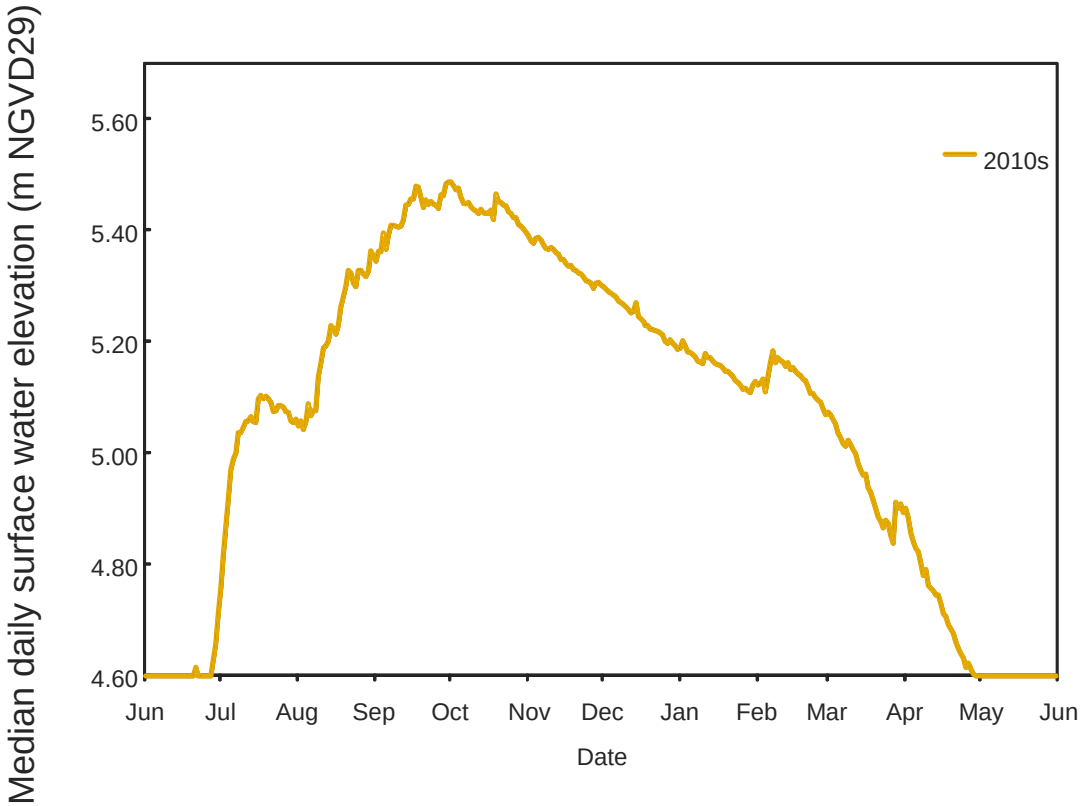
Median daily surface water elevation (m NGVD29)
5.60
5.40
5.20
5.00
4.80
4.60
2010s
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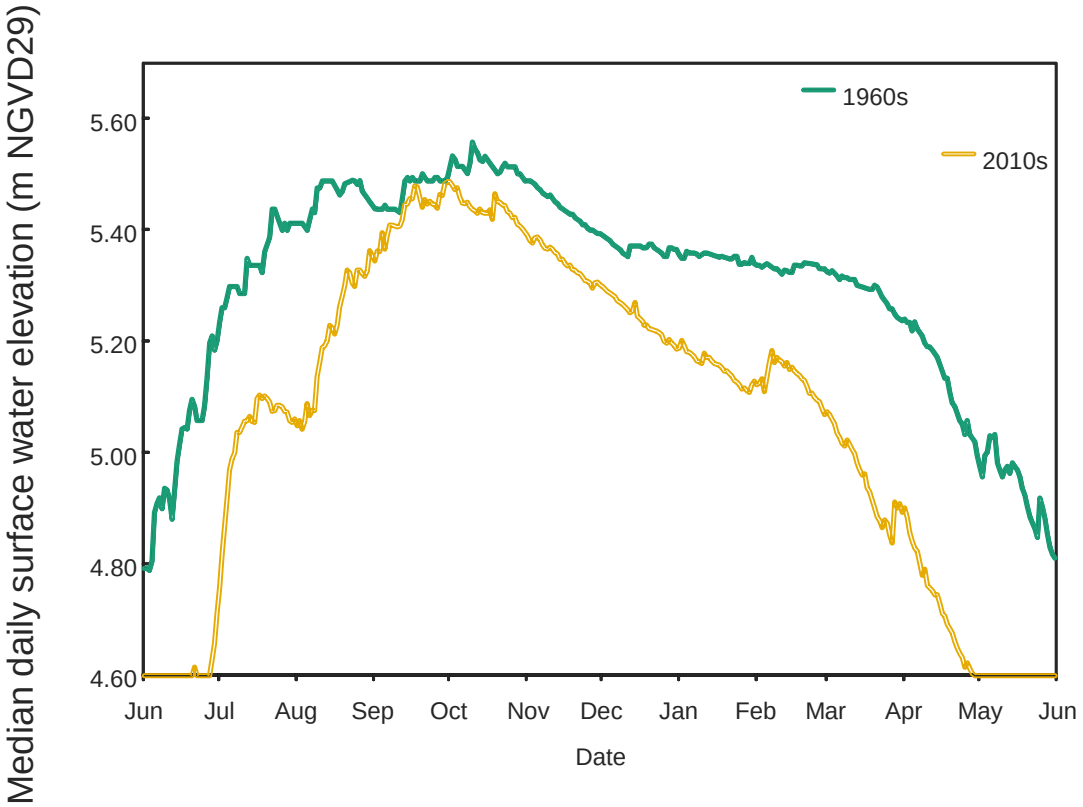
Date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5.40
5.20
5.00
4.80
4.60
Jun
Jul
Aug
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May
Jun
Date
1960s
2010s

