

## Bellamy (Citrus County) Florida LAKEWATCH Water Chemistry Summary

**Location:** Latitude 28°55'55", Longitude 82°22'23"

**Period of record:** 37 sampling dates; June 16, 1994 to March 16, 2001

**Surface Area** (LAKEWATCH 1996): 32 acres

**Lake Region** (Griffith et al. 1997): Tsala Apopka (75-12)

**Geologic formation** (Brooks 1981a):

The geology is dominated by limestone consisting of skeletons of fossils in a silt to sand size matrix of the Ocala Limestone Formation

**Physiographic region** (Brooks 1981b):

The lake lies in the Tsala Apopka Basin division of the Ocala Uplift District

### Supplemental water chemistry data

Data reported are means from 1 sampling date:

pH	7.4	Total alkalinity (mg/L as CaCO <sub>3</sub> )	34.0
Conductance (µS/cm @ 25 °C)	113	Color (Pt-Co units)	31
Chloride (mg/L)	14.9	Silicon (mg/L)	0.1
Sulfate (mg/L)	0.2	Calcium (mg/L)	13.0
Magnesium (mg/L)	1.2	Sodium (mg/L)	8.1
Potassium (mg/L)	0.2	Iron (mg/L)	0.0

### Long-term Florida LAKEWATCH Data

Numbers reported below are the minimum, average and maximum value for the 37 months sampled:

	<u>Minimum</u>	<u>Average</u>	<u>Maximum</u>
Long-term total phosphorus concentrations (µg/L)	9	14	21
Long-term total nitrogen concentrations (µg/L)	587	716	1353
Long-term total chlorophyll concentrations (µg/L)	1.3	5.0	11.0
Long-term Secchi depth (ft)	1.5	8.6	11.3

### 2001 Florida LAKEWATCH Data

Numbers reported below are monthly averages calculated from 3 stations for total phosphorus (TP, µg/L), total nitrogen (TN, µg/L), chlorophyll (CHL, µg/L) and Secchi depth (SECCHI, ft) during 2001:

<u>Date</u>	<u>TP (µg/L)</u>	<u>TN (µg/L)</u>	<u>CHL (µg/L)</u>	<u>SECCHI (ft)</u>
Mar-16	21	1353	9.7	1.5
2001 Average	21	1353	9.7	1.5

**Bellamy (Citrus County)**  
**Florida LAKEWATCH Aquatic Plant Summary**

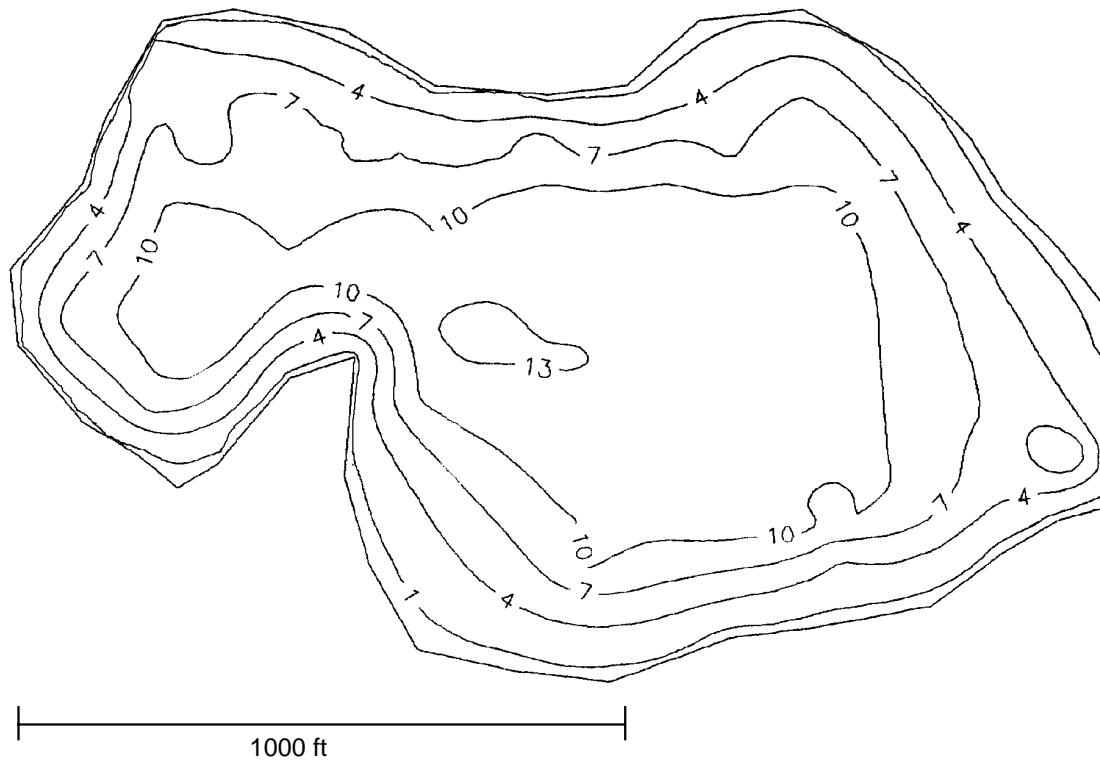
Aquatic plant data collected on July 2, 1996

Percent area covered with aquatic vegetation (PAC, %)	98.0
Percent of lake's volume filled with vegetation (PVI, %)	60.9
Average emergent plant biomass (kg wet wt/m <sup>2</sup> )	2.3
Average floating-leaved plant biomass (kg wet wt/m <sup>2</sup> )	2.9
Average submersed plant biomass (kg wet wt/m <sup>2</sup> )	9.8
Average width of emergent and floating-leaved zone (ft)	223.6
Average lake depth (m)	3.1

Frequency that plant species occur in 10 evenly spaced transects around the lake.

<b><u>Common Name</u></b>	<b><u>Plant Species</u></b>	<b><u>Frequency (%)</u></b>
variable-leaf milfoil	<i>Myriophyllum heterophyllum</i>	100
fragrant water-lily	<i>Nymphaea odorata</i>	90
hydrilla	<i>Hydrilla verticillata</i>	90
cone-spur bladderwort	<i>Utricularia gibba</i>	90
purple bladderwort	<i>Utricularia purpurea</i>	90
purple fanwort	<i>Cabomba pulcherrima</i>	90
bladderwort	<i>Utricularia foliosa</i>	90
maidencane	<i>Panicum hemitomon</i>	80
lemon bacopa	<i>Bacopa caroliniana</i>	70
tapegrass	<i>Vallisneria americana</i>	70
.	<i>Nitella prolunga</i>	70
water-shield	<i>Brasenia schreberi</i>	60
banana-lily	<i>Nymphoides aquatica</i>	40
spatterdock	<i>Nuphar luteum</i>	40
water-pennywort	<i>Hydrocotyle umbellata</i>	40
bald cypress	<i>Taxodium distichum</i>	40
slender spikerush	<i>Eleocharis baldwinii</i>	30
pickerelweed	<i>Pontederia cordata</i>	30
sawgrass	<i>Cladium jamaicense</i>	30
knot grass	<i>Paspalum distichum</i>	30
wax myrtle	<i>Myrica cerifera</i>	20
willow	<i>Salix spp.</i>	20
torpedograss	<i>Panicum repens</i>	20
stonewort	<i>Nitella spp.</i>	20
duck-potato	<i>Sagittaria lancifolia</i>	10
water spinach	<i>Ipomoea aquatica</i>	10
coontail	<i>Ceratophyllum demersum</i>	10
Illinois pondweed	<i>Potamogeton illinoensis</i>	10
water primrose	<i>Ludwigia octovalvis</i>	10
buttonbush	<i>Cephalanthus occidentalis</i>	10
southern cutgrass	<i>Leersia hexandra</i>	10
red root	<i>Lachnanthes caroliniana</i>	10

**Bellamy (Citrus County)  
Florida LAKEWATCH Bathymetric Map**



Florida LAKEWATCH personnel created this map using differentially corrected global positioning equipment (GPS). Data were collected July 3, 1996. Map contours are in feet and were generated using kriging technique in Surfer® software package (Golden Software, Golden CO). Due to the marsh-like conditions of the Tsala Apopka chain, this is only an approximate bathymetric map of the open water and should not be used for navigation. The center of the lake is located at Latitude 28°55'55" and Longitude 82°22'23". On this date, the lake surface area was calculated at 32 acres (13 hectares).

## Chassahowitzka River-1 (Citrus County) Florida LAKEWATCH Water Chemistry Summary

**Location:** Latitude 28°42'56", Longitude 82°34'37"

**Period of record:** 10 sampling dates; November 19, 1998 to December 12, 1999

**Geologic formation** (Brooks 1981a):

The geology is dominated by Suwannee Limestone, bedded pure to slightly sandy limestone, cryptocrystalline hard dense limestone, often occurs in marly matrix, becomes interbedded downward with the Ocala Limestone, much secondary dolomitization

**Physiographic region** (Brooks 1981b):

The lake lies in the Chassahowitzka Coastal Strip subdivision of the Big Bend Karst division of the Ocala Uplift District

### Long-term Florida LAKEWATCH Data

Numbers reported below are the minimum, average and maximum value for the 10 months sampled:

	<u>Minimum</u>	<u>Average</u>	<u>Maximum</u>
Long-term total phosphorus concentrations (µg/L)	6	15	26
Long-term total nitrogen concentrations (µg/L)	270	413	530
Long-term total chlorophyll concentrations (µg/L)	0.0	1.5	3.0
Long-term Secchi depth (ft)	3.0	3.9	5.0

### 2001 Florida LAKEWATCH Data

No samples collected in 2001

## Chassahowitzka River-2 (Citrus County) Florida LAKEWATCH Water Chemistry Summary

**Location:** Latitude 28°42'58", Longitude 82°34'41"

**Period of record:** 10 sampling dates; November 19, 1998 to December 12, 1999

**Geologic formation** (Brooks 1981a):

The geology is dominated by Suwannee Limestone, bedded pure to slightly sandy limestone, cryptocrystalline hard dense limestone, often occurs in marly matrix, becomes interbedded downward with the Ocala Limestone, much secondary dolomitization

**Physiographic region** (Brooks 1981b):

The lake lies in the Chassahowitzka Coastal Strip subdivision of the Big Bend Karst division of the Ocala Uplift District

### Long-term Florida LAKEWATCH Data

Numbers reported below are the minimum, average and maximum value for the 10 months sampled:

	<u>Minimum</u>	<u>Average</u>	<u>Maximum</u>
Long-term total phosphorus concentrations (µg/L)	15	21	29
Long-term total nitrogen concentrations (µg/L)	180	323	440
Long-term total chlorophyll concentrations (µg/L)	1.0	5.2	13.0
Long-term Secchi depth (ft)	2.0	3.0	3.8

### 2001 Florida LAKEWATCH Data

No samples collected in 2001

## Chassahowitzka River-3 (Citrus County) Florida LAKEWATCH Water Chemistry Summary

**Location:** Latitude 28°42'58", Longitude 82°34'38"

**Period of record:** 10 sampling dates; November 19, 1998 to December 12, 1999

**Geologic formation** (Brooks 1981a):

The geology is dominated by Suwannee Limestone, bedded pure to slightly sandy limestone, cryptocrystalline hard dense limestone, often occurs in marly matrix, becomes interbedded downward with the Ocala Limestone, much secondary dolomitization

**Physiographic region** (Brooks 1981b):

The lake lies in the Chassahowitzka Coastal Strip subdivision of the Big Bend Karst division of the Ocala Uplift District

### Long-term Florida LAKEWATCH Data

Numbers reported below are the minimum, average and maximum value for the 10 months sampled:

	<u>Minimum</u>	<u>Average</u>	<u>Maximum</u>
Long-term total phosphorus concentrations (µg/L)	14	31	58
Long-term total nitrogen concentrations (µg/L)	200	310	480
Long-term total chlorophyll concentrations (µg/L)	2.0	9.4	25.0
Long-term Secchi depth (ft)	2.0	2.8	3.3

### 2001 Florida LAKEWATCH Data

No samples collected in 2001

## Club House 1 (Citrus County) Florida LAKEWATCH Water Chemistry Summary

**Location:** Latitude 28°54'20", Longitude 82°23'12"

**Period of record:** 11 sampling dates; February 14, 2001 to December 4, 2001

**Lake Region** (Griffith et al. 1997): Southern Brooksville Ridge (75-13)

**Geologic formation** (Brooks 1981a):

The geology is dominated by phosphatic sand, silty sand, and clay of the Hawthorne Formation

**Physiographic region** (Brooks 1981b):

The lake lies in the Hernando Hammock division of the Ocala Uplift District

### Periodic water chemistry data

Numbers reported below are the minimum, average, and maximum value for the 2 sampling dates:

	<u>Minimum</u>	<u>Average</u>	<u>Maximum</u>
Long-term color concentrations (Pt-Co units)	12	17	21

### Long-term Florida LAKEWATCH Data

Numbers reported below are the minimum, average and maximum value for the 11 months sampled:

	<u>Minimum</u>	<u>Average</u>	<u>Maximum</u>
Long-term total phosphorus concentrations (µg/L)	1532	1776	1983
Long-term total nitrogen concentrations (µg/L)	780	1025	1250
Long-term total chlorophyll concentrations (µg/L)	12.0	28.8	71.3
Long-term Secchi depth (ft)	3.0	4.0	5.0

### 2001 Florida LAKEWATCH Data

Numbers reported below are monthly averages calculated from 3 stations for total phosphorus (TP, µg/L), total nitrogen (TN, µg/L), chlorophyll (CHL, µg/L) and Secchi depth (SECCHI, ft) during 2001:

<u>Date</u>	<u>TP (µg/L)</u>	<u>TN (µg/L)</u>	<u>CHL (µg/L)</u>	<u>SECCHI (ft)</u>
Feb-14	1832	1083	14.0	3.5
Mar-14	1983	993	12.7	4.0
Apr-19	1759	1137	18.0	4.0
May-22	1659	873	12.0	5.0
Jun-20	1786	780	15.7	4.8
Jul-19	1532	1250	34.0	4.0
Aug-15	1882	987	17.7	3.7
Sep-13	1805	1027	71.3	3.0
Oct-09	1767	957	41.3	3.5
Nov-08	1733	970	52.7	4.5
Dec-04	1802	1217	27.5	4.0
2001 Average	1776	1025	28.8	4.0

## Club House 2 (Citrus County)

### Florida LAKEWATCH Water Chemistry Summary

**Location:** Latitude 28°54'18", Longitude 82°23'11"

**Period of record:** 7 sampling dates; May 22, 2001 to December 4, 2001

**Lake Region** (Griffith et al. 1997): Southern Brooksville Ridge (75-13)

**Geologic formation** (Brooks 1981a):

The geology is dominated by phosphatic sand, silty sand, and clay of the Hawthorne Formation

**Physiographic region** (Brooks 1981b):

The lake lies in the Hernando Hammock division of the Ocala Uplift District

#### Periodic water chemistry data

Numbers reported below are the minimum, average, and maximum value for the 1 sampling date:

	<u>Minimum</u>	<u>Average</u>	<u>Maximum</u>
Long-term color concentrations (Pt-Co units)	28	28	28

#### Long-term Florida LAKEWATCH Data

Numbers reported below are the minimum, average and maximum value for the 7 months sampled:

	<u>Minimum</u>	<u>Average</u>	<u>Maximum</u>
Long-term total phosphorus concentrations (µg/L)	189	283	353
Long-term total nitrogen concentrations (µg/L)	550	1567	2190
Long-term total chlorophyll concentrations (µg/L)	5.0	91.0	176.3
Long-term Secchi depth (ft)	1.0	2.7	7.7

#### 2001 Florida LAKEWATCH Data

Numbers reported below are monthly averages calculated from 3 stations for total phosphorus (TP, µg/L), total nitrogen (TN, µg/L), chlorophyll (CHL, µg/L) and Secchi depth (SECCHI, ft) during 2001:

<u>Date</u>	<u>TP (µg/L)</u>	<u>TN (µg/L)</u>	<u>CHL (µg/L)</u>	<u>SECCHI (ft)</u>
May-22	189	550	5.0	7.7
Jun-12	256	767	29.7	5.0
Aug-15	291	2190	176.3	1.0
Sep-13	224	1893	146.3	1.0
Oct-09	341	1953	130.3	1.5
Nov-08	325	1840	77.0	1.5
Dec-04	353	1773	72.3	1.5
2001 Average	283	1567	91.0	2.7

## Croft (Citrus County) Florida LAKEWATCH Water Chemistry Summary

**Location:** Latitude 28°52'59", Longitude 82°19'46"

**Period of record:** 37 sampling dates; November 10, 1992 to July 22, 1999

**Surface Area** (Shafer et al. 1986): 4 acres

**Lake Region** (Griffith et al. 1997): Tsala Apopka (75-12)

**Geologic formation** (Brooks 1981a):

The geology is dominated by limestone consisting of skeletons of fossils in a silt to sand size matrix of the Ocala Limestone Formation

**Physiographic region** (Brooks 1981b):

The lake lies in the Tsala Apopka Basin division of the Ocala Uplift District

### Supplemental water chemistry data

Data reported are means from 1 sampling date:

pH	7.5	Total alkalinity (mg/L as CaCO <sub>3</sub> )	36.0
Conductance (µS/cm @ 25 °C)	115	Color (Pt-Co units)	19
Chloride (mg/L)	14.0		
Sulfate (mg/L)	0.2	Calcium (mg/L)	14.3
Magnesium (mg/L)	1.4	Sodium (mg/L)	7.2
Potassium (mg/L)	0.1		

### Long-term Florida LAKEWATCH Data

Numbers reported below are the minimum, average and maximum value for the 37 months sampled:

	<u>Minimum</u>	<u>Average</u>	<u>Maximum</u>
Long-term total phosphorus concentrations (µg/L)	3	8	13
Long-term total nitrogen concentrations (µg/L)	483	626	867
Long-term total chlorophyll concentrations (µg/L)	1.0	2.9	4.7
Long-term Secchi depth (ft)	5.3	8.1	12.0

### 2001 Florida LAKEWATCH Data

No samples collected in 2001

**Croft (Citrus County)**  
**Florida LAKEWATCH Aquatic Plant Summary**

Aquatic plant data collected on August 11, 1993

Percent area covered with aquatic vegetation (PAC, %)	80.0
Percent of lake's volume filled with vegetation (PVI, %)	10.4
Average emergent plant biomass (kg wet wt/m <sup>2</sup> )	5.1
Average floating-leaved plant biomass (kg wet wt/m <sup>2</sup> )	2.0
Average submersed plant biomass (kg wet wt/m <sup>2</sup> )	8.0
Average width of emergent and floating-leaved zone (ft)	683.5
Average lake depth (m)	2.4

Frequency that plant species occur in 10 evenly spaced transects around the lake.

