

LAKE ASSESSMENT REPORT

GOLDEN LAKE

6 /18/2001

Lake assessments are being conducted to contribute physical and ecological data to the Atlas as a collaborative effort between project partners. The goal is to rapidly assess many of the lakes in the county and thus provide stakeholders a better understanding of the character of the lake, its shore, and the aquatic plants present there. These data are intended to assist in the future management of the lake and its watershed.

The first section of the report provides the results of the bottom mapping effort: a contour (bathymetric) map of the lake, area, volume and depth statistics, and the water level at the time of assessment (if available).

The second section provides the results of the ecological (vegetation) assessment conducted on the lake. These results can be used to better manage vegetation in the lake. A list is provided with the different plant species found at various sites around the lake. Potentially invasive, exotic (non-native) species are identified in a plant list and the percent of exotics is presented in a summary table. The results of this study are compared with other lakes in the watershed.

The intent of the assessment is to provide a starting point from which to track changes in the lake. These data can provide the information needed to determine changes and to monitor trends in physical condition and ecological health of the lake.

I. Physical Data – Area, Depth, Volume, & Bottom Contours

The bottom of the lake was mapped using a Global Positioning System (GPS) to determine the boat's position, and a depth-finder to provide depth associated with that measured position. The result is an estimate of the lake's area, mean and maximum depths, and volume (Table 1) and the creation of a bottom contour map. *NOTE: This map is for recreational purposes only.*

Table 1. Physical Characteristics of the Lake

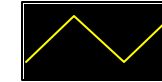
Surface Area (acres):	36
Mean Depth (feet):	4.6
Maximum Depth (feet):	19.5
Volume (gallons):	54,886,728



The lake assessments are created in partnership with Seminole County and the Florida Center for Community Design and Research. If you have any questions, please use the "Contact Us" form on the Seminole Atlas Website (www.seminole.wateratlas.org).

Golden Lake

Section - Township - Range
8 - 20 - 31



Contour Lines
Expressed in
2-Foot Intervals



Estimated Lake
Perimeter

EXPLANATION:

Assessment Date: June 18, 2001.

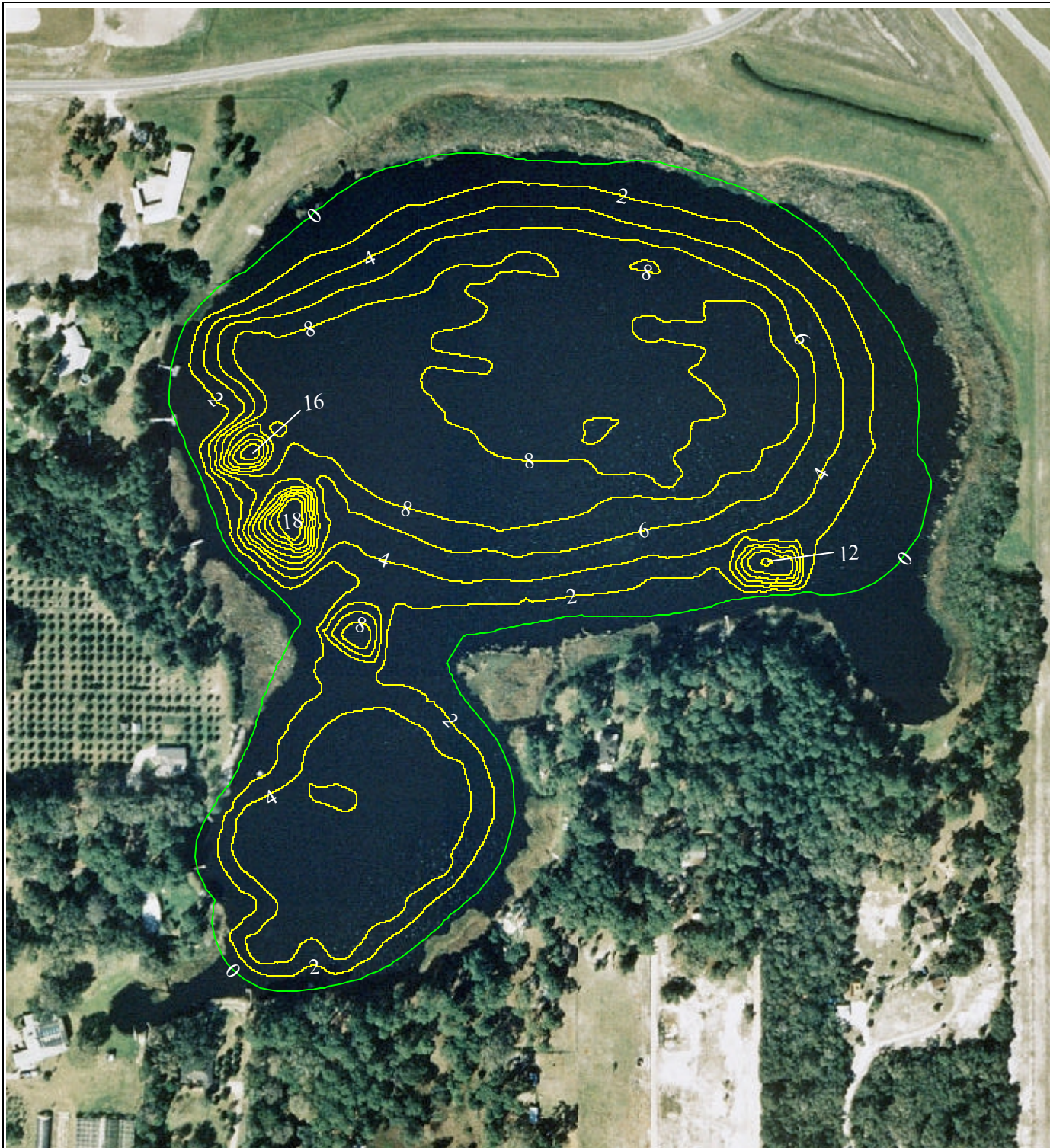
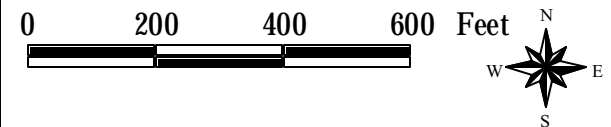
Lake water level was 35 ft. above sea level when the lake was assessed. Contours are expressed in absolute depth below this level.