1960s to 2010s:

29%
(2.6 mo.)

Freshwater Marsh

18%
(1.9 mo.)

Bald Cypress

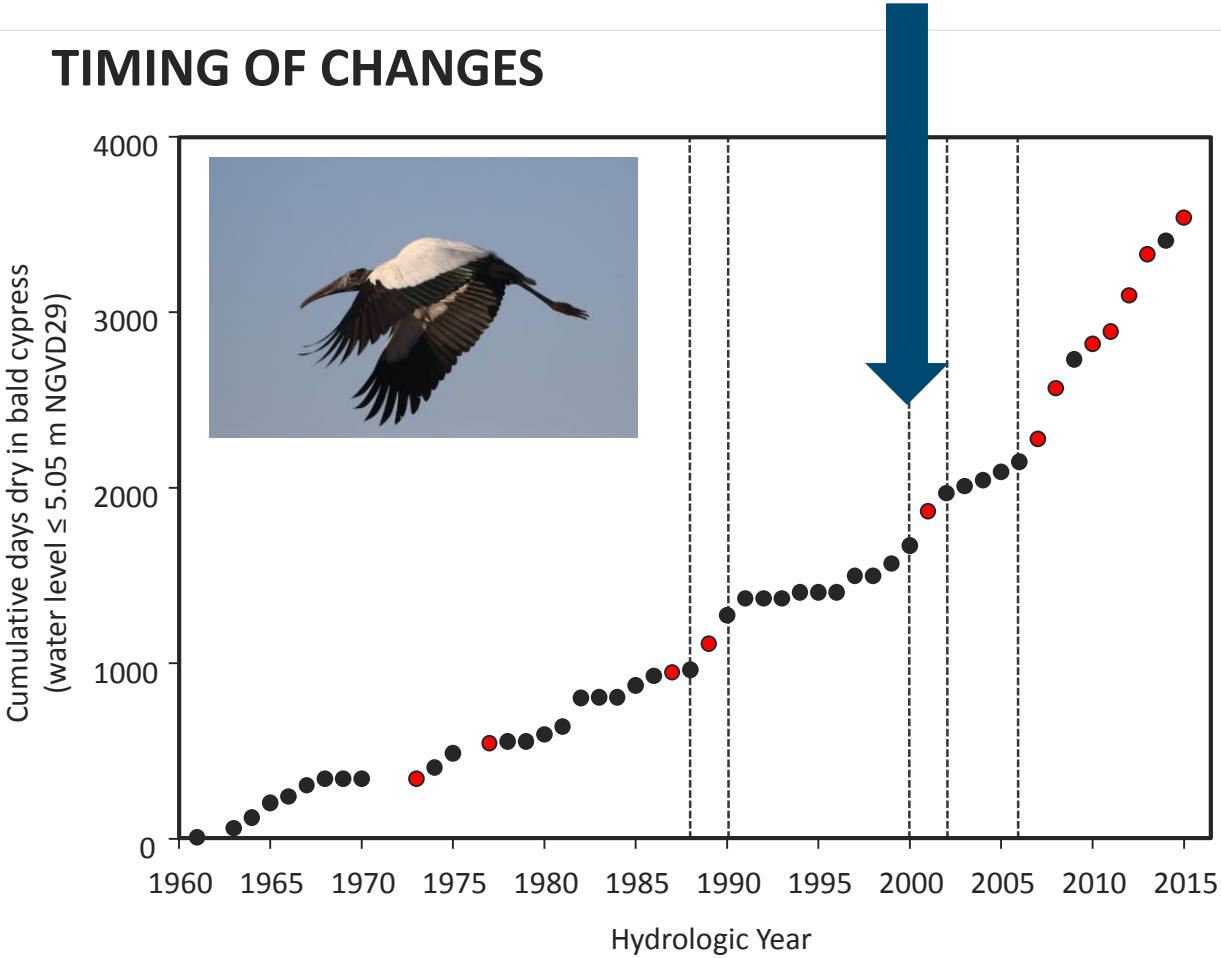
17%
(2.0 mo.)

Pond

Clem, SE & MJ Duever. 2019. Hydrologic changes over 60 years (1959-2019) in an old-growth bald cypress swamp on a rapidly developing landscape. Wetland Science & Practice 36(4): 362-372.