<u>Common Name</u>	<u>Plant Species</u>	<u>Frequency (%)</u>
duck-potato	<i>Sagittaria lancifolia</i>	100
pickerelweed	<i>Pontederia cordata</i>	100
maidencane	<i>Panicum hemitomon</i>	100
fragrant water-lily	<i>Nymphaea odorata</i>	90
Illinois pondweed	<i>Potamogeton illinoensis</i>	90
sawgrass	<i>Cladium jamaicense</i>	90
bladderwort	<i>Utricularia foliosa</i>	90
spatterdock	<i>Nuphar luteum</i>	80
variable-leaf milfoil	<i>Myriophyllum heterophyllum</i>	80
water primrose	<i>Ludwigia octovalvis</i>	80
slender spikerush	<i>Eleocharis baldwinii</i>	70
tapegrass	<i>Vallisneria americana</i>	70
lemon bacopa	<i>Bacopa caroliniana</i>	60
red root	<i>Lachnanthes caroliniana</i>	60
water-pennywort	<i>Hydrocotyle umbellata</i>	50
purple bladderwort	<i>Utricularia purpurea</i>	50
buttonbush	<i>Cephalanthus occidentalis</i>	50
knot grass	<i>Paspalum distichum</i>	50
red ludwigia	<i>Ludwigia repens</i>	40
wax myrtle	<i>Myrica cerifera</i>	30
willow	<i>Salix spp.</i>	30
.	<i>Nitella prolunga</i>	30
cone-spur bladderwort	<i>Utricularia gibba</i>	20
salt-bush	<i>Baccharis spp.</i>	20
yellow-eyed grass	<i>Xyris spp.</i>	20
American lotus	<i>Nelumbo lutea</i>	10
smartweed	<i>Polygonum hydropiperoides</i>	10
cat-tail	<i>Typha spp.</i>	10
purple fanwort	<i>Cabomba pulcherrima</i>	10
elephant-ear	<i>Colocasia esculenta</i>	10
water spikerush	<i>Eleocharis elongata</i>	10
bald cypress	<i>Taxodium distichum</i>	10

## Crystal River-1 (Citrus County) Florida LAKEWATCH Water Chemistry Summary

**Location:** Latitude 28°54'19", Longitude 82°38'21"

**Period of record:** 101 sampling dates; August 16, 1992 to April 9, 2001

**Geologic formation** (Brooks 1981a):

The geology is dominated by limestone consisting of skeletons of fossils in a silt to sand size matrix of the Ocala Limestone Formation

**Physiographic region** (Brooks 1981b):

The station lies in the Chassahowitzka Coastal Strip subdivision of the Big Bend Karst division of the Ocala Uplift District

**Periodic water chemistry data**

Numbers reported below are the minimum, average, and maximum value for the 1 sampling date:

	<u>Minimum</u>	<u>Average</u>	<u>Maximum</u>
Long-term color concentrations (Pt-Co units)	7	7	7
Long-term specific conductance (mmhos)	8	8	8

### Long-term Florida LAKEWATCH Data

Numbers reported below are the minimum, average and maximum value for the 101 months sampled:

	<u>Minimum</u>	<u>Average</u>	<u>Maximum</u>
Long-term total phosphorus concentrations (µg/L)	12	29	86
Long-term total nitrogen concentrations (µg/L)	90	273	650
Long-term total chlorophyll concentrations (µg/L)	1.0	6.4	23.0
Long-term Secchi depth (ft)	3.0	6.5	11.0

### 2001 Florida LAKEWATCH Data

Numbers reported below are monthly averages calculated from 1 station for total phosphorus (TP, µg/L), total nitrogen (TN, µg/L), chlorophyll (CHL, µg/L) and Secchi depth (SECCHI, ft) during 2001:

<u>Date</u>	<u>TP (µg/L)</u>	<u>TN (µg/L)</u>	<u>CHL (µg/L)</u>	<u>SECCHI (ft)</u>
Apr-09	37	290	8.0	5.0
2001 Average	37	290	8.0	5.0

## Crystal River-2 (Citrus County) Florida LAKEWATCH Water Chemistry Summary

**Location:** Latitude 28°53'48", Longitude 82°54'51"

**Period of record:** 134 sampling dates; August 15, 1992 to December 4, 2001

**Geologic formation** (Brooks 1981a):

The geology is dominated by limestone consisting of skeletons of fossils in a silt to sand size matrix of the Ocala Limestone Formation

**Physiographic region** (Brooks 1981b):

The station lies in the Chassahowitzka Coastal Strip subdivision of the Big Bend Karst division of the Ocala Uplift District

**Periodic water chemistry data**

Numbers reported below are the minimum, average, and maximum value for the 7 sampling dates:

	<u>Minimum</u>	<u>Average</u>	<u>Maximum</u>
Long-term color concentrations (Pt-Co units)	2	3	5
Long-term specific conductance (mmhos)	<1	1	1

### Long-term Florida LAKEWATCH Data

Numbers reported below are the minimum, average and maximum value for the 134 months sampled:

	<u>Minimum</u>	<u>Average</u>	<u>Maximum</u>
Long-term total phosphorus concentrations (µg/L)	9	23	70
Long-term total nitrogen concentrations (µg/L)	17	221	770
Long-term total chlorophyll concentrations (µg/L)	1.0	5.1	27.0
Long-term Secchi depth (ft)	2.0	3.9	7.0

### 2001 Florida LAKEWATCH Data

Numbers reported below are monthly averages calculated from 1 station for total phosphorus (TP, µg/L), total nitrogen (TN, µg/L), chlorophyll (CHL, µg/L) and Secchi depth (SECCHI, ft) during 2001:

<u>Date</u>	<u>TP (µg/L)</u>	<u>TN (µg/L)</u>	<u>CHL (µg/L)</u>	<u>SECCHI (ft)</u>
Feb-01	32	370	1.0	.
Mar-09	23	280	4.0	3.0
Apr-06	23	290	4.0	4.0
May-04	20	240	2.0	.
May-31	28	200	11.0	4.0
Jun-30	21	160	13.0	3.0
Jul-30	14	320	7.0	.
Aug-31	10	150	6.0	.
Oct-02	19	140	6.0	.
Oct-23	.	.	4.0	5.0
Dec-04	21	100	4.0	.
2001 Average	21	225	5.6	3.8

## Crystal River-3 (Citrus County) Florida LAKEWATCH Water Chemistry Summary

**Location:** Latitude 28°53'24", Longitude 82°36'8"

**Period of record:** 125 sampling dates; August 15, 1992 to December 28, 2001

**Geologic formation** (Brooks 1981a):

The geology is dominated by limestone consisting of skeletons of fossils in a silt to sand size matrix of the Ocala Limestone Formation

**Physiographic region** (Brooks 1981b):

The station lies in the Chassahowitzka Coastal Strip subdivision of the Big Bend Karst division of the Ocala Uplift District

**Periodic water chemistry data**

Numbers reported below are the minimum, average, and maximum value for the 8 sampling dates:

	<u>Minimum</u>	<u>Average</u>	<u>Maximum</u>
Long-term color concentrations (Pt-Co units)	2	5	9
Long-term specific conductance (mmhos)	2	3	4

### Long-term Florida LAKEWATCH Data

Numbers reported below are the minimum, average and maximum value for the 125 months sampled:

	<u>Minimum</u>	<u>Average</u>	<u>Maximum</u>
Long-term total phosphorus concentrations (µg/L)	9	27	79
Long-term total nitrogen concentrations (µg/L)	50	269	670
Long-term total chlorophyll concentrations (µg/L)	1.0	9.0	42.0
Long-term Secchi depth (ft)	4.3	6.4	9.3

### 2001 Florida LAKEWATCH Data

Numbers reported below are monthly averages calculated from 1 station for total phosphorus (TP, µg/L), total nitrogen (TN, µg/L), chlorophyll (CHL, µg/L) and Secchi depth (SECCHI, ft) during 2001:

<u>Date</u>	<u>TP (µg/L)</u>	<u>TN (µg/L)</u>	<u>CHL (µg/L)</u>	<u>SECCHI (ft)</u>
Jan-17	22	240	5.0	.
Feb-21	33	240	15.0	.
Mar-26	30	220	7.0	.
Apr-30	18	140	3.0	.
May-25	20	190	2.0	.
Jun-21	16	200	10.0	.
Jul-16	18	200	15.0	7.0
Aug-21	23	260	16.0	.
Sep-21	47	330	36.0	.
Oct-25	35	330	33.0	.
Nov-26	29	160	11.0	.
Dec-28	24	220	4.0	.
2001 Average	26	228	13.1	7.0

## Crystal River-4 (Citrus County) Florida LAKEWATCH Water Chemistry Summary

**Location:** Latitude 28°53'17", Longitude 82°35'22"

**Period of record:** 59 sampling dates; August 15, 1992 to January 17, 2001

**Geologic formation** (Brooks 1981a):

The geology is dominated by limestone consisting of skeletons of fossils in a silt to sand size matrix of the Ocala Limestone Formation

**Physiographic region** (Brooks 1981b):

The station lies in the Chassahowitzka Coastal Strip subdivision of the Big Bend Karst division of the Ocala Uplift District

**Periodic water chemistry data**

Numbers reported below are the minimum, average, and maximum value for the 1 sampling date:

	<u>Minimum</u>	<u>Average</u>	<u>Maximum</u>
Long-term color concentrations (Pt-Co units)	3	3	3
Long-term specific conductance (mmhos)	<1	<1	<1

### Long-term Florida LAKEWATCH Data

Numbers reported below are the minimum, average and maximum value for the 59 months sampled:

	<u>Minimum</u>	<u>Average</u>	<u>Maximum</u>
Long-term total phosphorus concentrations (µg/L)	14	23	49
Long-term total nitrogen concentrations (µg/L)	80	203	360
Long-term total chlorophyll concentrations (µg/L)	0.0	2.5	9.0
Long-term Secchi depth (ft)	4.9	4.9	4.9

### 2001 Florida LAKEWATCH Data

Numbers reported below are monthly averages calculated from 1 station for total phosphorus (TP, µg/L), total nitrogen (TN, µg/L), chlorophyll (CHL, µg/L) and Secchi depth (SECCHI, ft) during 2001:

<u>Date</u>	<u>TP (µg/L)</u>	<u>TN (µg/L)</u>	<u>CHL (µg/L)</u>	<u>SECCHI (ft)</u>
Jan-17	25	190	2.0	.
2001 Average	25	190	2.0	.

## Crystal River-5 (Citrus County) Florida LAKEWATCH Water Chemistry Summary

**Location:** Latitude 28°52'51", Longitude 82°35'42"

**Period of record:** 130 sampling dates; August 15, 1992 to December 11, 2001

**Geologic formation** (Brooks 1981a):

The geology is dominated by limestone consisting of skeletons of fossils in a silt to sand size matrix of the Ocala Limestone Formation

**Physiographic region** (Brooks 1981b):

The station lies in the Chassahowitzka Coastal Strip subdivision of the Big Bend Karst division of the Ocala Uplift District

**Periodic water chemistry data**

Numbers reported below are the minimum, average, and maximum value for the 9 sampling dates:

	<u>Minimum</u>	<u>Average</u>	<u>Maximum</u>
Long-term color concentrations (Pt-Co units)	1	3	5
Long-term specific conductance (mmhos)	2	3	4

### Long-term Florida LAKEWATCH Data

Numbers reported below are the minimum, average and maximum value for the 130 months sampled:

	<u>Minimum</u>	<u>Average</u>	<u>Maximum</u>
Long-term total phosphorus concentrations (µg/L)	10	25	56
Long-term total nitrogen concentrations (µg/L)	50	218	660
Long-term total chlorophyll concentrations (µg/L)	0.0	4.3	26.0
Long-term Secchi depth (ft)	4.0	9.8	22.0

### 2001 Florida LAKEWATCH Data

Numbers reported below are monthly averages calculated from 1 station for total phosphorus (TP, µg/L), total nitrogen (TN, µg/L), chlorophyll (CHL, µg/L) and Secchi depth (SECCHI, ft) during 2001:

<u>Date</u>	<u>TP (µg/L)</u>	<u>TN (µg/L)</u>	<u>CHL (µg/L)</u>	<u>SECCHI (ft)</u>
Jan-24	32	240	2.0	.
Feb-13	30	290	7.0	.
Mar-23	32	300	.	.
Apr-23	24	190	1.0	.
May-11	26	190	2.0	.
Jun-14	16	150	4.0	.
Jul-25	16	210	5.0	.
Aug-22	16	240	7.0	.
Sep-29	34	220	9.0	.
Oct-11	29	190	4.0	.
Nov-08	25	160	13.0	8.0
Dec-11	30	200	1.0	.
2001 Average	26	215	5.0	8.0

## Crystal River-6 (Citrus County) Florida LAKEWATCH Water Chemistry Summary

**Location:** Latitude 28°52'54", Longitude 82°36'4"

**Period of record:** 117 sampling dates; August 15, 1992 to December 11, 2001

**Geologic formation** (Brooks 1981a):

The geology is dominated by limestone consisting of skeletons of fossils in a silt to sand size matrix of the Ocala Limestone Formation

**Physiographic region** (Brooks 1981b):

The station lies in the Chassahowitzka Coastal Strip subdivision of the Big Bend Karst division of the Ocala Uplift District

**Periodic water chemistry data**

Numbers reported below are the minimum, average, and maximum value for the 9 sampling dates:

	<u>Minimum</u>	<u>Average</u>	<u>Maximum</u>
Long-term color concentrations (Pt-Co units)	1	5	9
Long-term specific conductance (mmhos)	2	3	4

### Long-term Florida LAKEWATCH Data

Numbers reported below are the minimum, average and maximum value for the 117 months sampled:

	<u>Minimum</u>	<u>Average</u>	<u>Maximum</u>
Long-term total phosphorus concentrations (µg/L)	10	24	51
Long-term total nitrogen concentrations (µg/L)	100	256	820
Long-term total chlorophyll concentrations (µg/L)	1.0	7.2	33.0
Long-term Secchi depth (ft)	5.0	6.8	10.0

### 2001 Florida LAKEWATCH Data

Numbers reported below are monthly averages calculated from 1 station for total phosphorus (TP, µg/L), total nitrogen (TN, µg/L), chlorophyll (CHL, µg/L) and Secchi depth (SECCHI, ft) during 2001:

<u>Date</u>	<u>TP (µg/L)</u>	<u>TN (µg/L)</u>	<u>CHL (µg/L)</u>	<u>SECCHI (ft)</u>
Jan-24	25	190	2.0	.
Feb-13	51	360	33.0	.
Mar-23	28	200	5.0	.
Apr-23	20	200	5.0	.
May-11	17	200	4.0	.
Jun-14	17	230	6.0	.
Jul-25	15	230	10.0	6.0
Aug-22	21	260	12.0	.
Sep-29	42	300	26.0	.
Oct-11	25	180	11.0	.
Nov-08	30	190	1.0	8.0
Dec-11	28	250	10.0	.
2001 Average	27	233	10.4	7.0

## Crystal River-7 (Citrus County) Florida LAKEWATCH Water Chemistry Summary

**Location:** Latitude 28°54'26", Longitude 82°37'56"

**Period of record:** 87 sampling dates; August 16, 1992 to April 9, 2001

**Geologic formation** (Brooks 1981a):

The geology is dominated by limestone consisting of skeletons of fossils in a silt to sand size matrix of the Ocala Limestone Formation

**Physiographic region** (Brooks 1981b):

The station lies in the Chassahowitzka Coastal Strip subdivision of the Big Bend Karst division of the Ocala Uplift District

**Periodic water chemistry data**

Numbers reported below are the minimum, average, and maximum value for the 1 sampling date:

	<u>Minimum</u>	<u>Average</u>	<u>Maximum</u>
Long-term color concentrations (Pt-Co units)	8	8	8
Long-term specific conductance (mmhos)	6	6	6

### Long-term Florida LAKEWATCH Data

Numbers reported below are the minimum, average and maximum value for the 87 months sampled:

	<u>Minimum</u>	<u>Average</u>	<u>Maximum</u>
Long-term total phosphorus concentrations (µg/L)	12	34	62
Long-term total nitrogen concentrations (µg/L)	90	306	630
Long-term total chlorophyll concentrations (µg/L)	1.0	14.8	40.0
Long-term Secchi depth (ft)	3.0	5.2	9.0

### 2001 Florida LAKEWATCH Data

Numbers reported below are monthly averages calculated from 1 station for total phosphorus (TP, µg/L), total nitrogen (TN, µg/L), chlorophyll (CHL, µg/L) and Secchi depth (SECCHI, ft) during 2001:

<u>Date</u>	<u>TP (µg/L)</u>	<u>TN (µg/L)</u>	<u>CHL (µg/L)</u>	<u>SECCHI (ft)</u>
Apr-09	37	350	9.0	4.0
2001 Average	37	350	9.0	4.0

## Davis (Citrus County) Florida LAKEWATCH Water Chemistry Summary

**Location:** Latitude 28°49'21", Longitude 82°17'13"

**Period of record:** 7 sampling dates; May 20, 1998 to December 21, 1998

**Lake Region** (Griffith et al. 1997): Tsala Apopka (75-12)

**Geologic formation** (Brooks 1981a):

The geology is a mixture of two major types dominated by phosphatic sand, silty sand, and clay of the Hawthorne Formation and limestone consisting of skeletons of fossils in a silt to sand size matrix of the Ocala Limestone Formation