DATA SOURCES:

Seminole County 1999 color aerials provided by Seminole County Public Works. All contours generated by Florida Center for Community Design and Research based on GPS/Sonar data provided by the Seminole County Stormwater Division.

NOTE:

Due to significantly low lake levels at the time of the lake assessment, the mapped lake perimeter does not match the aerial image.



II. Ecological Data - Aquatic Plant Survey

Approximately equispaced sites (typically ten or more) are mapped around the lake and the aquatic plants at each site are surveyed. The total number of species from all sites is used to approximate the total diversity of aquatic plants and the percent of invasive-exotic plants on the lake and in the watershed (Table 2). Many of these plants are considered ecologically harmful, as they tend to out-compete beneficial native species. Such “nuisance” plants can also make boating and other recreational activities difficult or impossible. The common and scientific names of plant species found on your lake are listed in Table 3.

Table 2. Comparison of species diversity between the lake and other assessed lakes located within the same watershed

	<u>Lake</u> GOLDEN LAKE	<u>Watershed</u> Lake Jesup (Average)
Number of Taxa:	33	32
Percent Exotic Plants:	6%	15%

Table 3. Botanical and common names of the most commonly found plants on the lake. Percent frequency (of occurrence), habit (location where found), status (native or exotic), and EPPC status are provided

Common Name	Scientific Name	Frequency	Habit	Status	EPPC
Water Hyacinth	Eichsornia crassipes	90%	Floating	Exotic	I
Baldwin's Spikerush, Roadgrass	Eleocharis baldwinii	90%	Submersed	Native	NL
Mexican Primrosewillow, Long-stalked Lud	Ludwigia octovalvis	90%	Emergent	Native	NL
Climbing Hempvine	Mikania scandens	90%	Emergent	Native	NL
Cattails	Typha spp.	90%	Emergent	Native	NL
Unidentified Plant Species	UNKNOWN SPP	90%	Unknown	Unknown	Unknow
Manyflower Marshpennywort, Water Penny	Hydrocotyl umbellata	80%	Emergent	Native	NL
Algal Mats, Floating	Algal spp.	70%	Floating	Unknown	Unknow
Aster spp., Elliot's Aster	Aster spp.	70%	Unknown	Unknown	Unknow
Fragrant Flatsedge	Cyperus odoratus	70%	Emergent	Native	NL
Marsh Fleabane, Camphorweed	Pluchea spp.	70%	Emergent	Native	NL
Peruvian Primrosewillow	Ludwigia peruviana	50%	Emergent	Exotic	NL
Arrowhead	Sagittaria spp.	50%	Emergent	Native	NL
Sedge	Cyperus spp.	30%	Emergent	Unknown	NL
Bighead Rush	Juncus megacephalus	30%	Emergent	Native	NL
Panic Grasses	Panicum spp.	30%	Emergent	Unknown	NL
Smartweed, Knotweed	Polygonum spp.	30%	Emergent	Native	NL
Water Spangles, Water Fern	Salvinia minima	30%	Floating	Native	NL

Yellow-eyed Grass	Xyris spp.	30%	Emergent	Native	NL
Southern Umbrellasedge	Fuirena scirpoidea	20%	Emergent	Native	NL
Rush Fuirena	Fuirena spp.	20%	Emergent	Native	NL
Waterspider False Reinorchid	Habenaria repens	20%	Emergent	Native	NL
Spatterdock, Yellow Pondlily	Nuphar lutea	20%	Floating	Native	NL
Pickereel Weed	Pontederia cordata	20%	Emergent	Native	NL
Bladderwort	Utricularia spp.	20%	Submersed	Native	NL
Lemon Bacopa	Bacopa caroliniana	10%	Submersed	Native	NL
Bur Marigold	Bidens spp.	10%	Emergent	Native	NL
Yerba De Tajo	Eclipta alba	10%	Emergent	Native	NL
Soft Rush	Juncus effusus var solutus	10%	Emergent	Native	NL
Creeping Primrosewillow, Red Ludwigia	Ludwigia repens	10%	Emergent	Native	NL
Wax Myrtle	Myrica cerifera	10%	Emergent	Native	NL
Beaksedge, Beakrush	Rhynchospora spp.	10%	Emergent	Unknown	NL
Burhead Sedge, Cuban Scirpus	Scirpus cubensis	10%	Emergent	Native	NL