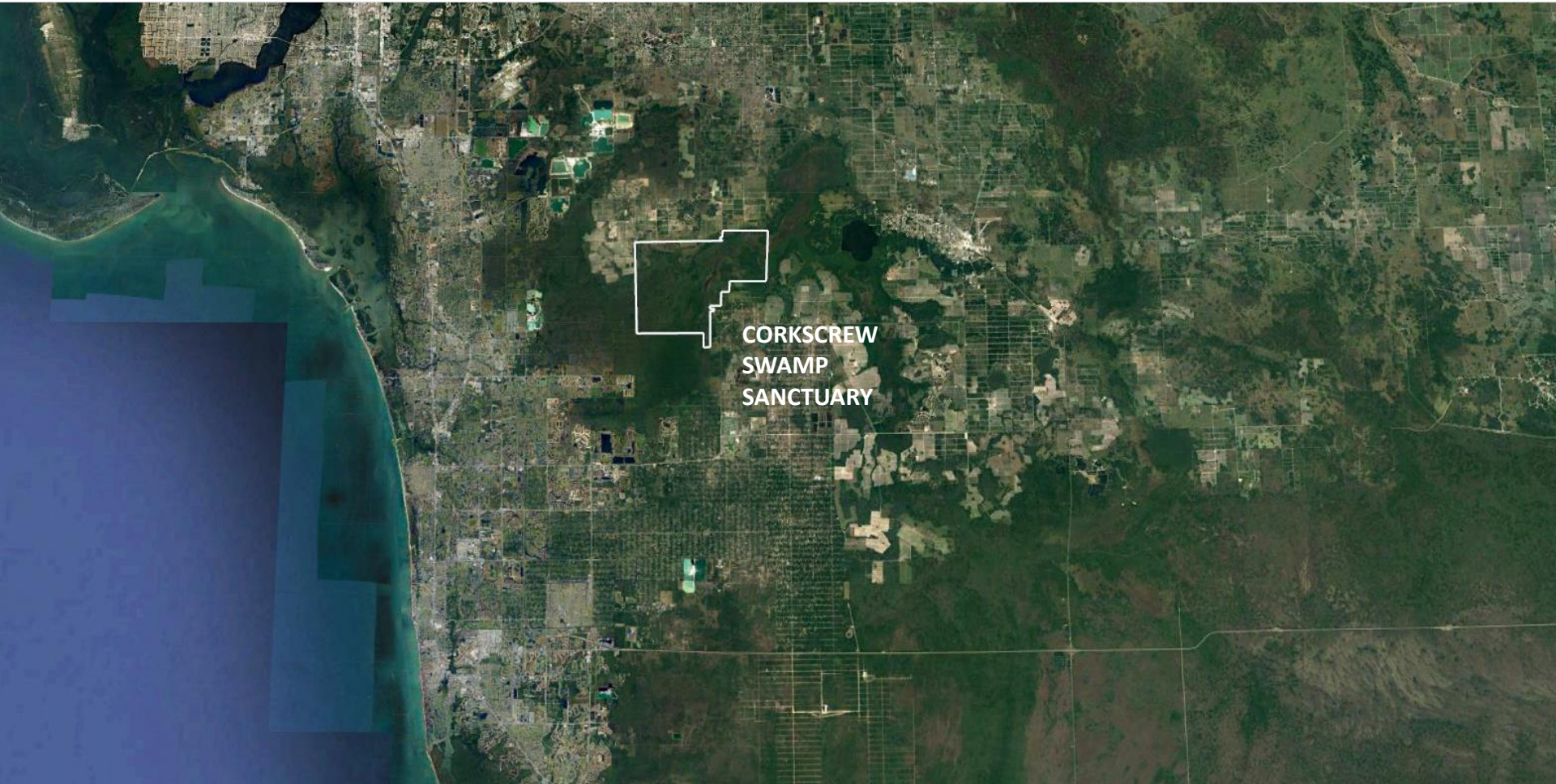

1960s to 1990s:
Dried down once every 5 years
2000s to present:
Dry down 4 of every 5 years
(dry downs last 40% longer)

TIMING OF CHANGES

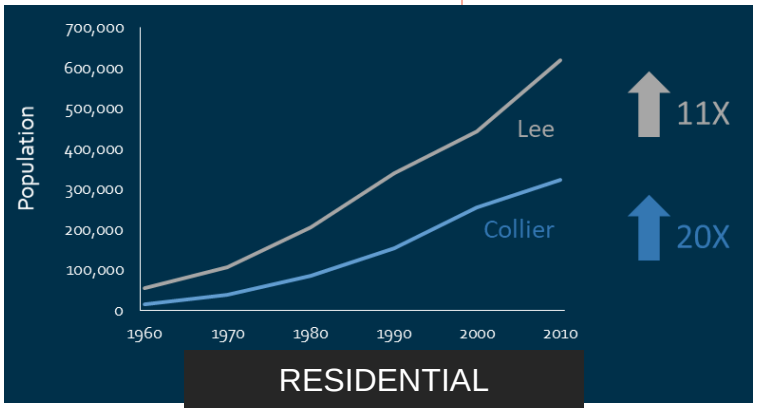


No Wood Stork nesting at Corkscrew

Corkscrew provides a cautionary tale for our region, our state


CORKSCREW
SWAMP
SANCTUARY

Where is our water going?