**Physiographic region** (Brooks 1981b):

The lake lies in the Hernando Hammock and Tsala Apopka Basin divisions of the Ocala Uplift District

### Long-term Florida LAKEWATCH Data

Numbers reported below are the minimum, average and maximum value for the 7 months sampled:

	<u>Minimum</u>	<u>Average</u>	<u>Maximum</u>
Long-term total phosphorus concentrations (µg/L)	16	21	27
Long-term total nitrogen concentrations (µg/L)	807	935	1070
Long-term total chlorophyll concentrations (µg/L)	1.7	7.4	13.7
Long-term Secchi depth (ft)	3.0	4.6	6.0

### 2001 Florida LAKEWATCH Data

No samples collected in 2001

## Dodd (Citrus County)

### Florida LAKEWATCH Water Chemistry Summary

**Location:** Latitude 28°56'24", Longitude 82°22'26"

**Period of record:** 42 sampling dates; October 18, 1992 to March 16, 2001

**Surface Area** (LAKEWATCH 1996): 135 acres

**Lake Region** (Griffith et al. 1997): Tsala Apopka (75-12)

**Geologic formation** (Brooks 1981a):

The geology is dominated by limestone consisting of skeletons of fossils in a silt to sand size matrix of the Ocala Limestone Formation

**Physiographic region** (Brooks 1981b):

The lake lies in the Tsala Apopka Basin division of the Ocala Uplift District

#### Supplemental water chemistry data

Data reported are means from 1 sampling date:

pH	7.2	Total alkalinity (mg/L as CaCO <sub>3</sub> )	34.3
Conductance (µS/cm @ 25 °C)	113	Color (Pt-Co units)	29
Chloride (mg/L)	13.6	Silicon (mg/L)	0.2
Sulfate (mg/L)	0.0	Calcium (mg/L)	13.3
Magnesium (mg/L)	1.2	Sodium (mg/L)	7.0
Potassium (mg/L)	0.2	Iron (mg/L)	0.0

#### Long-term Florida LAKEWATCH Data

Numbers reported below are the minimum, average and maximum value for the 42 months sampled:

	<u>Minimum</u>	<u>Average</u>	<u>Maximum</u>
Long-term total phosphorus concentrations (µg/L)	8	12	24
Long-term total nitrogen concentrations (µg/L)	617	760	1400
Long-term total chlorophyll concentrations (µg/L)	1.7	5.2	14.0
Long-term Secchi depth (ft)	7.0	8.7	12.0

#### 2001 Florida LAKEWATCH Data

Numbers reported below are monthly averages calculated from 3 stations for total phosphorus (TP, µg/L), total nitrogen (TN, µg/L), chlorophyll (CHL, µg/L) and Secchi depth (SECCHI, ft) during 2001:

<u>Date</u>	<u>TP (µg/L)</u>	<u>TN (µg/L)</u>	<u>CHL (µg/L)</u>	<u>SECCHI (ft)</u>
Mar-16	24	1400	14.0	.
2001 Average	24	1400	14.0	.

**Dodd (Citrus County)**  
**Florida LAKEWATCH Aquatic Plant Summary**

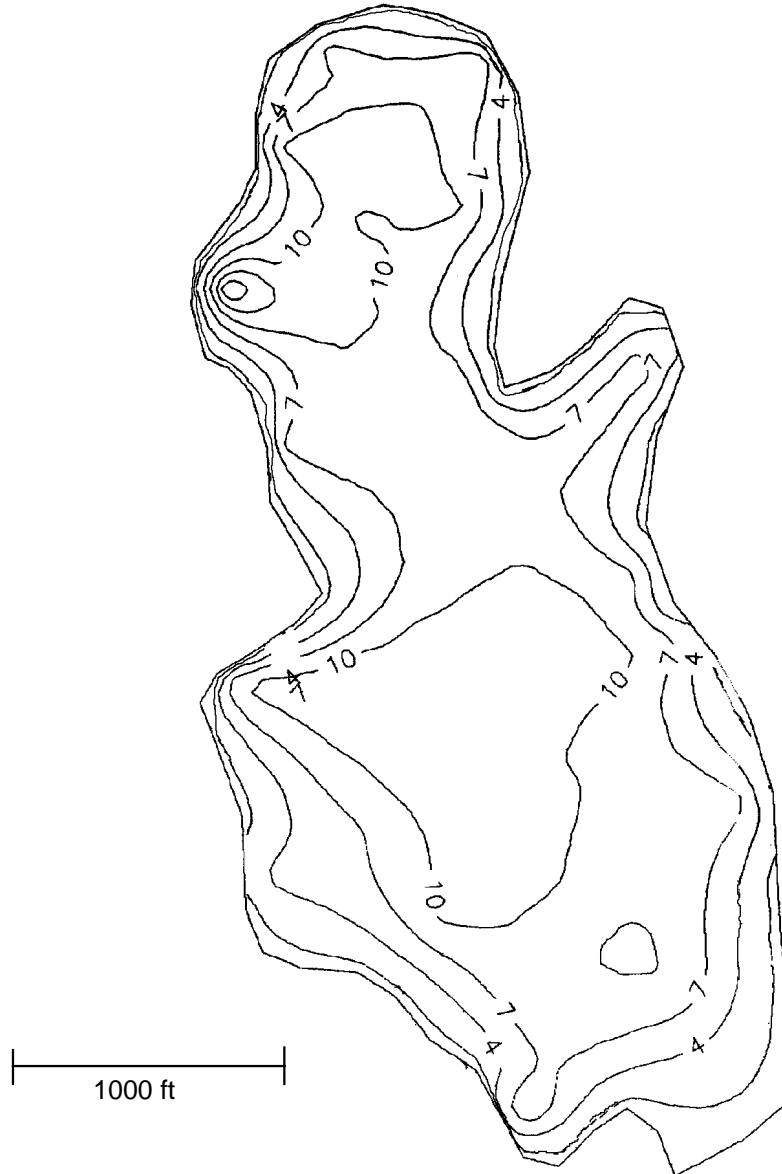
Aquatic plant data collected on July 3, 1996

Percent area covered with aquatic vegetation (PAC, %)	98.0
Percent of lake's volume filled with vegetation (PVI, %)	75.6
Average emergent plant biomass (kg wet wt/m <sup>2</sup> )	2.4
Average floating-leaved plant biomass (kg wet wt/m <sup>2</sup> )	5.9
Average submersed plant biomass (kg wet wt/m <sup>2</sup> )	6.6
Average width of emergent and floating-leaved zone (ft)	747.4
Average lake depth (m)	3.1

Frequency that plant species occur in 10 evenly spaced transects around the lake.

<b><u>Common Name</u></b>	<b><u>Plant Species</u></b>	<b><u>Frequency (%)</u></b>
spatterdock	<i>Nuphar luteum</i>	100
cone-spur bladderwort	<i>Utricularia gibba</i>	100
purple bladderwort	<i>Utricularia purpurea</i>	100
fragrant water-lily	<i>Nymphaea odorata</i>	90
sawgrass	<i>Cladium jamaicense</i>	90
bladderwort	<i>Utricularia foliosa</i>	90
bald cypress	<i>Taxodium distichum</i>	90
.	<i>Nitella prolunga</i>	90
duck-potato	<i>Sagittaria lancifolia</i>	80
slender spikerush	<i>Eleocharis baldwinii</i>	80
purple fanwort	<i>Cabomba pulcherrima</i>	80
maidencane	<i>Panicum hemitomon</i>	80
pickerelweed	<i>Pontederia cordata</i>	70
water-pennywort	<i>Hydrocotyle umbellata</i>	70
variable-leaf milfoil	<i>Myriophyllum heterophyllum</i>	70
lemon bacopa	<i>Bacopa caroliniana</i>	50
Illinois pondweed	<i>Potamogeton illinoensis</i>	50
buttonbush	<i>Cephalanthus occidentalis</i>	50
hydrilla	<i>Hydrilla verticillata</i>	40
wax myrtle	<i>Myrica cerifera</i>	40
water primrose	<i>Ludwigia octovalvis</i>	40
banana-lily	<i>Nymphoides aquatica</i>	30
southern naiad	<i>Najas guadalupensis</i>	30
red root	<i>Lachnanthes caroliniana</i>	30
yellow-eyed grass	<i>Xyris spp.</i>	30
smartweed	<i>Polygonum hydropiperoides</i>	10
cat-tail	<i>Typha spp.</i>	10
tapegrass	<i>Vallisneria americana</i>	10
willow	<i>Salix spp.</i>	10
sedge family	<i>Cyperaceae</i>	10
musk-grass	<i>Chara spp.</i>	10
rush fuirena	<i>Fuirena scirpoidea</i>	10

**Dodd (Citrus County)  
Florida LAKEWATCH Bathymetric Map**



Florida LAKEWATCH personnel created this map using differentially corrected global positioning equipment (GPS). Data were collected July 3, 1996. Map contours are in feet and were generated using kriging technique in Surfer® software package (Golden Software, Golden CO). Due to the marsh-like conditions of the Tsala Apopka chain, this is only an approximate bathymetric map of the open water and should not be used for navigation. The center of the lake is located at Latitude 28°56'24" and Longitude 82°22'26". On this date, the lake surface area was calculated at 135 acres (55 hectares).

## Floral City (Citrus County) Florida LAKEWATCH Water Chemistry Summary

**Location:** Latitude 28°45'31", Longitude 82°16'60"

**Period of record:** 49 sampling dates; November 20, 1995 to March 16, 2001

**Surface Area** (LAKEWATCH 1996): 158 acres

**Lake Region** (Griffith et al. 1997): Tsala Apopka (75-12)

**Geologic formation** (Brooks 1981a):

The geology is dominated by limestone consisting of skeletons of fossils in a silt to sand size matrix of the Ocala Limestone Formation

**Physiographic region** (Brooks 1981b):

The lake lies in the Tsala Apopka Basin division of the Ocala Uplift District

### Supplemental water chemistry data

Data reported are means from 2 sampling dates:

pH	7.5	Total alkalinity (mg/L as CaCO <sub>3</sub> )	47.2
Conductance (µS/cm @ 25 °C)	144	Color (Pt-Co units)	157
Chloride (mg/L)	14.5	Silicon (mg/L)	1.4
Sulfate (mg/L)	0.4	Calcium (mg/L)	20.0
Magnesium (mg/L)	1.6	Sodium (mg/L)	5.7
Potassium (mg/L)	1.0	Iron (mg/L)	0.4

### Long-term Florida LAKEWATCH Data

Numbers reported below are the minimum, average and maximum value for the 49 months sampled:

	<u>Minimum</u>	<u>Average</u>	<u>Maximum</u>
Long-term total phosphorus concentrations (µg/L)	15	33	85
Long-term total nitrogen concentrations (µg/L)	607	907	1353
Long-term total chlorophyll concentrations (µg/L)	1.3	12.9	53.7
Long-term Secchi depth (ft)	1.9	3.5	5.3

### 2001 Florida LAKEWATCH Data

Numbers reported below are monthly averages calculated from 3 stations for total phosphorus (TP, µg/L), total nitrogen (TN, µg/L), chlorophyll (CHL, µg/L) and Secchi depth (SECCHI, ft) during 2001:

<u>Date</u>	<u>TP (µg/L)</u>	<u>TN (µg/L)</u>	<u>CHL (µg/L)</u>	<u>SECCHI (ft)</u>
Mar-16	54	1033	30.3	2.5
2001 Average	54	1033	30.3	2.5

**Floral City (Citrus County)  
Florida LAKEWATCH Aquatic Plant Summary**

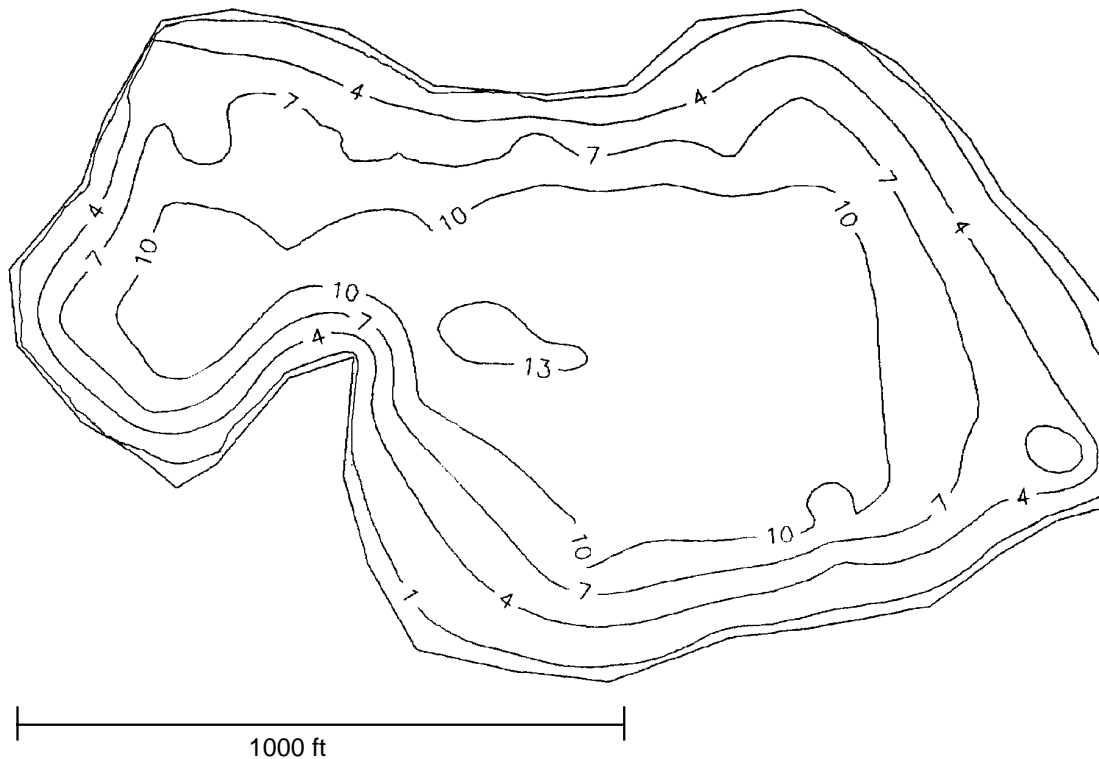
Aquatic plant data collected on June 26, 1996

Percent area covered with aquatic vegetation (PAC, %)	12.0
Percent of lake's volume filled with vegetation (PVI, %)	2.4
Average emergent plant biomass (kg wet wt/m <sup>2</sup> )	5.6
Average floating-leaved plant biomass (kg wet wt/m <sup>2</sup> )	2.8
Average submersed plant biomass (kg wet wt/m <sup>2</sup> )	0.2
Average width of emergent and floating-leaved zone (ft)	76.0
Average lake depth (m)	2.6

Frequency that plant species occur in 10 evenly spaced transects around the lake.

<b><u>Common Name</u></b>	<b><u>Plant Species</u></b>	<b><u>Frequency (%)</u></b>
maidencane	<i>Panicum hemitomon</i>	100
common salvinia	<i>Salvinia rotundifolia</i>	90
alligator-weed	<i>Alternanthera philoxeroides</i>	90
water-pennywort	<i>Hydrocotyle umbellata</i>	90
parrot's-feather	<i>Myriophyllum aquaticum</i>	70
smartweed	<i>Polygonum hydropiperoides</i>	70
para grass	<i>Brachiaria mutica</i>	50
common duckweed	<i>Lemna minor</i>	40
elephant-ear	<i>Colocasia esculenta</i>	40
water primrose	<i>Ludwigia octovalvis</i>	40
slender spikerush	<i>Eleocharis baldwinii</i>	30
sedge family	<i>Cyperaceae</i>	30
torpedograss	<i>Panicum repens</i>	30
water-lettuce	<i>Pistia stratiotes</i>	20
cat-tail	<i>Typha spp.</i>	20
knot grass	<i>Paspalum distichum</i>	20
water hemlock	<i>Cicuta mexicana</i>	20
water-aloe	<i>Stratiotes aloides</i>	10
duck-potato	<i>Sagittaria lancifolia</i>	10
water spinach	<i>Ipomoea aquatica</i>	10
pickerelweed	<i>Pontederia cordata</i>	10
wax myrtle	<i>Myrica cerifera</i>	10
willow	<i>Salix spp.</i>	10
bald cypress	<i>Taxodium distichum</i>	10
elderberry	<i>Sambucus canadensis</i>	10

Floral City (Citrus County)  
Florida LAKEWATCH Bathymetric Map



Florida LAKEWATCH personnel created this map using differentially corrected global positioning equipment (GPS). Data were collected June 26, 1996. Map contours are in feet and were generated using kriging technique in Surfer® software package (Golden Software, Golden CO). Due to the marsh-like conditions of the Tsala Apopka chain, this is only an approximate bathymetric map of the open water and should not be used for navigation. The center of the lake is located at Latitude 28°45'31" and Longitude 82°16'60". On this date, the lake surface area was calculated at 158 acres (64 hectares).

