

Delineation of Surface Waters

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373.421, Florida Statutes

**FDEP directed to adopt
statewide unified method by
Section 373.421(1), Florida
Statutes**



Section 373.421(1), F.S., directed that a methodology also “...include provisions for the determining of the extent of surface waters other than wetlands.”



62-340, FAC Delineation of the Landward Extent of Wetlands and Surface Waters

Effective July 1, 1994



Definition of Surface Waters is found in 62-340.600, FAC

“For the purposes of section 373.421, F.S., surface waters are waters on the surface of the earth, contained in bounds created naturally or artificially, including the Atlantic Ocean, the Gulf of Mexico, bays, bayous, sounds, estuaries, lagoons, lakes, ponds, impoundments, rivers, streams, springs, creeks, branches, sloughs, tributaries, and other watercourses.”



Subsection 62-340.600 (2), FAC provides the methods for determining the landward extent of surface waters.

For surface waters located in sand hill landscapes- paragraphs 62-340.600(2)(a) and 62-340.600(2)(c), FAC are the most relevant

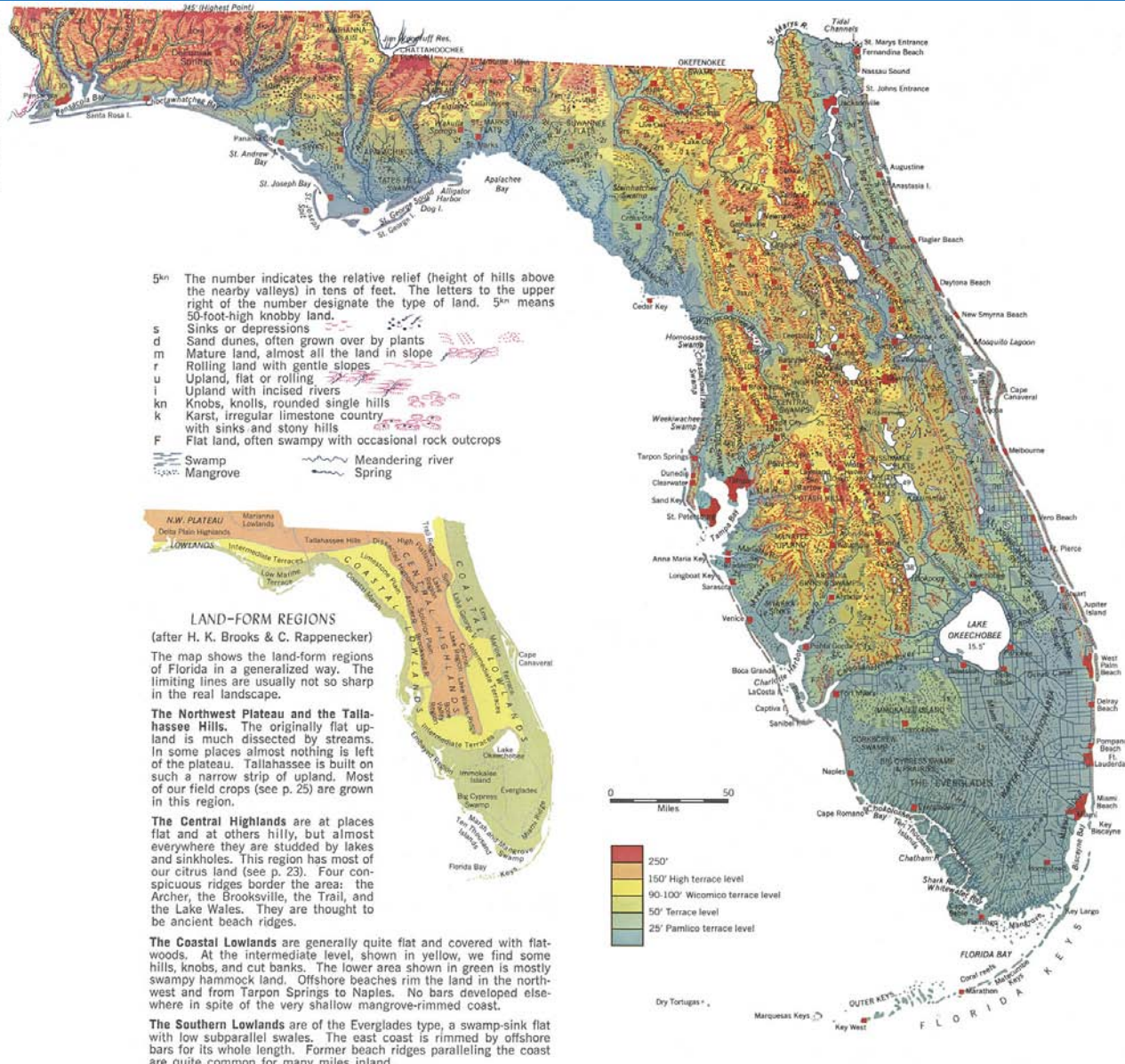


(2) The landward extent of surface water in the State for the purposes of implementing Section 373.421, FS, shall be the more landward of the following:

- a) Wetlands as located by section 62-340.300, FAC;**
- b) the ordinary high water line for non-tidal water bodies...”**



The land-form map of Florida is based on aerial photography. It brings out the innumerable lakes, sinkholes, and depressions typical of a limestone country which has emerged from the sea relatively recently. The map endeavors to show the general nature of the topography rather than to pinpoint every sink. Sinks develop on the surface even if the limestone is far underneath. The colors on the main map indicate the height of the land in a generalized way. The height in most places corresponds to terrace levels.



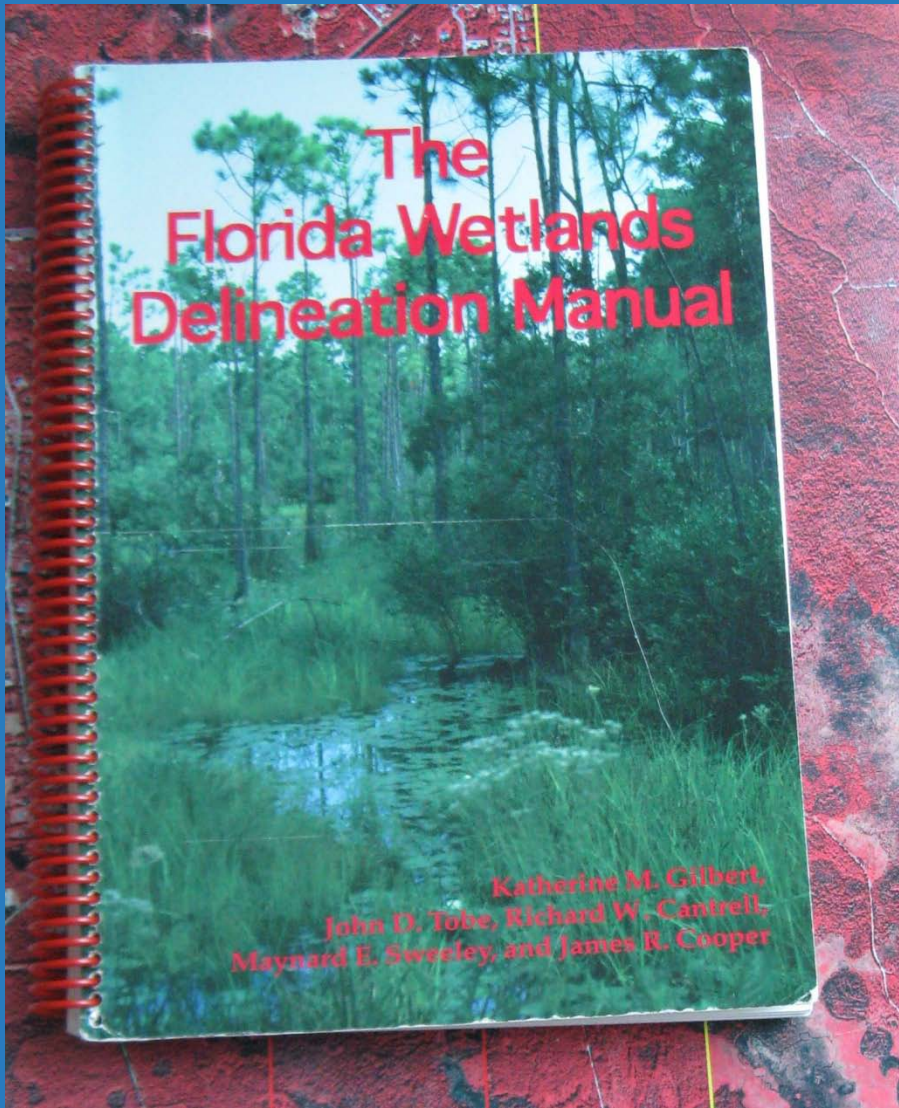
SOURCE: [HTTP://WWW.CODEX99.COM/CARTOGRAPHY/IMAGES/RAISZ/FLA_LANDFORM_LG.JPG](http://www.codex99.com/cartography/images/raisz/fla_landform_lg.jpg)



