LAKE ASSESSMENT REPORT
DEEP LAKE
8 /10/2001

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.

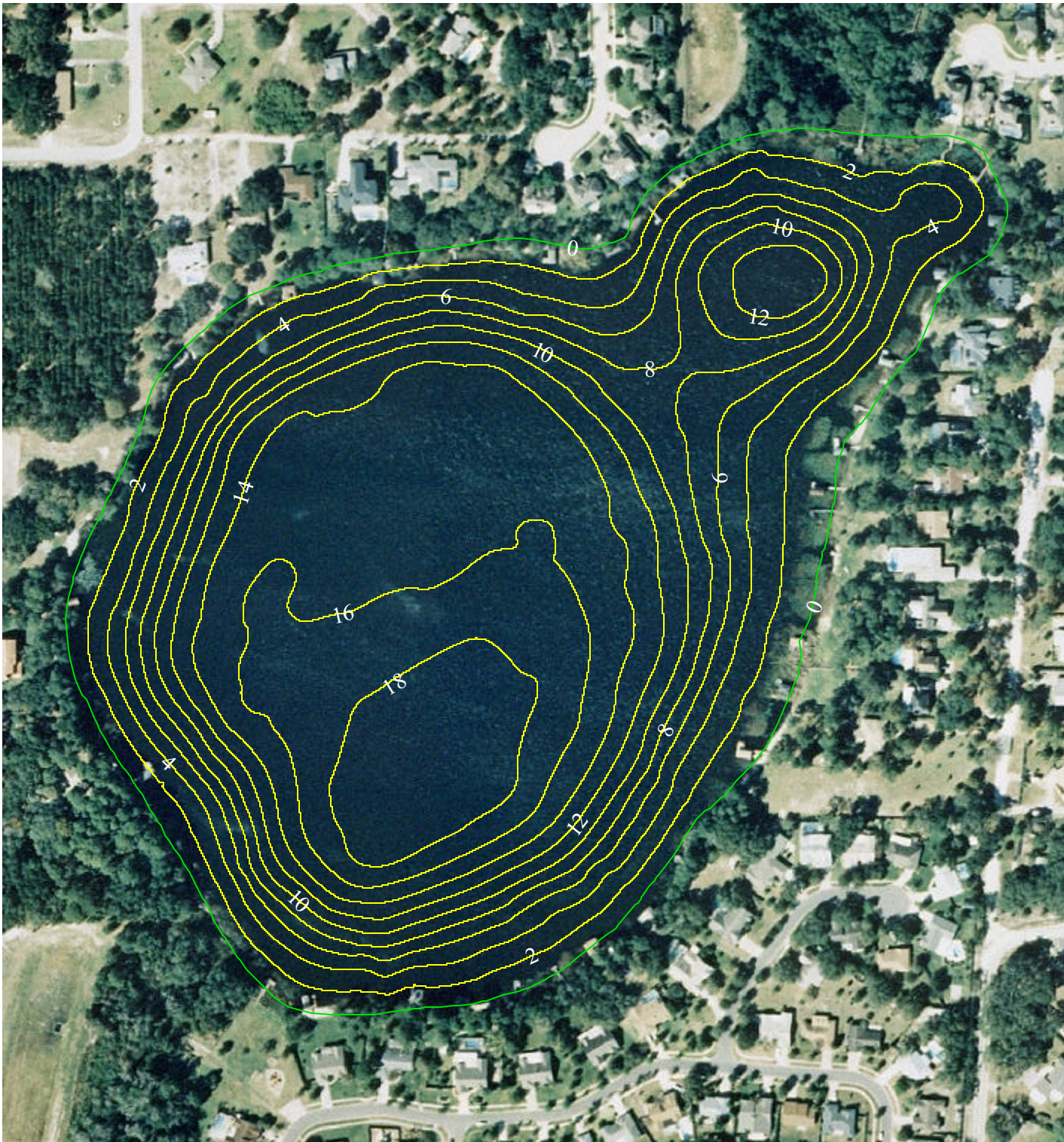## I. Physical Data – Area, Depth, Volume, & Bottom Contours

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):	43
Mean Depth (feet):	9.5
Maximum Depth (feet):	19.9
Volume (gallons):	131,624,702

Deep Lake

Section - Township - Range
31-21-31
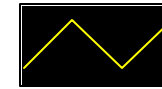
Contour Lines
Expressed in
2-Foot Intervals

Estimated Lake
Perimeter

EXPLANATION:

Assessment Date: 8/10/2001.

Lake water level was 53 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.

N
W   E
S

0   200   400   600 Feet

Seminole County

University of
South Florida
USF

FCDR

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

	Lake DEEP LAKE	**Watershed** Howell Creek
	(Average)	
Number of Taxa:	32	42
Percent Exotic Plants:	13%	17%

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

Common Name	Scientific Name	Frequency	Habit	Status	EPPC
American White Water Lily, Fragrant Water	Nymphea odorata	100%	Floating	Native	NL
Panic Grasses	Panicum spp.	100%	Emergent	Unknown	NL
Peruvian Primrosewillow	Ludwigia peruviana	91%	Emergent	Exotic	NL
Pickerel Weed	Pontederia cordata	82%	Emergent	Native	NL
Southern Umbrellasedge	Fuirena scirpoidea	73%	Emergent	Native	NL
Jamaica Swamp Saw Grass	Cladium jamaicense	55%	Emergent	Native	NL
Bighead Rush	Juncus megacephalus	55%	Emergent	Native	NL
Aster spp., Elliot's Aster	Aster spp.	45%	Unknown	Unknown	Unknow
Climbing Hempvine	Mikania scandens	45%	Emergent	Native	NL
Torpedo Grass	Panicum repens	45%	Emergent	Exotic	I
Cattails	Typha spp.	45%	Emergent	Native	NL
Fragrant Flatsedge	Cyperus odoratus	27%	Emergent	Native	NL
Mexican Primrosewillow, Long-stalked Lud	Ludwigia octovalvis	27%	Emergent	Native	NL
Pine Tree	Pinus spp.	27%	Emergent	Native	NL
Marsh Fleabane,Camphorweed	Pluchea spp.	27%	Emergent	Native	NL
Unidentified Plant Species	UNKNOWN SPP	27%	Unknown	Unknown	Unknow
Bog Hemp, False Nettle	Boehmeria cylindrica	18%	Emergent	Native	NL
Baldwin's Spikerush, Roadgrass	Eleocharis baldwinii	18%	Submersed	Native	NL

Hydrilla, waterthyme	Hydrilla verticillata	18%	Submersed	Exotic	I
Wax Myrtle	Myrica cerifera	18%	Emergent	Native	NL
Spatterdock, Yellow Pondlily	Nuphar lutea	18%	Floating	Native	NL
Common Bacopa	Bacopa monnieri	9%	Submersed	Native	NL
Asian Pennywort, Coinwort	Centella asiatica	9%	Emergent	Native	NL
Buttonbush	Cephalanthus occidentalis	9%	Emergent	Native	NL
Sedge	Cyperus spp.	9%	Emergent	Unknown	NL
Shore Rush, Grassleaf Rush	Juncus marginatus	9%	Emergent	Native	NL
Cinnamon Fern	Osmunda cinnamomea	9%	Emergent	Native	NL
Royal Fern	Osmunda regalis	9%	Emergent	Native	NL
Maidencane	Panicum hemitomon	9%	Emergent	Native	NL
Willow	Salix spp.	9%	Emergent	Native	NL
Chinese Tallow Tree	Sapium sebiferum	9%	Emergent	Exotic	I
Bald Cypress	Taxodium distichum	9%	Emergent	Native	NL