## Greenleaf Bay-1 (Citrus County) Florida LAKEWATCH Water Chemistry Summary

**Location:** Latitude 28°48'34", Longitude 82°38'49"

**Period of record:** 2 sampling dates; September 6, 2000 to October 7, 2000

**Geologic formation** (Brooks 1981a):

The geology is dominated by Suwannee Limestone, bedded pure to slightly sandy limestone, cryptocrystalline hard dense limestone, often occurs in marly matrix, becomes interbedded downward with the Ocala Limestone, much secondary dolomitization

**Physiographic region** (Brooks 1981b):

The station lies in the Chassahowitzka Coastal Strip subdivision of the Big Bend Karst division of the Ocala Uplift District

### Long-term Florida LAKEWATCH Data

Numbers reported below are the minimum, average and maximum value for the 2 months sampled:

	<u>Minimum</u>	<u>Average</u>	<u>Maximum</u>
Long-term total phosphorus concentrations (µg/L)	38	38	38
Long-term total nitrogen concentrations (µg/L)	610	680	750
Long-term total chlorophyll concentrations (µg/L)	6.0	6.5	7.0
Long-term Secchi depth (ft)	2.5	2.5	2.5

### 2001 Florida LAKEWATCH Data

No samples collected in 2001

## Greenleaf Bay-2 (Citrus County) Florida LAKEWATCH Water Chemistry Summary

**Location:** Latitude 28°49'6", Longitude 82°39'3"

**Period of record:** 2 sampling dates; September 6, 2000 to October 7, 2000

**Geologic formation** (Brooks 1981a):

The geology is dominated by Suwannee Limestone, bedded pure to slightly sandy limestone, cryptocrystalline hard dense limestone, often occurs in marly matrix, becomes interbedded downward with the Ocala Limestone, much secondary dolomitization

**Physiographic region** (Brooks 1981b):

The station lies in the Chassahowitzka Coastal Strip subdivision of the Big Bend Karst division of the Ocala Uplift District

### Long-term Florida LAKEWATCH Data

Numbers reported below are the minimum, average and maximum value for the 2 months sampled:

	<u>Minimum</u>	<u>Average</u>	<u>Maximum</u>
Long-term total phosphorus concentrations (µg/L)	31	36	40
Long-term total nitrogen concentrations (µg/L)	510	780	1050
Long-term total chlorophyll concentrations (µg/L)	6.0	6.5	7.0
Long-term Secchi depth (ft)	2.0	2.5	3.0

### 2001 Florida LAKEWATCH Data

No samples collected in 2001

## Greenleaf Bay-3 (Citrus County) Florida LAKEWATCH Water Chemistry Summary

**Location:** Latitude 28°49'33", Longitude 82°39'10"

**Period of record:** 2 sampling dates; September 6, 2000 to October 7, 2000

**Geologic formation** (Brooks 1981a):

The geology is dominated by Suwannee Limestone, bedded pure to slightly sandy limestone, cryptocrystalline hard dense limestone, often occurs in marly matrix, becomes interbedded downward with the Ocala Limestone, much secondary dolomitization

**Physiographic region** (Brooks 1981b):

The station lies in the Chassahowitzka Coastal Strip subdivision of the Big Bend Karst division of the Ocala Uplift District

### Long-term Florida LAKEWATCH Data

Numbers reported below are the minimum, average and maximum value for the 2 months sampled:

	<u>Minimum</u>	<u>Average</u>	<u>Maximum</u>
Long-term total phosphorus concentrations (µg/L)	27	32	36
Long-term total nitrogen concentrations (µg/L)	540	555	570
Long-term total chlorophyll concentrations (µg/L)	6.0	6.5	7.0
Long-term Secchi depth (ft)	3.0	3.0	3.0

### 2001 Florida LAKEWATCH Data

No samples collected in 2001

## Hampton (Citrus County) Florida LAKEWATCH Water Chemistry Summary

**Location:** Latitude 28°46'57", Longitude 82°17'4"

**Period of record:** 54 sampling dates; November 20, 1995 to November 21, 2001

**Lake Region** (Griffith et al. 1997): Tsala Apopka (75-12)

**Geologic formation** (Brooks 1981a):

The geology is dominated by limestone consisting of skeletons of fossils in a silt to sand size matrix of the Ocala Limestone Formation

**Physiographic region** (Brooks 1981b):

The lake lies in the Tsala Apopka Basin division of the Ocala Uplift District

### Supplemental water chemistry data

Data reported are means from 2 sampling dates:

pH	7.3	Total alkalinity (mg/L as CaCO <sub>3</sub> )	46.2
Conductance (µS/cm @ 25 °C)	134	Color (Pt-Co units)	111
Chloride (mg/L)	14.8	Silicon (mg/L)	1.9
Sulfate (mg/L)	0.2	Calcium (mg/L)	11.0
Magnesium (mg/L)	1.7	Sodium (mg/L)	6.6
Potassium (mg/L)	0.8	Iron (mg/L)	0.2

### Long-term Florida LAKEWATCH Data

Numbers reported below are the minimum, average and maximum value for the 54 months sampled:

	<u>Minimum</u>	<u>Average</u>	<u>Maximum</u>
Long-term total phosphorus concentrations (µg/L)	10	32	284
Long-term total nitrogen concentrations (µg/L)	647	921	2793
Long-term total chlorophyll concentrations (µg/L)	1.7	11.2	46.0
Long-term Secchi depth (ft)	0.6	3.6	6.2

### 2001 Florida LAKEWATCH Data

Numbers reported below are monthly averages calculated from 3 stations for total phosphorus (TP, µg/L), total nitrogen (TN, µg/L), chlorophyll (CHL, µg/L) and Secchi depth (SECCHI, ft) during 2001:

<u>Date</u>	<u>TP (µg/L)</u>	<u>TN (µg/L)</u>	<u>CHL (µg/L)</u>	<u>SECCHI (ft)</u>
Nov-21	284	2793	15.7	0.6
2001 Average	284	2793	15.7	0.6

## Hampton (Citrus County) Florida LAKEWATCH Aquatic Plant Summary

Aquatic plant data collected on June 26, 1996

Percent area covered with aquatic vegetation (PAC, %)	14.0
Percent of lake's volume filled with vegetation (PVI, %)	4.8
Average emergent plant biomass (kg wet wt/m <sup>2</sup> )	2.7
Average floating-leaved plant biomass (kg wet wt/m <sup>2</sup> )	2.1
Average submersed plant biomass (kg wet wt/m <sup>2</sup> )	0.4
Average width of emergent and floating-leaved zone (ft)	57.0
Average lake depth (m)	2.3

Frequency that plant species occur in 10 evenly spaced transects around the lake.

<u>Common Name</u>	<u>Plant Species</u>	<u>Frequency (%)</u>
maidencane	<i>Panicum hemitomon</i>	100
common salvinia	<i>Salvinia rotundifolia</i>	80
water-pennywort	<i>Hydrocotyle umbellata</i>	80
common duckweed	<i>Lemna minor</i>	70
slender spikerush	<i>Eleocharis baldwinii</i>	70
smartweed	<i>Polygonum hydropiperoides</i>	70
alligator-weed	<i>Alternanthera philoxeroides</i>	50
parrot's-feather	<i>Myriophyllum aquaticum</i>	50
American lotus	<i>Nelumbo lutea</i>	50
cat-tail	<i>Typha spp.</i>	50
water-lettuce	<i>Pistia stratiotes</i>	40
water spinach	<i>Ipomoea aquatica</i>	40
spatterdock	<i>Nuphar luteum</i>	40
coontail	<i>Ceratophyllum demersum</i>	40
wax myrtle	<i>Myrica cerifera</i>	40
water primrose	<i>Ludwigia octovalvis</i>	40
buttonbush	<i>Cephalanthus occidentalis</i>	40
azolla	<i>Azolla caroliniana</i>	30
willow	<i>Salix spp.</i>	30
torpedoglass	<i>Panicum repens</i>	30
southern naiad	<i>Najas guadalupensis</i>	20
southern water-grass	<i>Hydrochloa caroliniensis</i>	20
giant duckweed	<i>Spirodela polyrhiza</i>	10
golden-club	<i>Orontium aquaticum</i>	10
bladderwort family	<i>Lentibulariaceae</i>	10
flat-sedge	<i>Cyperus odoratus</i>	10
para grass	<i>Brachiaria mutica</i>	10
knot grass	<i>Paspalum distichum</i>	10
bald cypress	<i>Taxodium distichum</i>	10

## Henderson (Citrus County) Florida LAKEWATCH Water Chemistry Summary

**Location:** Latitude 28°50'20", Longitude 82°19'4"

**Period of record:** 44 sampling dates; August 23, 1991 to March 14, 2001

**Lake Region** (Griffith et al. 1997): Tsala Apopka (75-12)

**Geologic formation** (Brooks 1981a):

The geology is a mixture of two major types dominated by phosphatic sand, silty sand, and clay of the Hawthorne Formation and limestone consisting of skeletons of fossils in a silt to sand size matrix of the Ocala Limestone Formation

**Physiographic region** (Brooks 1981b):

The lake lies in the Hernando Hammock and Tsala Apopka Basin divisions of the Ocala Uplift District

### Supplemental water chemistry data

Data reported are means from 1 sampling date:

pH	7.5	Total alkalinity (mg/L as CaCO <sub>3</sub> )	47.0
Conductance (µS/cm @ 25 °C)	141	Color (Pt-Co units)	107
Chloride (mg/L)	14.3	Silicon (mg/L)	1.6
Sulfate (mg/L)	0.0	Calcium (mg/L)	19.3
Magnesium (mg/L)	1.7	Sodium (mg/L)	6.3
Potassium (mg/L)	1.3	Iron (mg/L)	0.2

### Periodic water chemistry data

Numbers reported below are the minimum, average, and maximum value for the 1 sampling date:

	<u>Minimum</u>	<u>Average</u>	<u>Maximum</u>
Long-term color concentrations (Pt-Co units)	17	17	17

### Long-term Florida LAKEWATCH Data

Numbers reported below are the minimum, average and maximum value for the 44 months sampled:

	<u>Minimum</u>	<u>Average</u>	<u>Maximum</u>
Long-term total phosphorus concentrations (µg/L)	12	20	36
Long-term total nitrogen concentrations (µg/L)	637	936	1237
Long-term total chlorophyll concentrations (µg/L)	1.7	9.4	26.0
Long-term Secchi depth (ft)	2.0	5.3	13.8

### 2001 Florida LAKEWATCH Data

Numbers reported below are monthly averages calculated from 3 stations for total phosphorus (TP, µg/L), total nitrogen (TN, µg/L), chlorophyll (CHL, µg/L) and Secchi depth (SECCHI, ft) during 2001:

<u>Date</u>	<u>TP (µg/L)</u>	<u>TN (µg/L)</u>	<u>CHL (µg/L)</u>	<u>SECCHI (ft)</u>
Mar-14	17	747	7.3	.
2001 Average	17	747	7.3	.

**Henderson (Citrus County)**  
**Florida LAKEWATCH Aquatic Plant Summary**

Aquatic plant data collected on June 24, 1992

Percent area covered with aquatic vegetation (PAC, %)	14.0
Percent of lake's volume filled with vegetation (PVI, %)	1.7
Average emergent plant biomass (kg wet wt/m <sup>2</sup> )	3.5
Average floating-leaved plant biomass (kg wet wt/m <sup>2</sup> )	3.6
Average submersed plant biomass (kg wet wt/m <sup>2</sup> )	4.0
Average width of emergent and floating-leaved zone (ft)	121.1
Average lake depth (m)	2.4

Frequency that plant species occur in 10 evenly spaced transects around the lake.

<b><u>Common Name</u></b>	<b><u>Plant Species</u></b>	<b><u>Frequency (%)</u></b>
Illinois pondweed	<i>Potamogeton illinoensis</i>	90
maidencane	<i>Panicum hemitomom</i>	80
cat-tail	<i>Typha spp.</i>	70
spatterdock	<i>Nuphar luteum</i>	60
coontail	<i>Ceratophyllum demersum</i>	60
floating water-hyacinth	<i>Eichhornia crassipes</i>	40
slender spikerush	<i>Eleocharis baldwinii</i>	40
hydrilla	<i>Hydrilla verticillata</i>	40
common salvinia	<i>Salvinia rotundifolia</i>	30
water-pennywort	<i>Hydrocotyle umbellata</i>	20
southern cutgrass	<i>Leersia hexandra</i>	20
bladderwort	<i>Utricularia foliosa</i>	20
American lotus	<i>Nelumbo lutea</i>	10
pickerelweed	<i>Pontederia cordata</i>	10
southern naiad	<i>Najas guadalupensis</i>	10
torpedograss	<i>Panicum repens</i>	10

**Henderson (Citrus County)**  
**Florida LAKEWATCH Aquatic Plant Summary**

Aquatic plant data collected on June 20, 1996

Percent area covered with aquatic vegetation (PAC, %)	10.0
Percent of lake's volume filled with vegetation (PVI, %)	2.3
Average emergent plant biomass (kg wet wt/m <sup>2</sup> )	10.5
Average floating-leaved plant biomass (kg wet wt/m <sup>2</sup> )	2.0
Average submersed plant biomass (kg wet wt/m <sup>2</sup> )	0.0
Average width of emergent and floating-leaved zone (ft)	67.6
Average lake depth (m)	3.3

Frequency that plant species occur in 10 evenly spaced transects around the lake.

<b><u>Common Name</u></b>	<b><u>Plant Species</u></b>	<b><u>Frequency (%)</u></b>
maidencane	<i>Panicum hemitomon</i>	100
alligator-weed	<i>Alternanthera philoxeroides</i>	80
cat-tail	<i>Typha spp.</i>	80
common salvinia	<i>Salvinia rotundifolia</i>	70
wax myrtle	<i>Myrica cerifera</i>	70
bald cypress	<i>Taxodium distichum</i>	70
slender spikerush	<i>Eleocharis baldwinii</i>	50
American lotus	<i>Nelumbo lutea</i>	50
willow	<i>Salix spp.</i>	50
torpedograss	<i>Panicum repens</i>	50
knot grass	<i>Paspalum distichum</i>	50
spatterdock	<i>Nuphar luteum</i>	40
coontail	<i>Ceratophyllum demersum</i>	40
elephant-ear	<i>Colocasia esculenta</i>	40
water-pennywort	<i>Hydrocotyle umbellata</i>	30
smartweed	<i>Polygonum hydropiperoides</i>	20
buttonbush	<i>Cephalanthus occidentalis</i>	20
water-lettuce	<i>Pistia stratiotes</i>	10
duck-potato	<i>Sagittaria lancifolia</i>	10
water spinach	<i>Ipomoea aquatica</i>	10
banana-lily	<i>Nymphoides aquatica</i>	10
fragrant water-lily	<i>Nymphaea odorata</i>	10
bacopa	<i>Bacopa monnieri</i>	10
hydrilla	<i>Hydrilla verticillata</i>	10
water primrose	<i>Ludwigia octovalvis</i>	10
elderberry	<i>Sambucus canadensis</i>	10

## Hernando (Citrus County) Florida LAKEWATCH Water Chemistry Summary

**Location:** Latitude 28°54'22", Longitude 82°22'12"

**Period of record:** 42 sampling dates; August 23, 1991 to March 14, 2001

**Surface Area** (LAKEWATCH 1996): 442 acres

**Lake Region** (Griffith et al. 1997): Tsala Apopka (75-12)

**Geologic formation** (Brooks 1981a):

The geology is a mixture of two major types dominated by phosphatic sand, silty sand, and clay of the Hawthorne Formation and limestone consisting of skeletons of fossils in a silt to sand size matrix of the Ocala Limestone Formation

**Physiographic region** (Brooks 1981b):

The lake lies in the Hernando Hammock and Tsala Apopka Basin divisions of the Ocala Uplift District

### Supplemental water chemistry data

Data reported are means from 4 sampling dates:

pH	7.4	Total alkalinity (mg/L as CaCO <sub>3</sub> )	42.0
Conductance (µS/cm @ 25 °C)	114	Color (Pt-Co units)	28
Chloride (mg/L)	10.3	Silicon (mg/L)	0.8
Sulfate (mg/L)	3.7	Calcium (mg/L)	16.6
Magnesium (mg/L)	4.6	Sodium (mg/L)	5.9
Potassium (mg/L)	0.3	Iron (mg/L)	0.0

### Periodic water chemistry data

Numbers reported below are the minimum, average, and maximum value for the 1 sampling date:

	<u>Minimum</u>	<u>Average</u>	<u>Maximum</u>
Long-term color concentrations (Pt-Co units)	19	19	19

### Long-term Florida LAKEWATCH Data

Numbers reported below are the minimum, average and maximum value for the 42 months sampled:

	<u>Minimum</u>	<u>Average</u>	<u>Maximum</u>
Long-term total phosphorus concentrations (µg/L)	7	13	23
Long-term total nitrogen concentrations (µg/L)	477	690	970
Long-term total chlorophyll concentrations (µg/L)	2.0	4.6	9.7
Long-term Secchi depth (ft)	4.3	7.1	9.3

### 2001 Florida LAKEWATCH Data

Numbers reported below are monthly averages calculated from 3 stations for total phosphorus (TP, µg/L), total nitrogen (TN, µg/L), chlorophyll (CHL, µg/L) and Secchi depth (SECCHI, ft) during 2001:

<u>Date</u>	<u>TP (µg/L)</u>	<u>TN (µg/L)</u>	<u>CHL (µg/L)</u>	<u>SECCHI (ft)</u>
Mar-14	23	893	3.3	.
2001 Average	23	893	3.3	.

## Hernando (Citrus County) Florida LAKEWATCH Aquatic Plant Summary

Aquatic plant data collected on June 24, 1992

Percent area covered with aquatic vegetation (PAC, %)	96.0
Percent of lake's volume filled with vegetation (PVI, %)	57.9
Average emergent plant biomass (kg wet wt/m <sup>2</sup> )	4.4
Average floating-leaved plant biomass (kg wet wt/m <sup>2</sup> )	10.4
Average submersed plant biomass (kg wet wt/m <sup>2</sup> )	15.1
Average width of emergent and floating-leaved zone (ft)	355.5
Average lake depth (m)	2.1

Frequency that plant species occur in 10 evenly spaced transects around the lake.