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The Florida Wetlands Delineation Manual

Pages 36 – 38
guidance is provided
for the delineation
of surface waters
pursuant
to 62-340, FAC.



Because of topographic, climatic, and geologic factors, there are areas adjacent to most Florida surface waters bodies that regularly flood but which do not develop wetland characteristics.



“Some types of surface waters have...”

- **both upland and wetland components**
- **contain no wetland characteristics**
- **are all wetlands**



The landward extent of surface waters, when it is other than a wetland, is determined through the location of the ordinary high water line (OHWL) for freshwater surface waters....” (p. 36)



The Florida Wetland Delineation Manual - Ordinary high water is

- the point on the slope or bank where surface water... ceases to exert a dominant influence on the character of the surrounding vegetation and soils.
- frequently encompasses areas dominated by non-listed vegetation and non-hydric soils.
- encompasses areas dominated by non-listed vegetation and non-hydric soils

(Page 37)



The Florida Wetland Delineation Manual - “...When the OHWL is not a wetland edge....”

- area may look like an upland
- Is an area where flooding is common
- is a “harsh” environment for plant life because of the hydrologic “extremes”
- may be characterized by a “denuded” band around the perimeter of the surface water body

(page 37)



The Florida Wetland Delineation Manual - Determining Ordinary High Water Level when not the wetland edge

- **sufficient hydrologic water level data available.**
- **vegetative characteristic may be a “more prominent and reliable indicator**



**“...Overall, the most productive approach is to locate the least disturbed area along the waterbody and determine the edge of the mature, upland vegetative community.”
(page 37)**



So, what does that mean?



Resources and tools

- NRCS (SCS) County Soils Maps
- Aerial Photographs
- Topographic information
- LIDAR elevation data
- rainfall data
- hydrologic data (...if reliable and sufficient)
- Gazetteer of Florida Lakes
- National Wetlands Inventory

All interpretations should be ground truthed and onsite conditions evaluated.



**And, always use
“...reasonable scientific
judgment....”**



Examples for delineation of surface waters in a sand hill land form

- **Tishler Pond, Marion County**
- **Hopkins Prairie, Marion County**
- **Drew Meadow Property, Lake County**



Tishler Pond

- located in the Ocala National Forest, Marion County
- 55 acres in size
- named surface water in the Gazetteer of Florida Lakes



Tishler Pond



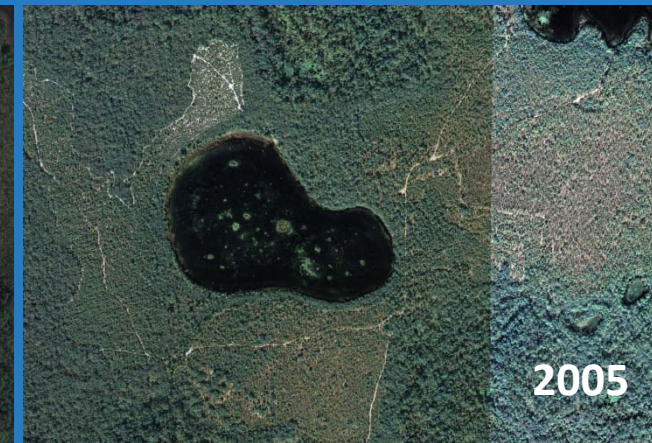
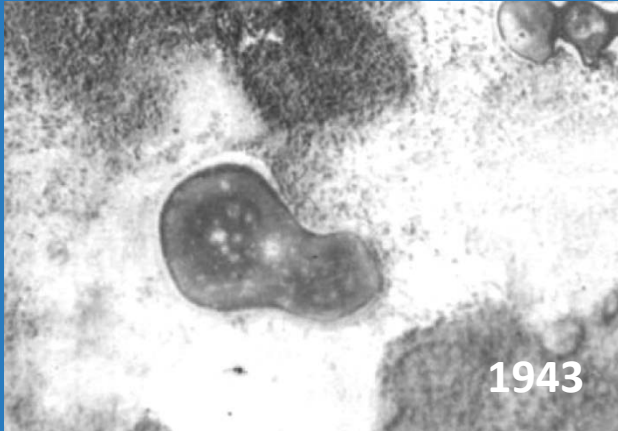
United States Geological Survey Topographic Map identifying Tishler Pond, Ocala National Forest