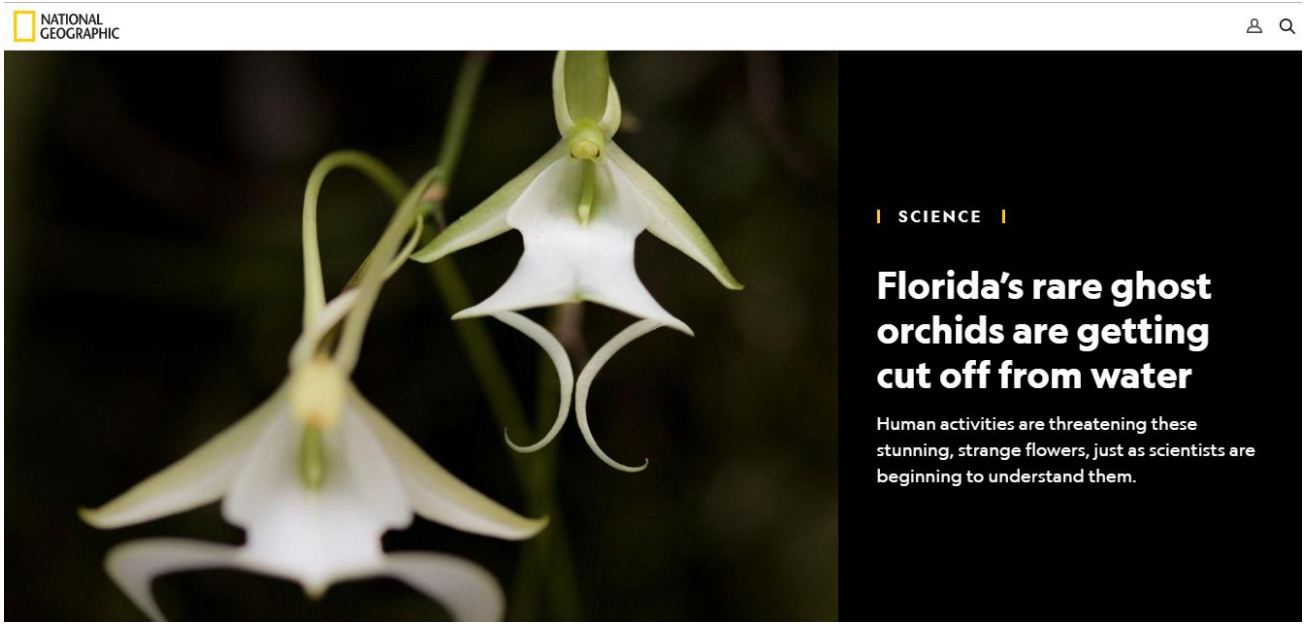


What are the implications?

- **Impacts for wildlife**

What are the implications?

- Impacts for wildlife
- **Impacts for plants**



What are the implications?

- Impacts for wildlife
- Impacts for plants
- **Increased wildfire risk**

What are the implications?

- Impacts for wildlife
- Impacts for plants
- Increased wildfire risk
- **Reduced freshwater storage (water supply, saltwater intrusion)**

Private wells in Lehigh Acres drying up amid drought

LEHIGH ACRES, Fla. A severe drought in Southwest Florida has been tough on Maria and her family.

Maria, who didn't want to reveal her last name, said the family's private well stopped working due to the area's low aquifer levels, causing them to go without water for three days.

Although it rained Friday, it wasn't enough to replenish canals, lakes and wells, which forced the family to get creative.

"I've got good water from my mom and neighbor," Maria said.