<u>Common Name</u>	<u>Plant Species</u>	<u>Frequency (%)</u>
cat-tail	<i>Typha spp.</i>	90
spatterdock	<i>Nuphar luteum</i>	80
maidencane	<i>Panicum hemitomon</i>	80
.	<i>Nitella prolunga</i>	80
fragrant water-lily	<i>Nymphaea odorata</i>	70
variable-leaf milfoil	<i>Myriophyllum heterophyllum</i>	70
knot grass	<i>Paspalum distichum</i>	70
bladderwort	<i>Utricularia foliosa</i>	70
tapegrass	<i>Vallisneria americana</i>	60
Illinois pondweed	<i>Potamogeton illinoensis</i>	60
duck-potato	<i>Sagittaria lancifolia</i>	50
purple bladderwort	<i>Utricularia purpurea</i>	50
green fanwort	<i>Cabomba caroliniana var. multipartita</i>	50
lemon bacopa	<i>Bacopa caroliniana</i>	40
hydrilla	<i>Hydrilla verticillata</i>	40
southern naiad	<i>Najas guadalupensis</i>	40
willow	<i>Salix spp.</i>	40
American lotus	<i>Nelumbo lutea</i>	20
pickerelweed	<i>Pontederia cordata</i>	10
water-pennywort	<i>Hydrocotyle umbellata</i>	10
coontail	<i>Ceratophyllum demersum</i>	10
cone-spur bladderwort	<i>Utricularia gibba</i>	10
water primrose	<i>Ludwigia octovalvis</i>	10
buttonbush	<i>Cephalanthus occidentalis</i>	10
sawgrass	<i>Cladium jamaicense</i>	10
torpedograss	<i>Panicum repens</i>	10

## Hernando (Citrus County) Florida LAKEWATCH Aquatic Plant Summary

Aquatic plant data collected on July 2, 1996

Percent area covered with aquatic vegetation (PAC, %)	90.0
Percent of lake's volume filled with vegetation (PVI, %)	55.8
Average emergent plant biomass (kg wet wt/m <sup>2</sup> )	7.2
Average floating-leaved plant biomass (kg wet wt/m <sup>2</sup> )	4.3
Average submersed plant biomass (kg wet wt/m <sup>2</sup> )	8.8
Average width of emergent and floating-leaved zone (ft)	195.6
Average lake depth (m)	2.7

Frequency that plant species occur in 16 evenly spaced transects around the lake.

<u>Common Name</u>	<u>Plant Species</u>	<u>Frequency (%)</u>
cone-spur bladderwort	<i>Utricularia gibba</i>	94
Illinois pondweed	<i>Potamogeton illinoensis</i>	94
maidencane	<i>Panicum hemitomon</i>	94
fragrant water-lily	<i>Nymphaea odorata</i>	88
cat-tail	<i>Typha spp.</i>	88
purple bladderwort	<i>Utricularia purpurea</i>	81
bladderwort	<i>Utricularia foliosa</i>	75
spatterdock	<i>Nuphar luteum</i>	69
lemon bacopa	<i>Bacopa caroliniana</i>	69
wax myrtle	<i>Myrica cerifera</i>	69
pickerelweed	<i>Pontederia cordata</i>	62
.	<i>Nitella prolunga</i>	62
knot grass	<i>Paspalum distichum</i>	56
willow	<i>Salix spp.</i>	50
duck-potato	<i>Sagittaria lancifolia</i>	44
alligator-weed	<i>Alternanthera philoxeroides</i>	44
slender spikerush	<i>Eleocharis baldwinii</i>	44
coontail	<i>Ceratophyllum demersum</i>	44
variable-leaf milfoil	<i>Myriophyllum heterophyllum</i>	44
hydrilla	<i>Hydrilla verticillata</i>	44
water-pennywort	<i>Hydrocotyle umbellata</i>	38
tapegrass	<i>Vallisneria americana</i>	38
water primrose	<i>Ludwigia octovalvis</i>	38
purple fanwort	<i>Cabomba pulcherrima</i>	31
torpedograss	<i>Panicum repens</i>	31
bald cypress	<i>Taxodium distichum</i>	31
floating water-hyacinth	<i>Eichhornia crassipes</i>	25
American lotus	<i>Nelumbo lutea</i>	19
smartweed	<i>Polygonum hydropiperoides</i>	19
green fanwort	<i>Cabomba caroliniana var. multipartita</i>	19
common salvinia	<i>Salvinia rotundifolia</i>	12
banana-lily	<i>Nymphoides aquatica</i>	12
red ludwigia	<i>Ludwigia repens</i>	12
southern naiad	<i>Najas guadalupensis</i>	12
buttonbush	<i>Cephalanthus occidentalis</i>	12
stonewort	<i>Nitella spp.</i>	12
yellow-eyed grass	<i>Xyris spp.</i>	12
water-shield	<i>Brasenia schreberi</i>	6
elephant-ear	<i>Colocasia esculenta</i>	6
sawgrass	<i>Cladium jamaicense</i>	6
water spikerush	<i>Eleocharis elongata</i>	6
leconte sedge	<i>Cyperus lecontei</i>	6

**Hernando (Citrus County)  
Florida LAKEWATCH Bathymetric Map**



Florida LAKEWATCH personnel created this map using differentially corrected global positioning equipment (GPS). Data were collected June 2, 1996. Map contours are in feet and were generated using kriging technique in Surfer® software package (Golden Software, Golden CO). Due to the marsh-like conditions of the Tsala Apopka chain, this is only an approximate bathymetric map of the open water and should not be used for navigation. The center of the lake is located at Latitude 28°54'22" and Longitude 82°22'12". On this date, the lake surface area was calculated at 442 acres (179 hectares).

## Little Henderson (Citrus County) Florida LAKEWATCH Water Chemistry Summary

**Location:** Latitude 28°50'54", Longitude 82°19'46"

**Period of record:** 53 sampling dates; August 23, 1991 to March 14, 2001

**Surface Area** (LAKEWATCH 1996): 247 acres

**Lake Region** (Griffith et al. 1997): Tsala Apopka (75-12)

**Geologic formation** (Brooks 1981a):

The geology is a mixture of two major types dominated by phosphatic sand, silty sand, and clay of the Hawthorne Formation and limestone consisting of skeletons of fossils in a silt to sand size matrix of the Ocala Limestone Formation

**Physiographic region** (Brooks 1981b):

The lake lies in the Hernando Hammock and Tsala Apopka Basin divisions of the Ocala Uplift District

### Supplemental water chemistry data

Data reported are means from 1 sampling date:

pH	7.5	Total alkalinity (mg/L as CaCO <sub>3</sub> )	43.0
Conductance (µS/cm @ 25 °C)	130	Color (Pt-Co units)	77
Chloride (mg/L)	15.0	Silicon (mg/L)	1.5
Sulfate (mg/L)	0.3	Calcium (mg/L)	18.0
Magnesium (mg/L)	1.6	Sodium (mg/L)	6.0
Potassium (mg/L)	1.1	Iron (mg/L)	0.1

### Periodic water chemistry data

Numbers reported below are the minimum, average, and maximum value for the 1 sampling date:

	<u>Minimum</u>	<u>Average</u>	<u>Maximum</u>
Long-term color concentrations (Pt-Co units)	15	15	15

### Long-term Florida LAKEWATCH Data

Numbers reported below are the minimum, average and maximum value for the 53 months sampled:

	<u>Minimum</u>	<u>Average</u>	<u>Maximum</u>
Long-term total phosphorus concentrations (µg/L)	11	16	24
Long-term total nitrogen concentrations (µg/L)	600	858	1220
Long-term total chlorophyll concentrations (µg/L)	3.0	9.0	17.7
Long-term Secchi depth (ft)	3.0	5.9	11.0

### 2001 Florida LAKEWATCH Data

Numbers reported below are monthly averages calculated from 3 stations for total phosphorus (TP, µg/L), total nitrogen (TN, µg/L), chlorophyll (CHL, µg/L) and Secchi depth (SECCHI, ft) during 2001:

<u>Date</u>	<u>TP (µg/L)</u>	<u>TN (µg/L)</u>	<u>CHL (µg/L)</u>	<u>SECCHI (ft)</u>
Mar-14	16	737	6.3	8.4
2001 Average	16	737	6.3	8.4

**Little Henderson (Citrus County)  
Florida LAKEWATCH Aquatic Plant Summary**

Aquatic plant data collected on July 2, 1992

Percent area covered with aquatic vegetation (PAC, %)	12.0
Percent of lake's volume filled with vegetation (PVI, %)	2.3
Average emergent plant biomass (kg wet wt/m <sup>2</sup> )	3.7
Average floating-leaved plant biomass (kg wet wt/m <sup>2</sup> )	1.1
Average submersed plant biomass (kg wet wt/m <sup>2</sup> )	3.2
Average width of emergent and floating-leaved zone (ft)	283.0
Average lake depth (m)	3.4

Frequency that plant species occur in 10 evenly spaced transects around the lake.

<b><u>Common Name</u></b>	<b><u>Plant Species</u></b>	<b><u>Frequency (%)</u></b>
maidencane	<i>Panicum hemitomon</i>	90
Illinois pondweed	<i>Potamogeton illinoensis</i>	70
knot grass	<i>Paspalum distichum</i>	60
coontail	<i>Ceratophyllum demersum</i>	50
cat-tail	<i>Typha spp.</i>	40
elephant-ear	<i>Colocasia esculenta</i>	40
floating water-hyacinth	<i>Eichhornia crassipes</i>	30
water-pennywort	<i>Hydrocotyle umbellata</i>	30
American lotus	<i>Nelumbo lutea</i>	20
spatterdock	<i>Nuphar luteum</i>	20
red ludwigia	<i>Ludwigia repens</i>	20
water-moss	<i>Fontinalis spp.</i>	20
water primrose	<i>Ludwigia octovalvis</i>	20
slender spikerush	<i>Eleocharis baldwinii</i>	10
pickerelweed	<i>Pontederia cordata</i>	10
baby-tears	<i>Micranthemum umbrosum</i>	10
tapegrass	<i>Vallisneria americana</i>	10
purple bladderwort	<i>Utricularia purpurea</i>	10
buttonbush	<i>Cephalanthus occidentalis</i>	10
Florida bladderwort	<i>Utricularia floridana</i>	10
bladderwort	<i>Utricularia foliosa</i>	10

**Little Henderson (Citrus County)  
Florida LAKEWATCH Aquatic Plant Summary**

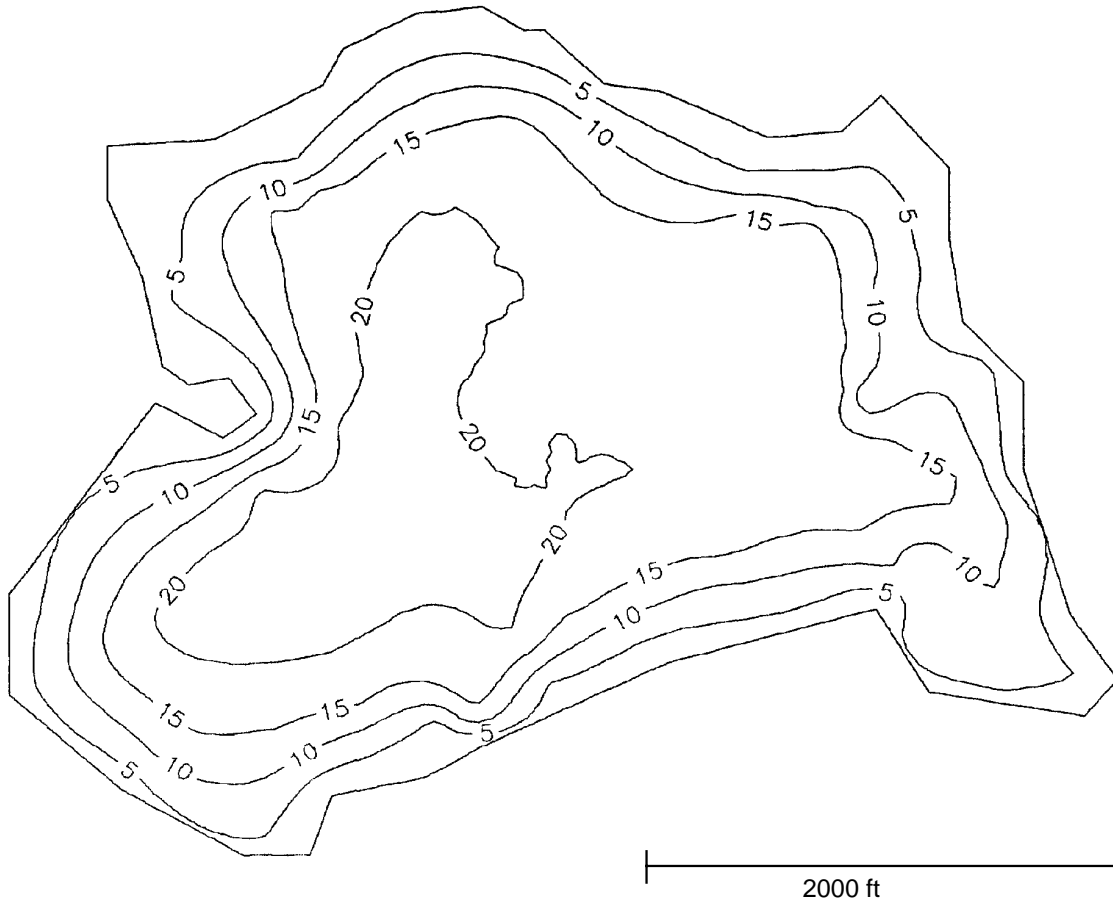
Aquatic plant data collected on August 14, 1996

Percent area covered with aquatic vegetation (PAC, %)	2.0
Percent of lake's volume filled with vegetation (PVI, %)	0.7
Average emergent plant biomass (kg wet wt/m <sup>2</sup> )	2.9
Average floating-leaved plant biomass (kg wet wt/m <sup>2</sup> )	0.9
Average submersed plant biomass (kg wet wt/m <sup>2</sup> )	0.0
Average width of emergent and floating-leaved zone (ft)	129.4
Average lake depth (m)	4.6

Frequency that plant species occur in 10 evenly spaced transects around the lake.

<b><u>Common Name</u></b>	<b><u>Plant Species</u></b>	<b><u>Frequency (%)</u></b>
maidencane	<i>Panicum hemitomon</i>	100
bald cypress	<i>Taxodium distichum</i>	90
elephant-ear	<i>Colocasia esculenta</i>	70
water spinach	<i>Ipomoea aquatica</i>	60
wax myrtle	<i>Myrica cerifera</i>	60
water primrose	<i>Ludwigia octovalvis</i>	60
knot grass	<i>Paspalum distichum</i>	60
common salvinia	<i>Salvinia rotundifolia</i>	40
spatterdock	<i>Nuphar luteum</i>	40
cat-tail	<i>Typha spp.</i>	40
water-pennywort	<i>Hydrocotyle umbellata</i>	40
floating water-hyacinth	<i>Eichhornia crassipes</i>	30
slender spikerush	<i>Eleocharis baldwinii</i>	30
American lotus	<i>Nelumbo lutea</i>	30
buttonbush	<i>Cephalanthus occidentalis</i>	30
torpedograss	<i>Panicum repens</i>	30
common duckweed	<i>Lemna minor</i>	20
alligator-weed	<i>Alternanthera philoxeroides</i>	20
willow	<i>Salix spp.</i>	20
duck-potato	<i>Sagittaria lancifolia</i>	10
smartweed	<i>Polygonum hydropiperoides</i>	10
coontail	<i>Ceratophyllum demersum</i>	10
water hemlock	<i>Cicuta mexicana</i>	10

Little Henderson (Citrus County)  
Florida LAKEWATCH Bathymetric Map



Florida LAKEWATCH personnel created this map using differentially corrected global positioning equipment (GPS). Data were collected August 14, 1996. Map contours are in feet and were generated using kriging technique in Surfer® software package (Golden Software, Golden CO). Due to the marsh-like conditions of the Tsala Apopka chain, this is only an approximate bathymetric map of the open water and should not be used for navigation. The center of the lake is located at Latitude 28°50'54" and Longitude 82°19'46". On this date, the lake surface area was calculated at 247 acres (100 hectares).