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Tishler Pond

Aerial photographs from 1943 to 2005



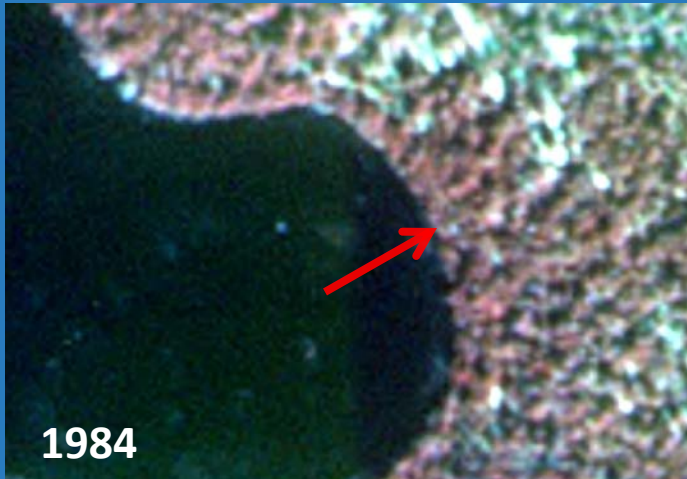
Tishler Pond

Aerial photographs from 2008 to 2013



Tishler Pond

Identify area with “least disturbed” mature upland community....



Hopkins Prairie

- located in the Ocala National Forest, Marion County
- 598.91 acres in size
- within an elevation of NGVD 29 of 30 feet
- not identified in the Gazetteer of Florida Lakes
- District has an adopted MFL



Hopkins Prairie



United States Geological Survey Topographic Map identifying Hopkins Prairie, Ocala National Forest



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Hopkins Prairie

Aerial photographs from 1943 to 2011

1984

1994-1995

1999-2000

2005

2009

2011



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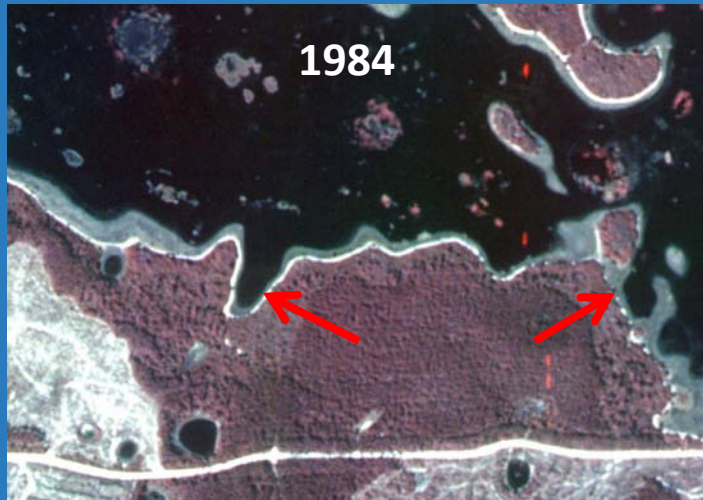
Hopkins Prairie

Aerial photographs from 2013



Hopkins Prairie

Identify area with “least disturbed” mature upland community....