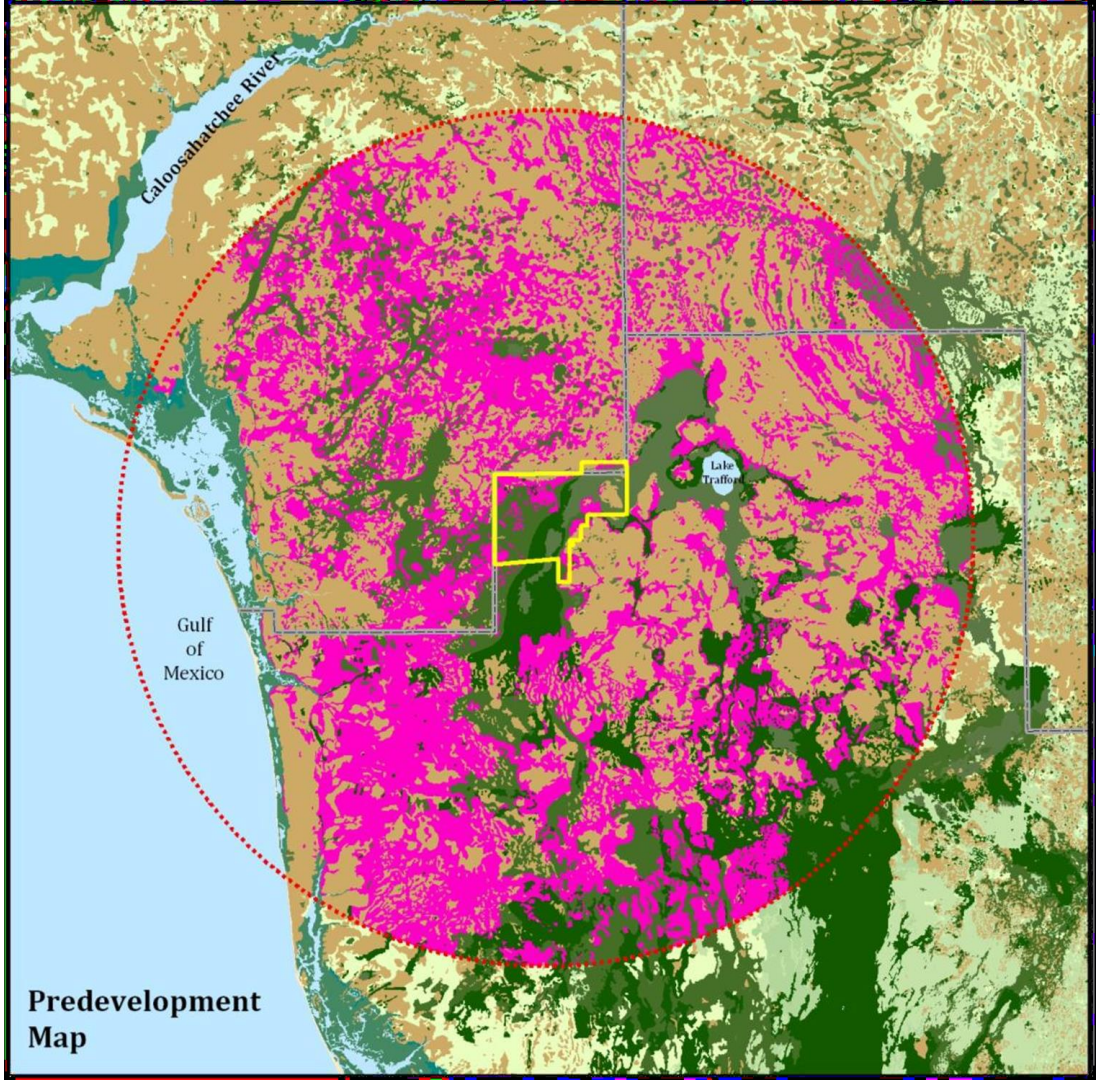
The family is currently storing some of that water in a giant bucket on the back of a flatbed truck.

What are the implications?

- Impacts for wildlife
- Impacts for plants
- Increased wildfire risk
- Reduced freshwater storage (water supply, saltwater intrusion)
- **Reduced freshwater filtration**

What are the implications?

- Impacts for wildlife
- Impacts for plants
- Increased wildfire risk
- Reduced freshwater storage (water supply, saltwater intrusion)
- Reduced freshwater filtration
- **Reduced salinity buffering**