## Park (Citrus County)

### Florida LAKEWATCH Water Chemistry Summary

**Location:** Latitude 28°54'12", Longitude 82°23'59"

**Period of record:** 27 sampling dates; October 12, 1999 to December 3, 2001

**Lake Region** (Griffith et al. 1997): Southern Brooksville Ridge (75-13)

**Geologic formation** (Brooks 1981a):

The geology is dominated by phosphatic sand, silty sand, and clay of the Hawthorne Formation

**Physiographic region** (Brooks 1981b):

The lake lies in the Hernando Hammock division of the Ocala Uplift District

#### Periodic water chemistry data

Numbers reported below are the minimum, average, and maximum value for the 4 sampling dates:

	<u>Minimum</u>	<u>Average</u>	<u>Maximum</u>
Long-term color concentrations (Pt-Co units)	7	17	21

#### Long-term Florida LAKEWATCH Data

Numbers reported below are the minimum, average and maximum value for the 27 months sampled:

	<u>Minimum</u>	<u>Average</u>	<u>Maximum</u>
Long-term total phosphorus concentrations (µg/L)	28	116	283
Long-term total nitrogen concentrations (µg/L)	453	999	2383
Long-term total chlorophyll concentrations (µg/L)	3.0	35.9	153.7
Long-term Secchi depth (ft)	1.5	3.9	10.8

#### 2001 Florida LAKEWATCH Data

Numbers reported below are monthly averages calculated from 3 stations for total phosphorus (TP, µg/L), total nitrogen (TN, µg/L), chlorophyll (CHL, µg/L) and Secchi depth (SECCHI, ft) during 2001:

<u>Date</u>	<u>TP (µg/L)</u>	<u>TN (µg/L)</u>	<u>CHL (µg/L)</u>	<u>SECCHI (ft)</u>
Jan-10	28	640	4.3	10.8
Feb-07	60	810	18.7	.
Mar-14	125	1163	11.0	.
Apr-18	175	1333	38.0	1.5
May-23	222	1777	45.3	2.0
Jun-20	283	1980	146.0	1.5
Jul-18	179	1567	153.7	1.5
Aug-15	220	2383	133.0	1.5
Sep-06	232	2213	142.7	1.5
Oct-03	177	1180	44.3	2.5
Nov-05	248	1200	52.0	2.0
Dec-03	237	1210	94.3	2.8
2001 Average	182	1455	73.6	2.8

## Rousseau (Citrus County) Florida LAKEWATCH Water Chemistry Summary

**Location:** Latitude 29°1'35", Longitude 82°34'47"

**Period of record:** 27 sampling dates; June 17, 1996 to February 16, 2000

**Surface Area** (Shafer et al. 1986): 3657 acres

**Lake Region** (Griffith et al. 1997): Big Bend Karst (75-06)

**Geologic formation** (Brooks 1981a):

The geology is dominated by finely crystalline dolomite to dolomitic silt of the Avon Park Formation

**Physiographic region** (Brooks 1981b):

The lake lies in the Tsala Apopka Basin division of the Ocala Uplift District

### Supplemental water chemistry data

Data reported are means from 4 sampling dates:

pH	7.2	Total alkalinity (mg/L as CaCO <sub>3</sub> )	95.9
Conductance (µS/cm @ 25 °C)	224	Color (Pt-Co units)	73
Chloride (mg/L)	7.4	Silicon (mg/L)	6.8
Sulfate (mg/L)	9.1	Calcium (mg/L)	38.1
Magnesium (mg/L)	14.9	Sodium (mg/L)	4.1
Potassium (mg/L)	0.3	Iron (mg/L)	0.2

### Long-term Florida LAKEWATCH Data

Numbers reported below are the minimum, average and maximum value for the 27 months sampled:

	<u>Minimum</u>	<u>Average</u>	<u>Maximum</u>
Long-term total phosphorus concentrations (µg/L)	20	42	69
Long-term total nitrogen concentrations (µg/L)	293	533	997
Long-term total chlorophyll concentrations (µg/L)	1.7	8.1	19.3
Long-term Secchi depth (ft)	4.4	7.6	12.0

### 2001 Florida LAKEWATCH Data

No samples collected in 2001

## Rousseau East (Citrus County) Florida LAKEWATCH Water Chemistry Summary

**Location:** Latitude 29°2'41", Longitude 82°30'18"

**Period of record:** 7 sampling dates; December 2, 1996 to November 23, 1998

**Lake Region** (Griffith et al. 1997): Big Bend Karst (75-06)

**Geologic formation** (Brooks 1981a):

The geology is dominated by finely crystalline dolomite to dolomitic silt of the Avon Park Formation

**Physiographic region** (Brooks 1981b):

The lake lies in the Tsala Apopka Basin division of the Ocala Uplift District

### Supplemental water chemistry data

Data reported are means from 1 sampling date:

pH	7.7	Total alkalinity (mg/L as CaCO <sub>3</sub> )	106.0
Conductance (µS/cm @ 25 °C)	271	Color (Pt-Co units)	82
Chloride (mg/L)	11.0		

### Long-term Florida LAKEWATCH Data

Numbers reported below are the minimum, average and maximum value for the 7 months sampled:

	<u>Minimum</u>	<u>Average</u>	<u>Maximum</u>
Long-term total phosphorus concentrations (µg/L)	36	45	62
Long-term total nitrogen concentrations (µg/L)	523	675	847
Long-term total chlorophyll concentrations (µg/L)	1.0	1.6	2.3
Long-term Secchi depth (ft)	5.7	13.3	16.7

### 2001 Florida LAKEWATCH Data

No samples collected in 2001

## Spivey (Citrus County) Florida LAKEWATCH Water Chemistry Summary

**Location:** Latitude 28°49'54", Longitude 82°18'1"

**Period of record:** 55 sampling dates; August 23, 1991 to March 14, 2001

**Lake Region** (Griffith et al. 1997): Tsala Apopka (75-12)

**Geologic formation** (Brooks 1981a):

The geology is a mixture of two major types dominated by phosphatic sand, silty sand, and clay of the Hawthorne Formation and limestone consisting of skeletons of fossils in a silt to sand size matrix of the Ocala Limestone Formation

**Physiographic region** (Brooks 1981b):

The lake lies in the Hernando Hammock and Tsala Apopka Basin divisions of the Ocala Uplift District

### Supplemental water chemistry data

Data reported are means from 2 sampling dates:

pH	7.3	Total alkalinity (mg/L as CaCO <sub>3</sub> )	39.9
Conductance (µS/cm @ 25 °C)	124	Color (Pt-Co units)	254
Chloride (mg/L)	18.0	Silicon (mg/L)	2.1
Sulfate (mg/L)	0.2	Calcium (mg/L)	18.2
Magnesium (mg/L)	1.7	Sodium (mg/L)	6.1
Potassium (mg/L)	1.1	Iron (mg/L)	0.3

### Periodic water chemistry data

Numbers reported below are the minimum, average, and maximum value for the 1 sampling date:

	<u>Minimum</u>	<u>Average</u>	<u>Maximum</u>
Long-term color concentrations (Pt-Co units)	2	2	2

### Long-term Florida LAKEWATCH Data

Numbers reported below are the minimum, average and maximum value for the 55 months sampled:

	<u>Minimum</u>	<u>Average</u>	<u>Maximum</u>
Long-term total phosphorus concentrations (µg/L)	11	18	34
Long-term total nitrogen concentrations (µg/L)	653	977	1457
Long-term total chlorophyll concentrations (µg/L)	1.0	6.1	34.7
Long-term Secchi depth (ft)	1.3	4.1	8.0

### 2001 Florida LAKEWATCH Data

Numbers reported below are monthly averages calculated from 3 stations for total phosphorus (TP, µg/L), total nitrogen (TN, µg/L), chlorophyll (CHL, µg/L) and Secchi depth (SECCHI, ft) during 2001:

<u>Date</u>	<u>TP (µg/L)</u>	<u>TN (µg/L)</u>	<u>CHL (µg/L)</u>	<u>SECCHI (ft)</u>
Mar-14	19	1000	3.0	.
2001 Average	19	1000	3.0	.

**Spivey (Citrus County)**  
**Florida LAKEWATCH Aquatic Plant Summary**

Aquatic plant data collected on June 24, 1992

Percent area covered with aquatic vegetation (PAC, %)	20.0
Percent of lake's volume filled with vegetation (PVI, %)	5.2
Average emergent plant biomass (kg wet wt/m <sup>2</sup> )	3.7
Average floating-leaved plant biomass (kg wet wt/m <sup>2</sup> )	2.6
Average submersed plant biomass (kg wet wt/m <sup>2</sup> )	0.7
Average width of emergent and floating-leaved zone (ft)	111.0
Average lake depth (m)	1.9

Frequency that plant species occur in 10 evenly spaced transects around the lake.

<b><u>Common Name</u></b>	<b><u>Plant Species</u></b>	<b><u>Frequency (%)</u></b>
spatterdock	<i>Nuphar luteum</i>	100
cat-tail	<i>Typha spp.</i>	90
maidencane	<i>Panicum hemitomon</i>	90
slender spikerush	<i>Eleocharis baldwinii</i>	80
banana-lily	<i>Nymphoides aquatica</i>	70
bladderwort	<i>Utricularia foliosa</i>	40
floating water-hyacinth	<i>Eichhornia crassipes</i>	30
water-lettuce	<i>Pistia stratiotes</i>	20
common salvinia	<i>Salvinia rotundifolia</i>	20
common arrowhead	<i>Sagittaria latifolia</i>	10
alligator-weed	<i>Alternanthera philoxeroides</i>	10
pickerelweed	<i>Pontederia cordata</i>	10
water-pennywort	<i>Hydrocotyle umbellata</i>	10
Illinois pondweed	<i>Potamogeton illinoensis</i>	10
sawgrass	<i>Cladium jamaicense</i>	10

**Spivey (Citrus County)**  
**Florida LAKEWATCH Aquatic Plant Summary**

Aquatic plant data collected on June 20, 1996

Percent area covered with aquatic vegetation (PAC, %)	16.0
Percent of lake's volume filled with vegetation (PVI, %)	4.5
Average emergent plant biomass (kg wet wt/m <sup>2</sup> )	9.3
Average floating-leaved plant biomass (kg wet wt/m <sup>2</sup> )	3.4
Average submersed plant biomass (kg wet wt/m <sup>2</sup> )	1.1
Average width of emergent and floating-leaved zone (ft)	133.6
Average lake depth (m)	2.6

Frequency that plant species occur in 10 evenly spaced transects around the lake.

<b><u>Common Name</u></b>	<b><u>Plant Species</u></b>	<b><u>Frequency (%)</u></b>
bladderwort	<i>Utricularia foliosa</i>	90
spatterdock	<i>Nuphar luteum</i>	80
cat-tail	<i>Typha spp.</i>	80
common salvinia	<i>Salvinia rotundifolia</i>	70
alligator-weed	<i>Alternanthera philoxeroides</i>	70
water-pennywort	<i>Hydrocotyle umbellata</i>	70
slender spikerush	<i>Eleocharis baldwinii</i>	60
coontail	<i>Ceratophyllum demersum</i>	50
cone-spur bladderwort	<i>Utricularia gibba</i>	50
wax myrtle	<i>Myrica cerifera</i>	50
maidencane	<i>Panicum hemitomon</i>	50
torpedograss	<i>Panicum repens</i>	50
willow	<i>Salix spp.</i>	40
floating water-hyacinth	<i>Eichhornia crassipes</i>	30
pickerelweed	<i>Pontederia cordata</i>	30
buttonbush	<i>Cephalanthus occidentalis</i>	30
smartweed	<i>Polygonum hydropiperoides</i>	20
hydrilla	<i>Hydrilla verticillata</i>	20
southern naiad	<i>Najas guadalupensis</i>	20
elephant-ear	<i>Colocasia esculenta</i>	20
sawgrass	<i>Cladium jamaicense</i>	20
southern cutgrass	<i>Leersia hexandra</i>	20
knot grass	<i>Paspalum distichum</i>	20
bald cypress	<i>Taxodium distichum</i>	20
common duckweed	<i>Lemna minor</i>	10
azolla	<i>Azolla caroliniana</i>	10
duck-potato	<i>Sagittaria lancifolia</i>	10
purple bladderwort	<i>Utricularia purpurea</i>	10
green fanwort	<i>Cabomba caroliniana var. multipartita</i>	10
water primrose	<i>Ludwigia octovalvis</i>	10
sedge family	<i>Cyperaceae</i>	10
flat-sedge	<i>Cyperus odoratus</i>	10
elderberry	<i>Sambucus canadensis</i>	10

## Todd (Citrus County)

### Florida LAKEWATCH Water Chemistry Summary

**Location:** Latitude 28°56'31", Longitude 82°22'18"

**Period of record:** 64 sampling dates; August 23, 1991 to March 16, 2001

**Surface Area** (LAKEWATCH 1996): 205 acres

**Lake Region** (Griffith et al. 1997): Tsala Apopka (75-12)

**Geologic formation** (Brooks 1981a):

The geology is a mixture of two major types dominated by phosphatic sand, silty sand, and clay of the Hawthorne Formation and limestone consisting of skeletons of fossils in a silt to sand size matrix of the Ocala Limestone Formation

**Physiographic region** (Brooks 1981b):

The lake lies in the Tsala Apopka Basin division of the Ocala Uplift District

#### Supplemental water chemistry data

Data reported are means from 1 sampling date:

pH	7.1	Total alkalinity (mg/L as CaCO <sub>3</sub> )	38.7
Conductance (µS/cm @ 25 °C)	119	Color (Pt-Co units)	40
Chloride (mg/L)	14.4	Silicon (mg/L)	0.9
Sulfate (mg/L)	0.2	Calcium (mg/L)	15.0
Magnesium (mg/L)	1.3	Sodium (mg/L)	7.0
Potassium (mg/L)	0.5	Iron (mg/L)	0.1

#### Long-term Florida LAKEWATCH Data

Numbers reported below are the minimum, average and maximum value for the 64 months sampled:

	<u>Minimum</u>	<u>Average</u>	<u>Maximum</u>
Long-term total phosphorus concentrations (µg/L)	5	12	24
Long-term total nitrogen concentrations (µg/L)	547	768	1277
Long-term total chlorophyll concentrations (µg/L)	1.3	5.2	15.0
Long-term Secchi depth (ft)	4.3	7.0	10.0

#### 2001 Florida LAKEWATCH Data

Numbers reported below are monthly averages calculated from 3 stations for total phosphorus (TP, µg/L), total nitrogen (TN, µg/L), chlorophyll (CHL, µg/L) and Secchi depth (SECCHI, ft) during 2001:

<u>Date</u>	<u>TP (µg/L)</u>	<u>TN (µg/L)</u>	<u>CHL (µg/L)</u>	<u>SECCHI (ft)</u>
Mar-16	19	1210	8.3	.
2001 Average	19	1210	8.3	.

**Todd (Citrus County)**  
**Florida LAKEWATCH Aquatic Plant Summary**

Aquatic plant data collected on June 23, 1992

Percent area covered with aquatic vegetation (PAC, %)	88.0
Percent of lake's volume filled with vegetation (PVI, %)	35.2
Average emergent plant biomass (kg wet wt/m <sup>2</sup> )	3.0
Average floating-leaved plant biomass (kg wet wt/m <sup>2</sup> )	8.2
Average submersed plant biomass (kg wet wt/m <sup>2</sup> )	8.7
Average width of emergent and floating-leaved zone (ft)	675.0
Average lake depth (m)	1.7

Frequency that plant species occur in 10 evenly spaced transects around the lake.

<b><u>Common Name</u></b>	<b><u>Plant Species</u></b>	<b><u>Frequency (%)</u></b>
spatterdock	<i>Nuphar luteum</i>	80
maidencane	<i>Panicum hemitomom</i>	80
Illinois pondweed	<i>Potamogeton illinoensis</i>	70
bladderwort	<i>Utricularia foliosa</i>	70
.	<i>Nitella prolunga</i>	70
fragrant water-lily	<i>Nymphaea odorata</i>	60
variable-leaf milfoil	<i>Myriophyllum heterophyllum</i>	60
purple fanwort	<i>Cabomba pulcherrima</i>	60
sawgrass	<i>Cladium jamaicense</i>	60
duck-potato	<i>Sagittaria lancifolia</i>	50
water-pennywort	<i>Hydrocotyle umbellata</i>	50
slender spikerush	<i>Eleocharis baldwinii</i>	40
water primrose	<i>Ludwigia octovalvis</i>	40
banana-lily	<i>Nymphoides aquatica</i>	30
pickerelweed	<i>Pontederia cordata</i>	30
lemon bacopa	<i>Bacopa caroliniana</i>	30
purple bladderwort	<i>Utricularia purpurea</i>	30
red root	<i>Lachnanthes caroliniana</i>	30
cat-tail	<i>Typha spp.</i>	20
tapegrass	<i>Vallisneria americana</i>	20
southern naiad	<i>Najas guadalupensis</i>	20
jointed flat sedge	<i>Cyperus haspan</i>	20
floating water-hyacinth	<i>Eichhornia crassipes</i>	10
red ludwigia	<i>Ludwigia repens</i>	10
smartweed	<i>Polygonum hydropiperoides</i>	10
coontail	<i>Ceratophyllum demersum</i>	10
cone-spur bladderwort	<i>Utricularia gibba</i>	10
buttonbush	<i>Cephalanthus occidentalis</i>	10
southern water-grass	<i>Hydrochloa caroliniensis</i>	10
torpedograss	<i>Panicum repens</i>	10
water spikerush	<i>Eleocharis elongata</i>	10
knot grass	<i>Paspalum distichum</i>	10
rush spp.	<i>Juncus dichotomus</i>	10

**Todd (Citrus County)**  
**Florida LAKEWATCH Aquatic Plant Summary**

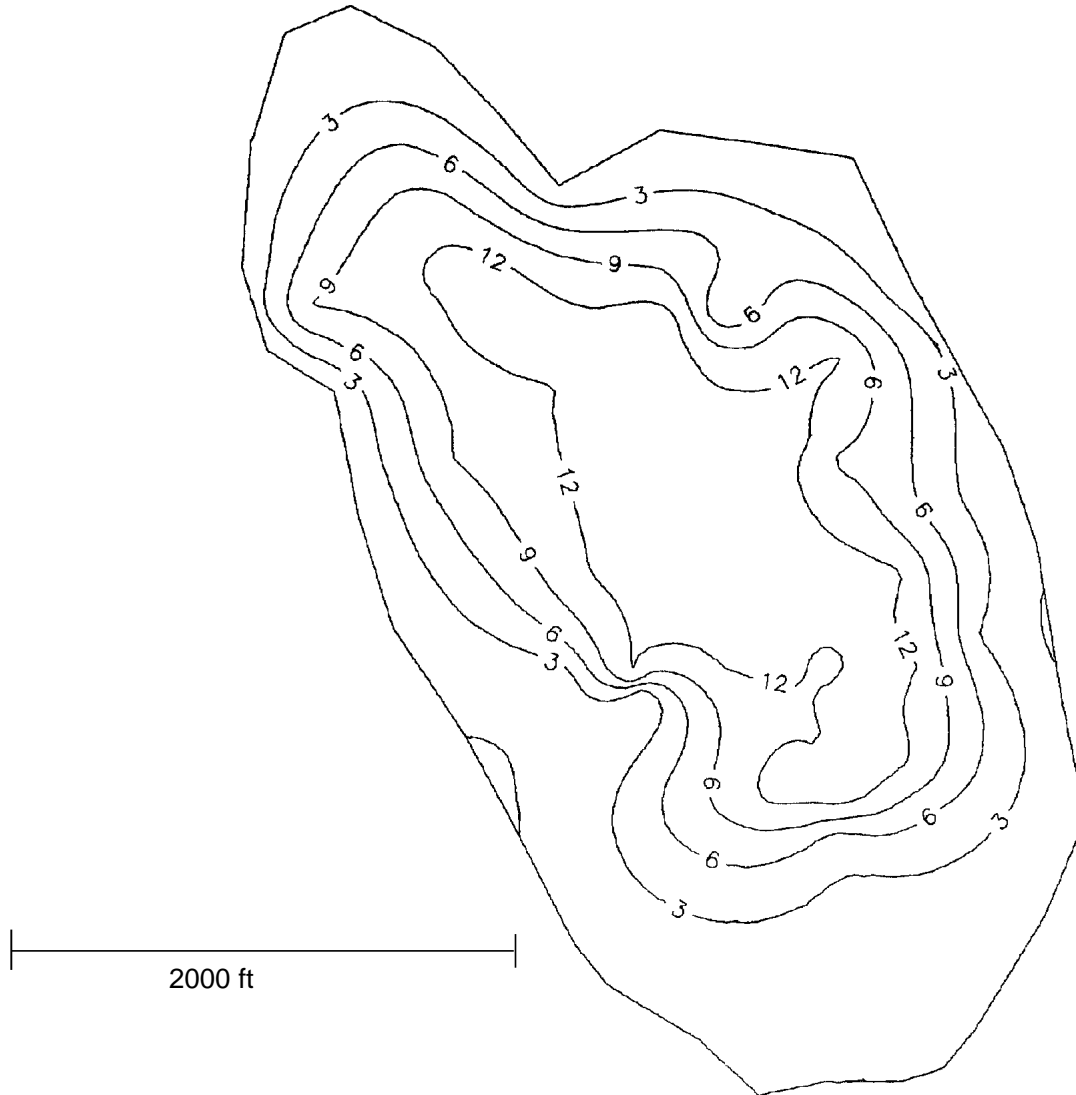
Aquatic plant data collected on July 2, 1996

Percent area covered with aquatic vegetation (PAC, %)	94.0
Percent of lake's volume filled with vegetation (PVI, %)	63.2
Average emergent plant biomass (kg wet wt/m <sup>2</sup> )	3.4
Average floating-leaved plant biomass (kg wet wt/m <sup>2</sup> )	3.8
Average submersed plant biomass (kg wet wt/m <sup>2</sup> )	6.5
Average width of emergent and floating-leaved zone (ft)	2739.7
Average lake depth (m)	2.7

Frequency that plant species occur in 10 evenly spaced transects around the lake.