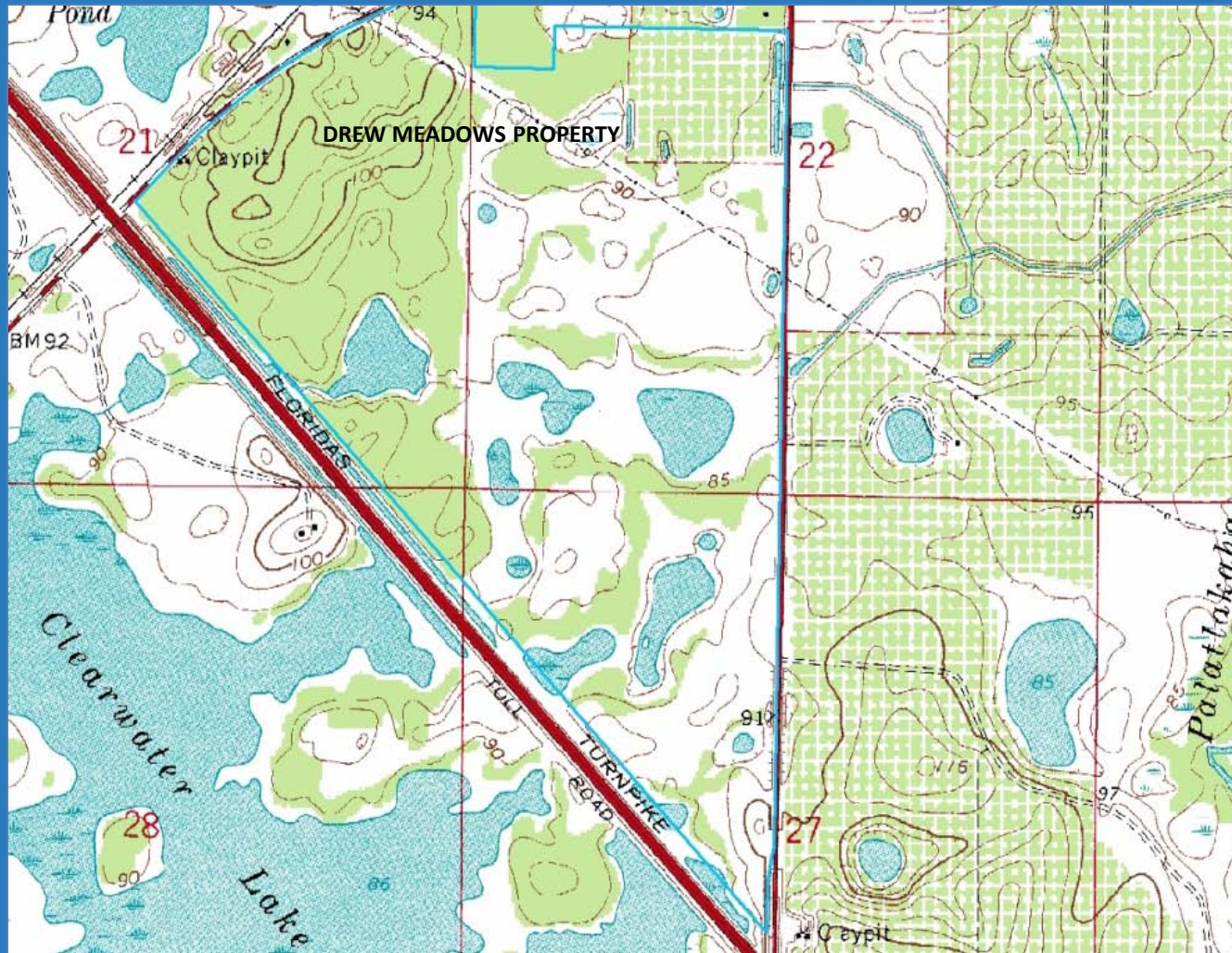


Drew Pasture Property

- **located in the Lake County, west of CR 33 and north of the Florida Turnpike**
- **property subject of a petition for a Formal Wetland Determination**
- **property contains numerous surface water bodies**
- **none of the surface water features are identified in the Gazetteer of Florida Lakes**