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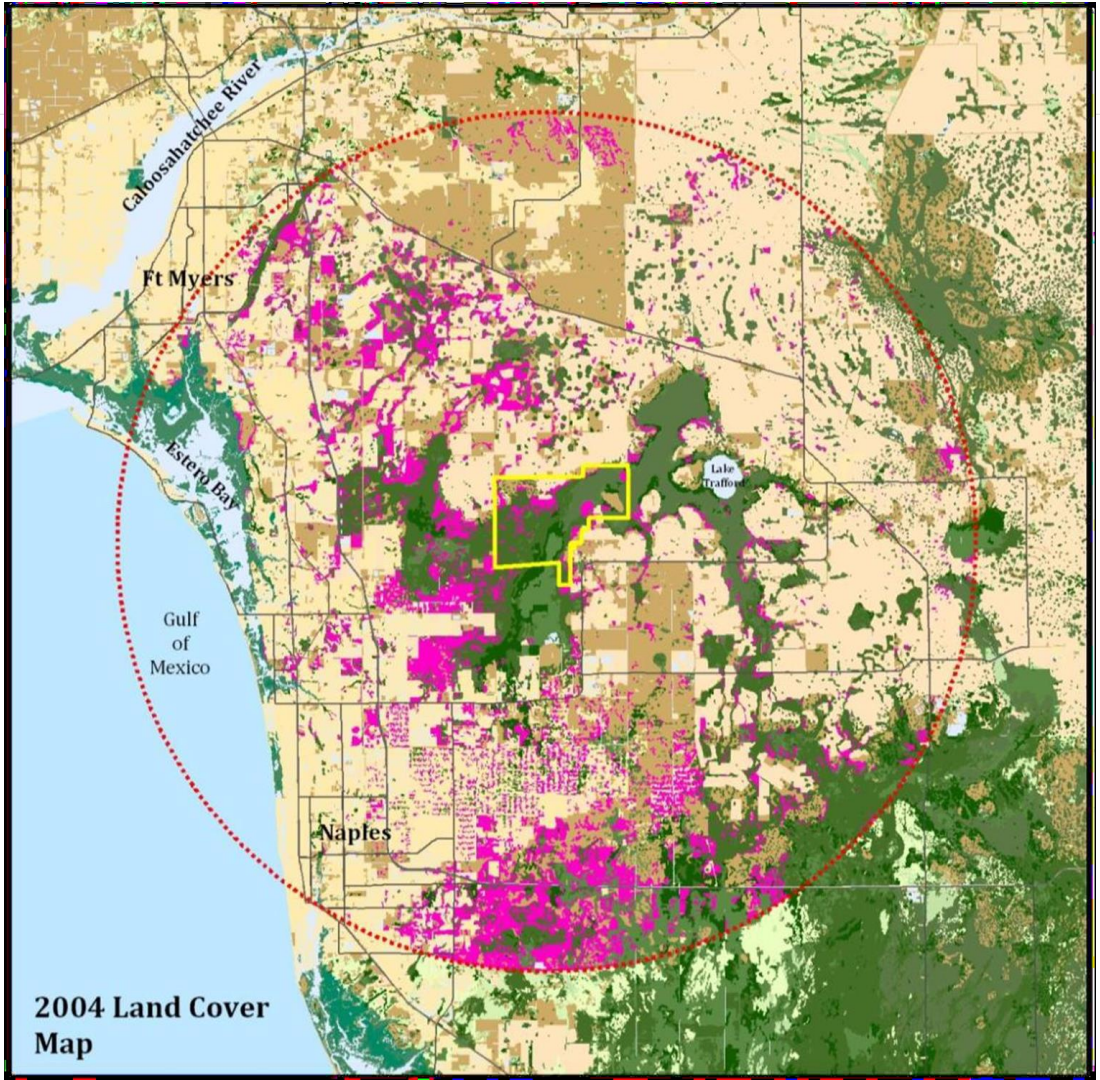
How big a problem is this?



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80% loss
of short
hydroperiod
(shallow)
wetlands

- SWFL wetlands don't have the same hard barrier for development as we have on the east coast – development creeps farther inland
- The Western Everglades' characteristic habitat mosaic allows development of uplands in close proximity to wetlands
- Widespread wetland loss in our region is making it more important for us to protect our remaining resources
- We need to broaden our conversations of inland and coastal conservation issues, and help the public, elected officials, and other stakeholders better understand the important links between these ecosystems