<b><u>Common Name</u></b>	<b><u>Plant Species</u></b>	<b><u>Frequency (%)</u></b>
fragrant water-lily	<i>Nymphaea odorata</i>	100
spatterdock	<i>Nuphar luteum</i>	90
purple bladderwort	<i>Utricularia purpurea</i>	90
sawgrass	<i>Cladium jamaicense</i>	90
bladderwort	<i>Utricularia foliosa</i>	90
pickerelweed	<i>Pontederia cordata</i>	80
cone-spur bladderwort	<i>Utricularia gibba</i>	80
purple fanwort	<i>Cabomba pulcherrima</i>	80
water-pennywort	<i>Hydrocotyle umbellata</i>	70
hydrilla	<i>Hydrilla verticillata</i>	70
maidencane	<i>Panicum hemitomon</i>	70
duck-potato	<i>Sagittaria lancifolia</i>	60
slender spikerush	<i>Eleocharis baldwinii</i>	60
lemon bacopa	<i>Bacopa caroliniana</i>	60
variable-leaf milfoil	<i>Myriophyllum heterophyllum</i>	60
red root	<i>Lachnanthes caroliniana</i>	60
common salvinia	<i>Salvinia rotundifolia</i>	40
buttonbush	<i>Cephalanthus occidentalis</i>	40
yellow-eyed grass	<i>Xyris spp.</i>	40
smartweed	<i>Polygonum hydropiperoides</i>	30
cat-tail	<i>Typha spp.</i>	30
wax myrtle	<i>Myrica cerifera</i>	30
willow	<i>Salix spp.</i>	30
coontail	<i>Ceratophyllum demersum</i>	20
Illinois pondweed	<i>Potamogeton illinoensis</i>	20
water primrose	<i>Ludwigia octovalvis</i>	20
bald cypress	<i>Taxodium distichum</i>	20
.	<i>Nitella prolunga</i>	20
water-lettuce	<i>Pistia stratiotes</i>	10
alligator-weed	<i>Alternanthera philoxeroides</i>	10
water spinach	<i>Ipomoea aquatica</i>	10
banana-lily	<i>Nymphoides aquatica</i>	10
water-shield	<i>Brasenia schreberi</i>	10
American lotus	<i>Nelumbo lutea</i>	10
sedge family	<i>Cyperaceae</i>	10
southern cutgrass	<i>Leersia hexandra</i>	10

**Todd (Citrus County)  
Florida LAKEWATCH Bathymetric Map**



Florida LAKEWATCH personnel created this map using differentially corrected global positioning equipment (GPS). Data were collected July 2, 1996. Map contours are in feet and were generated using kriging technique in Surfer® software package (Golden Software, Golden CO). Due to the marsh-like conditions of the Tsala Apopka chain, this is only an approximate bathymetric map of the open water and should not be used for navigation. The center of the lake is located at Latitude 28°56'31" and Longitude 82°22'18". On this date, the lake surface area was calculated at 205 acres (83 hectares).

## Tsala Apopka (Citrus County) Florida LAKEWATCH Water Chemistry Summary

**Location:** Latitude 28°51'4", Longitude 82°17'53"

**Period of record:** 57 sampling dates; June 23, 1994 to March 14, 2001

**Surface Area** (LAKEWATCH 1996): 238 acres

**Lake Region** (Griffith et al. 1997): Tsala Apopka (75-12)

**Geologic formation** (Brooks 1981a):

The geology is dominated by limestone consisting of skeletons of fossils in a silt to sand size matrix of the Ocala Limestone Formation

**Physiographic region** (Brooks 1981b):

The lake lies in the Tsala Apopka Basin division of the Ocala Uplift District

### Supplemental water chemistry data

Data reported are means from 1 sampling date:

pH	7.3	Total alkalinity (mg/L as CaCO <sub>3</sub> )	47.3
Conductance (µS/cm @ 25 °C)	139	Color (Pt-Co units)	69
Chloride (mg/L)	15.2	Silicon (mg/L)	3.1
Sulfate (mg/L)	0.0	Calcium (mg/L)	19.3
Magnesium (mg/L)	1.7	Sodium (mg/L)	6.3
Potassium (mg/L)	1.0	Iron (mg/L)	0.1

### Periodic water chemistry data

Numbers reported below are the minimum, average, and maximum value for the 1 sampling date:

	<u>Minimum</u>	<u>Average</u>	<u>Maximum</u>
Long-term color concentrations (Pt-Co units)	21	21	21

### Long-term Florida LAKEWATCH Data

Numbers reported below are the minimum, average and maximum value for the 57 months sampled:

	<u>Minimum</u>	<u>Average</u>	<u>Maximum</u>
Long-term total phosphorus concentrations (µg/L)	12	21	71
Long-term total nitrogen concentrations (µg/L)	693	950	1267
Long-term total chlorophyll concentrations (µg/L)	2.3	8.7	20.7
Long-term Secchi depth (ft)	3.0	5.5	8.0

### 2001 Florida LAKEWATCH Data

Numbers reported below are monthly averages calculated from 3 stations for total phosphorus (TP, µg/L), total nitrogen (TN, µg/L), chlorophyll (CHL, µg/L) and Secchi depth (SECCHI, ft) during 2001:

<u>Date</u>	<u>TP (µg/L)</u>	<u>TN (µg/L)</u>	<u>CHL (µg/L)</u>	<u>SECCHI (ft)</u>
Mar-14	29	1243	11.7	3.5
2001 Average	29	1243	11.7	3.5

**Tsala Apopka (Citrus County)**  
**Florida LAKEWATCH Aquatic Plant Summary**

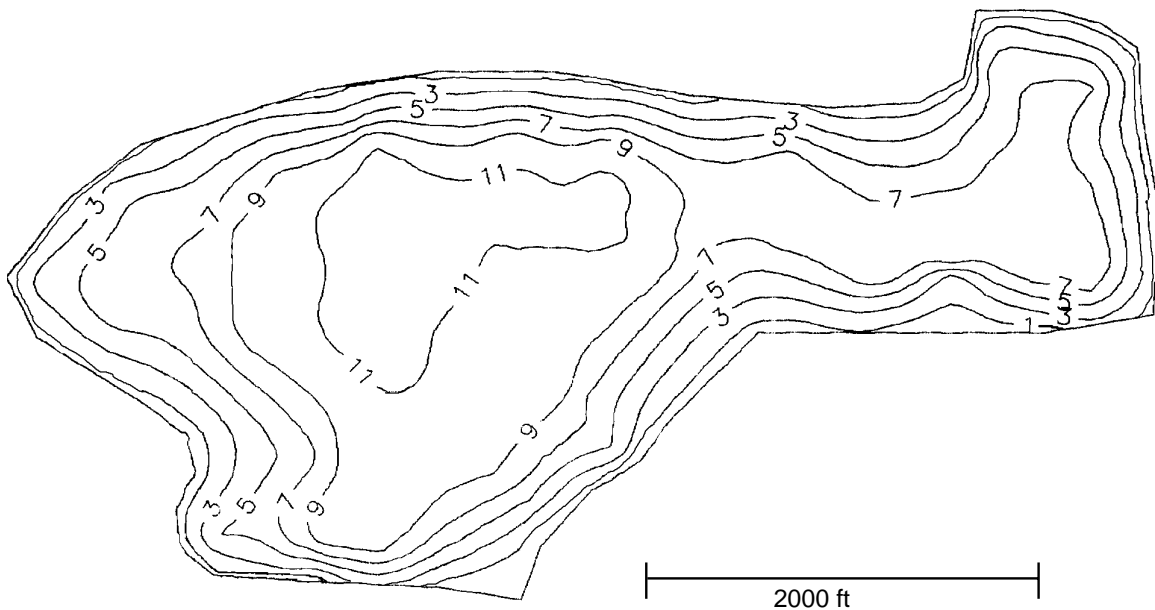
Aquatic plant data collected on August 14, 1996

Percent area covered with aquatic vegetation (PAC, %)	12.0
Percent of lake's volume filled with vegetation (PVI, %)	4.6
Average emergent plant biomass (kg wet wt/m <sup>2</sup> )	6.9
Average floating-leaved plant biomass (kg wet wt/m <sup>2</sup> )	3.8
Average submersed plant biomass (kg wet wt/m <sup>2</sup> )	0.3
Average width of emergent and floating-leaved zone (ft)	1529.9
Average lake depth (m)	2.8

Frequency that plant species occur in 10 evenly spaced transects around the lake.

<b><u>Common Name</u></b>	<b><u>Plant Species</u></b>	<b><u>Frequency (%)</u></b>
spatterdock	<i>Nuphar luteum</i>	100
slender spikerush	<i>Eleocharis baldwinii</i>	90
cat-tail	<i>Typha spp.</i>	90
common salvinia	<i>Salvinia rotundifolia</i>	80
alligator-weed	<i>Alternanthera philoxeroides</i>	80
water-pennywort	<i>Hydrocotyle umbellata</i>	80
cone-spur bladderwort	<i>Utricularia gibba</i>	80
maidencane	<i>Panicum hemitomon</i>	80
water primrose	<i>Ludwigia octovalvis</i>	70
smartweed	<i>Polygonum hydropiperoides</i>	60
coontail	<i>Ceratophyllum demersum</i>	60
floating water-hyacinth	<i>Eichhornia crassipes</i>	50
water spinach	<i>Ipomoea aquatica</i>	50
wax myrtle	<i>Myrica cerifera</i>	40
willow	<i>Salix spp.</i>	40
duck-potato	<i>Sagittaria lancifolia</i>	30
American lotus	<i>Nelumbo lutea</i>	30
pickerelweed	<i>Pontederia cordata</i>	30
buttonbush	<i>Cephalanthus occidentalis</i>	30
knot grass	<i>Paspalum distichum</i>	30
bald cypress	<i>Taxodium distichum</i>	30
lemon bacopa	<i>Bacopa caroliniana</i>	20
Illinois pondweed	<i>Potamogeton illinoensis</i>	20
torpedograss	<i>Panicum repens</i>	20
bladderwort	<i>Utricularia foliosa</i>	20
jointed flat sedge	<i>Cyperus haspan</i>	20
banana-lily	<i>Nymphoides aquatica</i>	10
red ludwigia	<i>Ludwigia repens</i>	10
purple bladderwort	<i>Utricularia purpurea</i>	10
salt-bush	<i>Baccharis spp.</i>	10
sawgrass	<i>Cladium jamaicense</i>	10
para grass	<i>Brachiaria mutica</i>	10
southern cutgrass	<i>Leersia hexandra</i>	10

**Tsala Apopka (Citrus County)  
Florida LAKEWATCH Bathymetric Map**



Florida LAKEWATCH personnel created this map using differentially corrected global positioning equipment (GPS). Data were collected August 14, 1996. Map contours are in feet and were generated using kriging technique in Surfer® software package (Golden Software, Golden CO). Due to the marsh-like conditions of the Tsala Apopka chain, this is only an approximate bathymetric map of the open water and should not be used for navigation. The center of the lake is located at Latitude 28°51'4" and Longitude 82°17'53". On this date, the lake surface area was calculated at 238 acres (96 hectares).

## Tsala Apopka South (Citrus County) Florida LAKEWATCH Water Chemistry Summary

**Location:** Latitude 28°46'10", Longitude 82°16'60"

**Period of record:** 49 sampling dates; November 20, 1995 to March 14, 2001

**Surface Area** (LAKEWATCH 1996): 337 acres

**Lake Region** (Griffith et al. 1997): Tsala Apopka (75-12)

**Geologic formation** (Brooks 1981a):

The geology is dominated by limestone consisting of skeletons of fossils in a silt to sand size matrix of the Ocala Limestone Formation

**Physiographic region** (Brooks 1981b):

The lake lies in the Tsala Apopka Basin division of the Ocala Uplift District

### Supplemental water chemistry data

Data reported are means from 1 sampling date:

pH	7.5	Total alkalinity (mg/L as CaCO <sub>3</sub> )	46.7
Conductance (µS/cm @ 25 °C)	138	Color (Pt-Co units)	127
Chloride (mg/L)	14.8	Silicon (mg/L)	1.0
Sulfate (mg/L)	2.7	Calcium (mg/L)	19.7
Magnesium (mg/L)	1.6	Sodium (mg/L)	6.0
Potassium (mg/L)	0.9	Iron (mg/L)	0.2

### Periodic water chemistry data

Numbers reported below are the minimum, average, and maximum value for the 1 sampling date:

	<u>Minimum</u>	<u>Average</u>	<u>Maximum</u>
Long-term color concentrations (Pt-Co units)	28	28	28

### Long-term Florida LAKEWATCH Data

Numbers reported below are the minimum, average and maximum value for the 49 months sampled:

	<u>Minimum</u>	<u>Average</u>	<u>Maximum</u>
Long-term total phosphorus concentrations (µg/L)	15	36	100
Long-term total nitrogen concentrations (µg/L)	577	959	1420
Long-term total chlorophyll concentrations (µg/L)	2.0	16.7	54.0
Long-term Secchi depth (ft)	1.5	3.1	5.0

### 2001 Florida LAKEWATCH Data

Numbers reported below are monthly averages calculated from 3 stations for total phosphorus (TP, µg/L), total nitrogen (TN, µg/L), chlorophyll (CHL, µg/L) and Secchi depth (SECCHI, ft) during 2001:

<u>Date</u>	<u>TP (µg/L)</u>	<u>TN (µg/L)</u>	<u>CHL (µg/L)</u>	<u>SECCHI (ft)</u>
Mar-14	74	1407	44.7	1.8
2001 Average	74	1407	44.7	1.8

**Tsala Apopka South (Citrus County)  
Florida LAKEWATCH Aquatic Plant Summary**

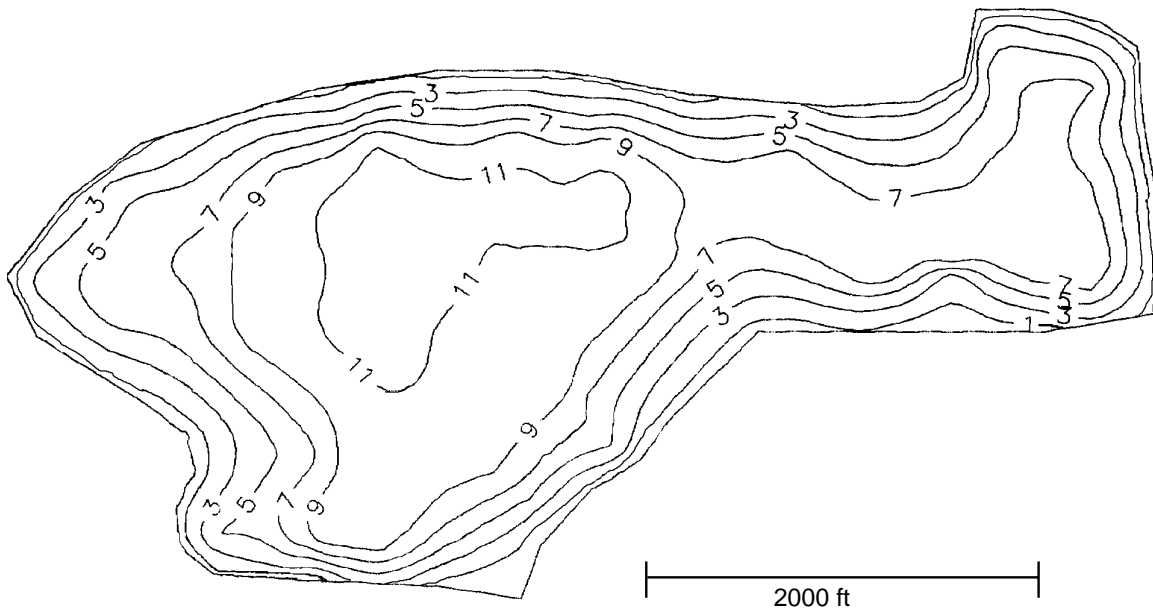
Aquatic plant data collected on June 26, 1996

Percent area covered with aquatic vegetation (PAC, %)	8.0
Percent of lake's volume filled with vegetation (PVI, %)	4.3
Average emergent plant biomass (kg wet wt/m <sup>2</sup> )	3.4
Average floating-leaved plant biomass (kg wet wt/m <sup>2</sup> )	3.4
Average submersed plant biomass (kg wet wt/m <sup>2</sup> )	0.0
Average width of emergent and floating-leaved zone (ft)	56.5
Average lake depth (m)	2.4

Frequency that plant species occur in 10 evenly spaced transects around the lake.