Drew Pasture Property



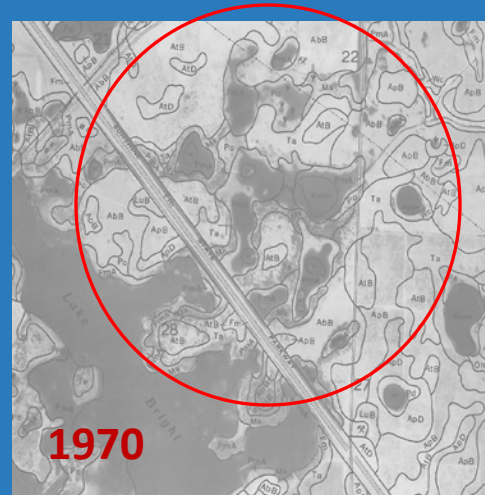
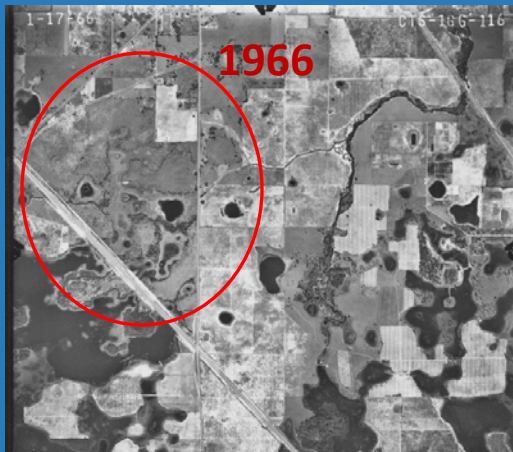
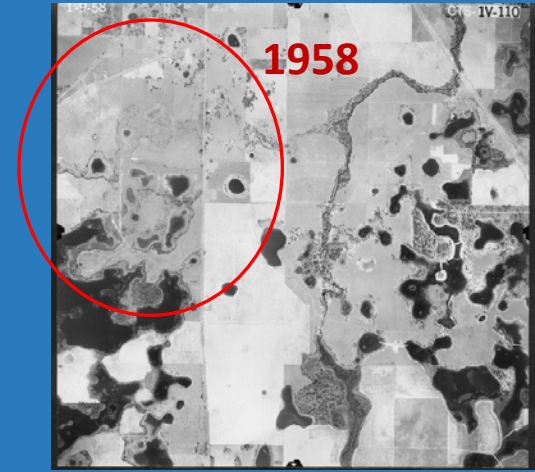
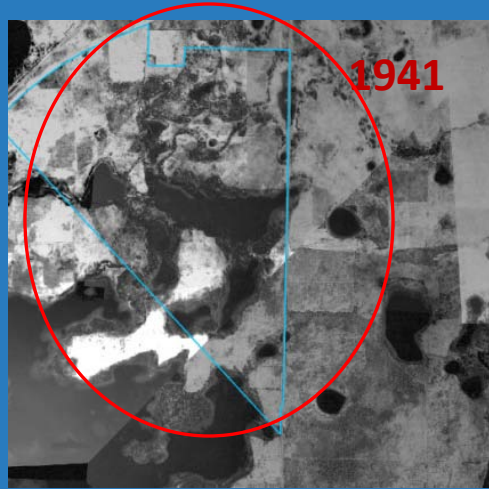
United States Geological Survey Topographic Map identifying Drew Meadows Property, Lake County



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Drew Pasture Property

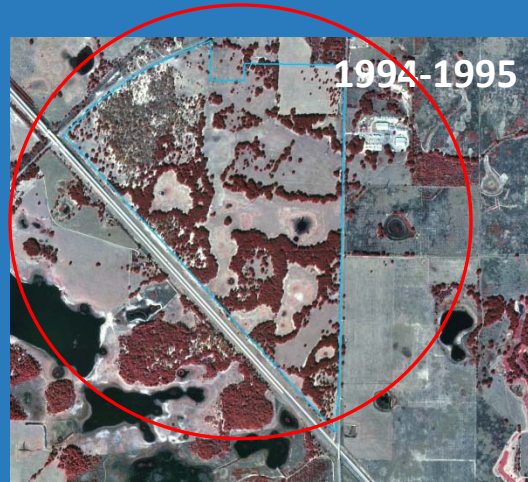
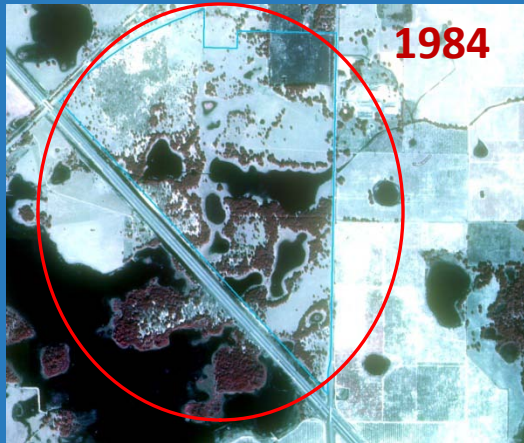
Aerial photographs from 1941 to 1974



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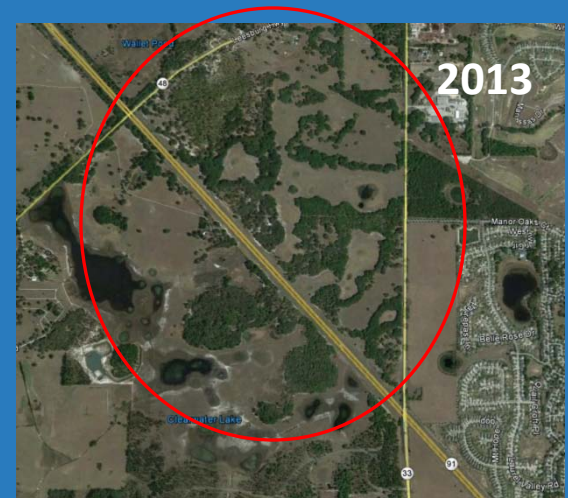
Drew Pasture Property

Aerial photographs from 1984 to 2008



Drew Pasture Property

Aerial photographs from 2009 to 2013

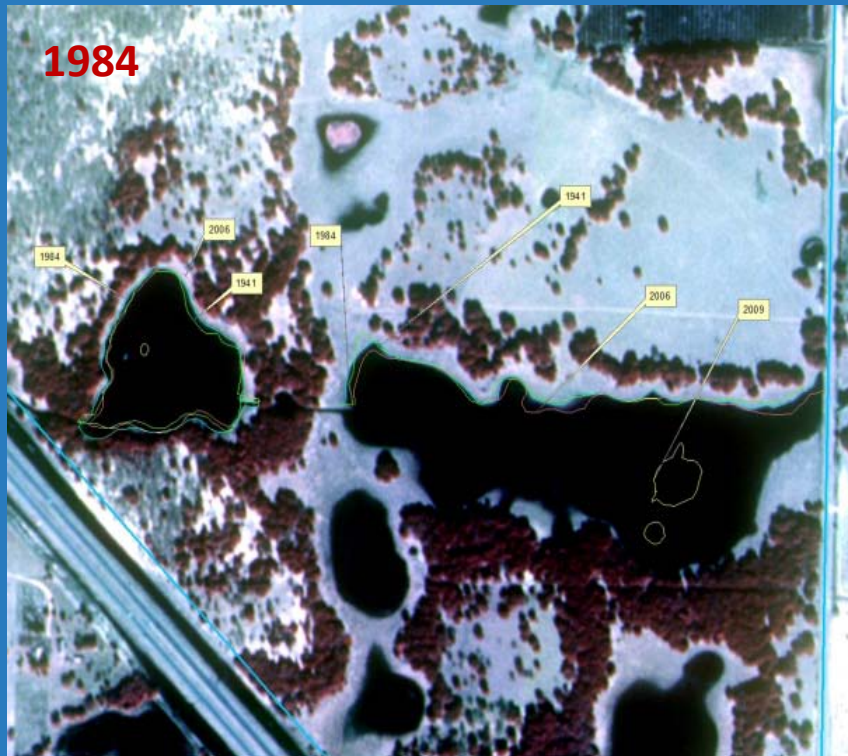


- Highest water levels occurred in 1941, 1953, 1970, and 2006
- Lowest water levels appeared to have occurred in 2009 and 2011