<b><u>Common Name</u></b>	<b><u>Plant Species</u></b>	<b><u>Frequency (%)</u></b>
alligator-weed	<i>Alternanthera philoxeroides</i>	90
water-pennywort	<i>Hydrocotyle umbellata</i>	90
smartweed	<i>Polygonum hydropiperoides</i>	80
common salvinia	<i>Salvinia rotundifolia</i>	70
maidencane	<i>Panicum hemitomon</i>	70
parrot's-feather	<i>Myriophyllum aquaticum</i>	60
cat-tail	<i>Typha spp.</i>	50
wax myrtle	<i>Myrica cerifera</i>	40
sedge family	<i>Cyperaceae</i>	30
para grass	<i>Brachiaria mutica</i>	30
giant duckweed	<i>Spirodela polyrhiza</i>	20
water spinach	<i>Ipomoea aquatica</i>	20
slender spikerush	<i>Eleocharis baldwinii</i>	20
American lotus	<i>Nelumbo lutea</i>	20
water primrose	<i>Ludwigia octovalvis</i>	20
buttonbush	<i>Cephalanthus occidentalis</i>	20
willow	<i>Salix spp.</i>	20
torpedograss	<i>Panicum repens</i>	20
bald cypress	<i>Taxodium distichum</i>	20
water-lettuce	<i>Pistia stratiotes</i>	10
common duckweed	<i>Lemna minor</i>	10
floating water-hyacinth	<i>Eichhornia crassipes</i>	10
azolla	<i>Azolla caroliniana</i>	10
spatterdock	<i>Nuphar luteum</i>	10
red ludwigia	<i>Ludwigia repens</i>	10
coontail	<i>Ceratophyllum demersum</i>	10
bladderwort family	<i>Lentibulariaceae</i>	10
salt-bush	<i>Baccharis spp.</i>	10
carex sedge	<i>Carex spp.</i>	10
knot grass	<i>Paspalum distichum</i>	10

**Tsala Apopka South (Citrus County)  
Florida LAKEWATCH Bathymetric Map**



Florida LAKEWATCH personnel created this map using differentially corrected global positioning equipment (GPS). Data were collected June 26, 1996. Map contours are in feet and were generated using kriging technique in Surfer® software package (Golden Software, Golden CO). Due to the marsh-like conditions of the Tsala Apopka chain, this is only an approximate bathymetric map of the open water and should not be used for navigation. The center of the lake is located at Latitude 28°46'10" and Longitude 82°16'60". On this date, the lake surface area was calculated at 337 acres (136 hectares).

## Tussock (Citrus County) Florida LAKEWATCH Water Chemistry Summary

**Location:** Latitude 28°47'18", Longitude 82°16'38"

**Period of record:** 40 sampling dates; November 20, 1995 to December 10, 1999

**Lake Region** (Griffith et al. 1997): Tsala Apopka (75-12)

**Geologic formation** (Brooks 1981a):

The geology is dominated by limestone consisting of skeletons of fossils in a silt to sand size matrix of the Ocala Limestone Formation

**Physiographic region** (Brooks 1981b):

The lake lies in the Tsala Apopka Basin division of the Ocala Uplift District

### Long-term Florida LAKEWATCH Data

Numbers reported below are the minimum, average and maximum value for the 40 months sampled:

	<u>Minimum</u>	<u>Average</u>	<u>Maximum</u>
Long-term total phosphorus concentrations (µg/L)	15	34	110
Long-term total nitrogen concentrations (µg/L)	667	990	1680
Long-term total chlorophyll concentrations (µg/L)	2.3	23.3	98.0
Long-term Secchi depth (ft)	1.5	3.1	5.0

### 2001 Florida LAKEWATCH Data

No samples collected in 2001

## Van Ness (Citrus County) Florida LAKEWATCH Water Chemistry Summary

**Location:** Latitude 28°53'22", Longitude 82°19'15"

**Period of record:** 56 sampling dates; August 23, 1991 to January 29, 2000

**Lake Region** (Griffith et al. 1997): Tsala Apopka (75-12)

**Geologic formation** (Brooks 1981a):

The geology is dominated by limestone consisting of skeletons of fossils in a silt to sand size matrix of the Ocala Limestone Formation

**Physiographic region** (Brooks 1981b):

The lake lies in the Tsala Apopka Basin division of the Ocala Uplift District

### Supplemental water chemistry data

Data reported are means from 1 sampling date:

pH	7.5	Total alkalinity (mg/L as CaCO <sub>3</sub> )	45.7
Conductance (µS/cm @ 25 °C)	134	Color (Pt-Co units)	24
Chloride (mg/L)	16.0		
Sulfate (mg/L)	0.5		

### Long-term Florida LAKEWATCH Data

Numbers reported below are the minimum, average and maximum value for the 56 months sampled:

	<u>Minimum</u>	<u>Average</u>	<u>Maximum</u>
Long-term total phosphorus concentrations (µg/L)	4	9	16
Long-term total nitrogen concentrations (µg/L)	507	689	1363
Long-term total chlorophyll concentrations (µg/L)	0.7	3.2	8.0
Long-term Secchi depth (ft)	3.0	6.1	8.0

### 2001 Florida LAKEWATCH Data

No samples collected in 2001

**Van Ness (Citrus County)**  
**Florida LAKEWATCH Aquatic Plant Summary**

Aquatic plant data collected on August 11, 1993

Percent area covered with aquatic vegetation (PAC, %)	82.0
Percent of lake's volume filled with vegetation (PVI, %)	11.0
Average emergent plant biomass (kg wet wt/m <sup>2</sup> )	2.2
Average floating-leaved plant biomass (kg wet wt/m <sup>2</sup> )	2.1
Average submersed plant biomass (kg wet wt/m <sup>2</sup> )	4.3
Average width of emergent and floating-leaved zone (ft)	261.0
Average lake depth (m)	1.8

Frequency that plant species occur in 10 evenly spaced transects around the lake.

<b><u>Common Name</u></b>	<b><u>Plant Species</u></b>	<b><u>Frequency (%)</u></b>
fragrant water-lily	<i>Nymphaea odorata</i>	100
bladderwort	<i>Utricularia foliosa</i>	100
duck-potato	<i>Sagittaria lancifolia</i>	90
water primrose	<i>Ludwigia octovalvis</i>	80
sawgrass	<i>Cladium jamaicense</i>	80
slender spikerush	<i>Eleocharis baldwinii</i>	70
spatterdock	<i>Nuphar luteum</i>	70
pickerelweed	<i>Pontederia cordata</i>	70
cone-spur bladderwort	<i>Utricularia gibba</i>	70
purple bladderwort	<i>Utricularia purpurea</i>	70
maidencane	<i>Panicum hemitomon</i>	70
bald cypress	<i>Taxodium distichum</i>	70
water-pennywort	<i>Hydrocotyle umbellata</i>	60
Illinois pondweed	<i>Potamogeton illinoensis</i>	60
variable-leaf milfoil	<i>Myriophyllum heterophyllum</i>	50
cat-tail	<i>Typha spp.</i>	40
purple fanwort	<i>Cabomba pulcherrima</i>	40
buttonbush	<i>Cephalanthus occidentalis</i>	40
red root	<i>Lachnanthes caroliniana</i>	40
red ludwigia	<i>Ludwigia repens</i>	30
willow	<i>Salix spp.</i>	20
yellow-eyed grass	<i>Xyris spp.</i>	20
banana-lily	<i>Nymphoides aquatica</i>	10
smartweed	<i>Polygonum hydropiperoides</i>	10
lemon bacopa	<i>Bacopa caroliniana</i>	10
tapegrass	<i>Vallisneria americana</i>	10
southern naiad	<i>Najas guadalupensis</i>	10
barnyard grass	<i>Echinochloa crusgalli</i>	10
rush fuirena	<i>Fuirena scirpoidea</i>	10
knot grass	<i>Paspalum distichum</i>	10
.	<i>Nitella prolunga</i>	10

## Withlacoochee River-1 (Citrus County) Florida LAKEWATCH Water Chemistry Summary

**Location:** Latitude 29°1'18", Longitude 82°38'47"

**Period of record:** 123 sampling dates; March 15, 1990 to March 28, 2001

**Geologic formation** (Brooks 1981a):

The geology is dominated by limestone consisting of skeletons of fossils in a silt to sand size matrix of the Ocala Limestone Formation

**Physiographic region** (Brooks 1981b):

The lake lies in the Tsala Apopka Basin division of the Ocala Uplift District

**Periodic water chemistry data**

Numbers reported below are the minimum, average, and maximum value for the 1 sampling date:

	<u>Minimum</u>	<u>Average</u>	<u>Maximum</u>
Long-term color concentrations (Pt-Co units)	3	3	3

### Long-term Florida LAKEWATCH Data

Numbers reported below are the minimum, average and maximum value for the 123 months sampled:

	<u>Minimum</u>	<u>Average</u>	<u>Maximum</u>
Long-term total phosphorus concentrations (µg/L)	12	41	138
Long-term total nitrogen concentrations (µg/L)	180	566	1210
Long-term total chlorophyll concentrations (µg/L)	0.0	2.8	18.0
Long-term Secchi depth (ft)	2.0	7.5	14.0

### 2001 Florida LAKEWATCH Data

Numbers reported below are monthly averages calculated from 1 station for total phosphorus (TP, µg/L), total nitrogen (TN, µg/L), chlorophyll (CHL, µg/L) and Secchi depth (SECCHI, ft) during 2001:

<u>Date</u>	<u>TP (µg/L)</u>	<u>TN (µg/L)</u>	<u>CHL (µg/L)</u>	<u>SECCHI (ft)</u>
Jan-19	13	380	2.0	.
Feb-27	23	290	2.0	.
Mar-28	20	250	4.0	.
2001 Average	19	307	2.7	.

## Withlacoochee River-2 (Citrus County) Florida LAKEWATCH Water Chemistry Summary

**Location:** Latitude 29°1'27", Longitude 82°39'44"

**Period of record:** 134 sampling dates; March 15, 1990 to March 28, 2001

**Geologic formation** (Brooks 1981a):

The geology is dominated by limestone consisting of skeletons of fossils in a silt to sand size matrix of the Ocala Limestone Formation

**Physiographic region** (Brooks 1981b):

The lake lies in the Tsala Apopka Basin division of the Ocala Uplift District

**Supplemental water chemistry data**

Data reported are means from 1 sampling date:

pH	8.0	Total alkalinity (mg/L as CaCO <sub>3</sub> )	90.0
Conductance (µS/cm @ 25 °C)	265	Color (Pt-Co units)	10
Chloride (mg/L)	9.0		

**Periodic water chemistry data**

Numbers reported below are the minimum, average, and maximum value for the 1 sampling date:

	<u>Minimum</u>	<u>Average</u>	<u>Maximum</u>
Long-term color concentrations (Pt-Co units)	3	3	3

### Long-term Florida LAKEWATCH Data

Numbers reported below are the minimum, average and maximum value for the 134 months sampled:

	<u>Minimum</u>	<u>Average</u>	<u>Maximum</u>
Long-term total phosphorus concentrations (µg/L)	12	41	127
Long-term total nitrogen concentrations (µg/L)	170	601	1630
Long-term total chlorophyll concentrations (µg/L)	0.0	2.4	19.0
Long-term Secchi depth (ft)	1.0	6.9	21.0

### 2001 Florida LAKEWATCH Data

Numbers reported below are monthly averages calculated from 1 station for total phosphorus (TP, µg/L), total nitrogen (TN, µg/L), chlorophyll (CHL, µg/L) and Secchi depth (SECCHI, ft) during 2001:

<u>Date</u>	<u>TP (µg/L)</u>	<u>TN (µg/L)</u>	<u>CHL (µg/L)</u>	<u>SECCHI (ft)</u>
Jan-19	14	440	1.0	.
Feb-27	26	310	1.0	.
Mar-28	19	300	1.0	.
2001 Average	20	350	1.0	.

## Withlacoochee River-3 (Citrus County) Florida LAKEWATCH Water Chemistry Summary

**Location:** Latitude 29°1'59", Longitude 82°41'37"

**Period of record:** 132 sampling dates; March 15, 1990 to March 28, 2001

**Geologic formation** (Brooks 1981a):

The geology is dominated by limestone consisting of skeletons of fossils in a silt to sand size matrix of the Ocala Limestone Formation

**Physiographic region** (Brooks 1981b):

The lake lies in the Tsala Apopka Basin division of the Ocala Uplift District

**Periodic water chemistry data**

Numbers reported below are the minimum, average, and maximum value for the 1 sampling date:

	<u>Minimum</u>	<u>Average</u>	<u>Maximum</u>
Long-term color concentrations (Pt-Co units)	3	3	3

### Long-term Florida LAKEWATCH Data

Numbers reported below are the minimum, average and maximum value for the 132 months sampled:

	<u>Minimum</u>	<u>Average</u>	<u>Maximum</u>
Long-term total phosphorus concentrations (µg/L)	12	43	139
Long-term total nitrogen concentrations (µg/L)	230	608	1330
Long-term total chlorophyll concentrations (µg/L)	1.0	2.5	22.0
Long-term Secchi depth (ft)	2.0	9.6	18.6

### 2001 Florida LAKEWATCH Data

Numbers reported below are monthly averages calculated from 1 station for total phosphorus (TP, µg/L), total nitrogen (TN, µg/L), chlorophyll (CHL, µg/L) and Secchi depth (SECCHI, ft) during 2001:

<u>Date</u>	<u>TP (µg/L)</u>	<u>TN (µg/L)</u>	<u>CHL (µg/L)</u>	<u>SECCHI (ft)</u>
Jan-19	17	500	2.0	.
Feb-27	24	280	1.0	.
Mar-28	19	260	2.0	.
2001 Average	20	347	1.7	.

## Withlacoochee River-4 (Citrus County) Florida LAKEWATCH Water Chemistry Summary

**Location:** Latitude 29°1'52", Longitude 82°42'46"

**Period of record:** 127 sampling dates; March 15, 1990 to March 28, 2001

**Geologic formation** (Brooks 1981a):

The geology is dominated by limestone consisting of skeletons of fossils in a silt to sand size matrix of the Ocala Limestone Formation

**Physiographic region** (Brooks 1981b):

The lake lies in the Tsala Apopka Basin division of the Ocala Uplift District

**Periodic water chemistry data**

Numbers reported below are the minimum, average, and maximum value for the 1 sampling date:

	<u>Minimum</u>	<u>Average</u>	<u>Maximum</u>
Long-term color concentrations (Pt-Co units)	3	3	3

### Long-term Florida LAKEWATCH Data

Numbers reported below are the minimum, average and maximum value for the 127 months sampled:

	<u>Minimum</u>	<u>Average</u>	<u>Maximum</u>
Long-term total phosphorus concentrations (µg/L)	13	42	113
Long-term total nitrogen concentrations (µg/L)	240	606	1420
Long-term total chlorophyll concentrations (µg/L)	0.0	2.5	15.0
Long-term Secchi depth (ft)	2.0	9.4	20.5

### 2001 Florida LAKEWATCH Data

Numbers reported below are monthly averages calculated from 1 station for total phosphorus (TP, µg/L), total nitrogen (TN, µg/L), chlorophyll (CHL, µg/L) and Secchi depth (SECCHI, ft) during 2001:

<u>Date</u>	<u>TP (µg/L)</u>	<u>TN (µg/L)</u>	<u>CHL (µg/L)</u>	<u>SECCHI (ft)</u>
Jan-19	14	420	3.0	.
Feb-27	25	310	2.0	.
Mar-28	25	290	5.0	13.0
2001 Average	21	340	3.3	13.0

## Withlacoochee River-5 (Citrus County) Florida LAKEWATCH Water Chemistry Summary

**Location:** Latitude 29°1'11", Longitude 82°43'37"

**Period of record:** 125 sampling dates; March 15, 1990 to March 28, 2001

**Geologic formation** (Brooks 1981a):

The geology is dominated by limestone consisting of skeletons of fossils in a silt to sand size matrix of the Ocala Limestone Formation

**Physiographic region** (Brooks 1981b):

The lake lies in the Tsala Apopka Basin division of the Ocala Uplift District

**Periodic water chemistry data**

Numbers reported below are the minimum, average, and maximum value for the 1 sampling date:

	<u>Minimum</u>	<u>Average</u>	<u>Maximum</u>
Long-term color concentrations (Pt-Co units)	5	5	5

### Long-term Florida LAKEWATCH Data

Numbers reported below are the minimum, average and maximum value for the 125 months sampled:

	<u>Minimum</u>	<u>Average</u>	<u>Maximum</u>
Long-term total phosphorus concentrations (µg/L)	15	44	120
Long-term total nitrogen concentrations (µg/L)	220	607	1380
Long-term total chlorophyll concentrations (µg/L)	0.0	2.8	14.0
Long-term Secchi depth (ft)	1.8	9.9	22.0

### 2001 Florida LAKEWATCH Data

Numbers reported below are monthly averages calculated from 1 station for total phosphorus (TP, µg/L), total nitrogen (TN, µg/L), chlorophyll (CHL, µg/L) and Secchi depth (SECCHI, ft) during 2001:

<u>Date</u>	<u>TP (µg/L)</u>	<u>TN (µg/L)</u>	<u>CHL (µg/L)</u>	<u>SECCHI (ft)</u>
Jan-19	25	590	5.0	14.5
Feb-27	30	390	3.0	12.0
Mar-28	33	320	3.0	5.5
2001 Average	29	433	3.7	10.7