Drew Pasture Property

It appears that the water levels in 1941, 1984 and in 2006, were fairly comparable



Drew Pasture Property

1984 and 2006 water levels projected on 2009 and 2011 aerial



Drew Pasture Property

NRCS Soils Map and NWI Map overlay



limits of wetlands and other surface waters as identified by the petitioner prior to the SJRWMD's site inspection



Site was flagged winter of 2004-2005

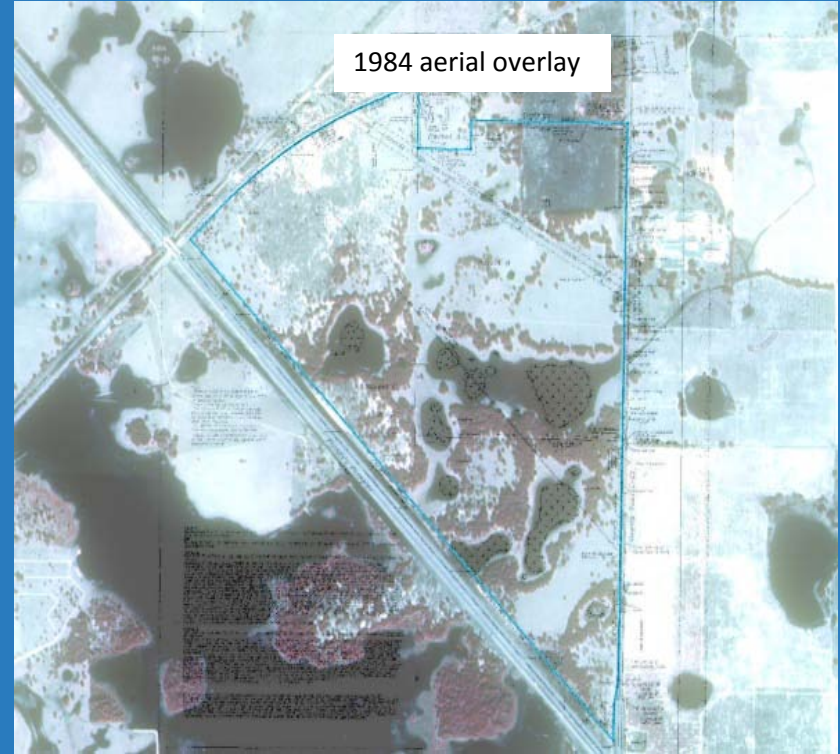
Drew Pasture Property

The extent of wetlands and other surface waters as flagged by the petitioner were compared to 1941, 1984 imagery.

1941 aerial overlay



1984 aerial overlay



Drew Pasture Property

The initial site visit was conducted by District staff in January 2006. Site conditions most resembled those depicted on the 2006 DOQQ



Drew Pasture Property

- because of on-going land use practices, limited areas of mature upland vegetation
- persistent feature along the shoreline representing an “escarpment” zone



Drew Pasture Property

Escarpment features still apparent in 2011



Drew Pasture Property

Rainfall analysis

Monthly rainfall leading up to 2006 imagery

	Oct 05	Nov 05	Dec 05	Jan 06	Feb 06	Mar 06
Groveland	7.05	1.17	2.24	0.60	3.80	0.23
por mean	2.95	1.46	2.12	2.40	2.46	3.29
Bushnell	3.37	2.00	3.14	0.25	4.72	0.00
por mean	2.59	1.83	2.32	2.79	3.02	3.99

Annual mean rainfall leading up to 2006 imagery

	30-yr mean (1975 - 2004)						
	2000	2001	2002	2003	2004	2005	2006
Groveland	18.62	46.94	52.53	48.7	45.6	53.08	27.27
Bushnell	33.14	54.54	62.61	55.24	52.57	61.77	37.09
Clermont	28.92	43.516	88.549	66.639	53.348	-	-

NOTE

Groveland is approximately 11.7 miles south of Drew Pastures

Bushnell is approximately 13.3 miles WSW of Drew Pastures

Clermont is approximately 14.8 miles SE of Drew Pastures



Drew Pasture Property

Limits of surface waters and wetlands as determined by the District and approved

