

# Lake Assessment Report

## MARY, LITTLE LAKE

### 6/17/2003

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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.*

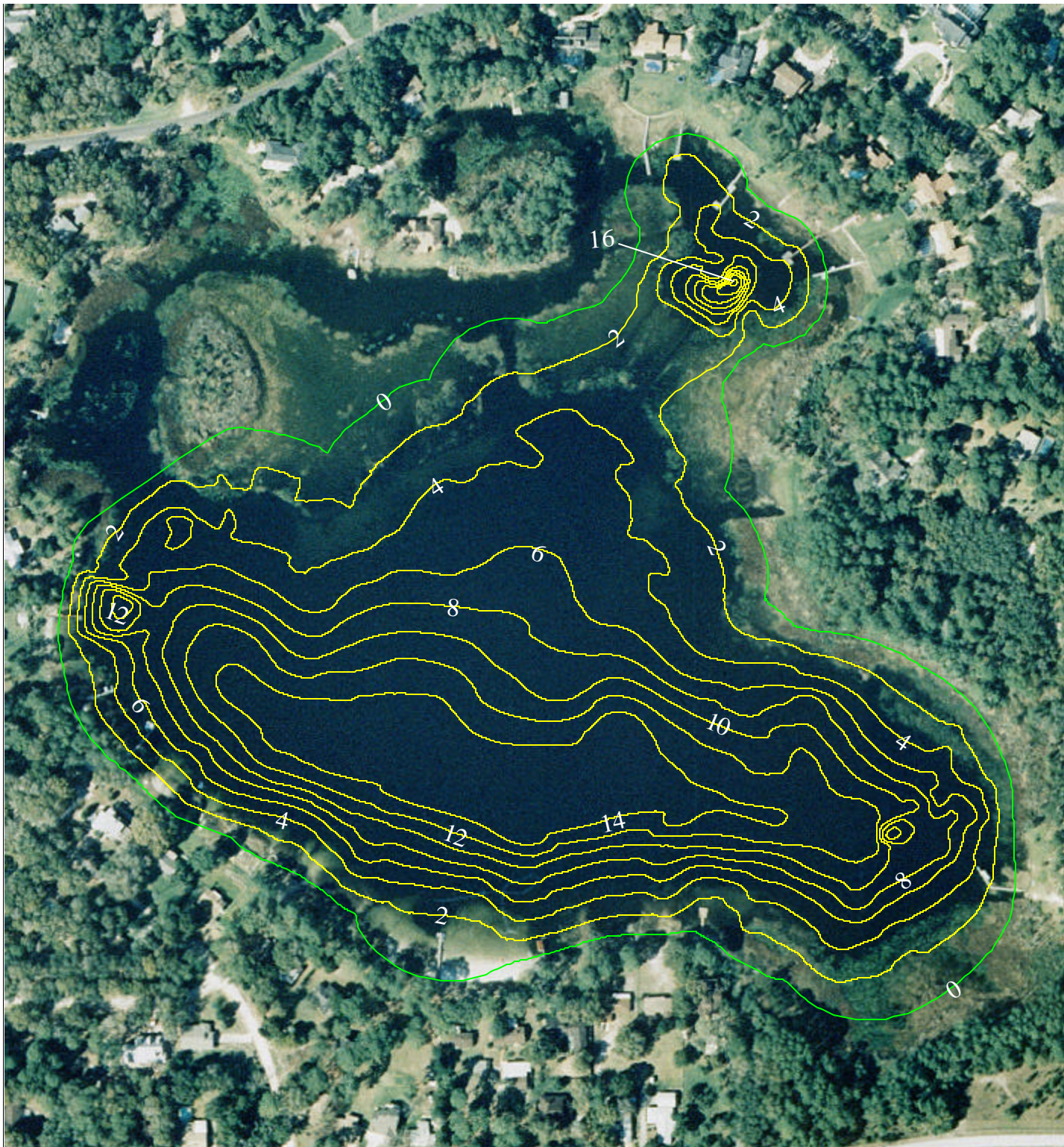
**Table 1: Physical Characteristics of the Lake**

Surface Area (acres):	<u>41.90</u>
Mean Depth (feet):	<u>6.10</u>
Maximum Depth (feet):	<u>16.60</u>
Volume (gallons):	<u>83,793,662</u>



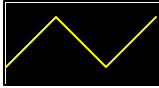

*The lake assessments are created in partnership with Seminole County and the Florida Center for Community Design and Research at USF. If you have any questions, please use the "Contact Us" form on the Seminole Atlas Website ([www.seminole.wateratlas.org](http://www.seminole.wateratlas.org))*





# Little Lake Mary

Section - Township - Range  
15 & 16 - 20 - 30

-  Contour Lines  
Expressed in  
2-Foot Intervals
-  Lake Perimeter  
Ground Level

## EXPLANATION:

Survey Date: June 17, 2003.

Lake water level is represented as being 40.95 above sea level when the lake was assessed. Contours are expressed in absolute depth below this level and may not exclude the presence of submerged aquatic vegetation.

## DATA SOURCES:

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



## 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> MARY, LITTLE LAKE (Average)	<u>Watershed</u> Lake Jesup
Number of Taxa:	30	31
Percent Exotic Plants:	23%	18%

**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
Mexican Primrosewillow, Long-stalked Ludwigia	Ludwigia octovalvis	100%	Emergent	Native	NL
Southern Umbrellasedge	Fuirena scirpoidea	90%	Emergent	Native	NL
Torpedo Grass	Panicum repens	90%	Emergent	Exotic	I
American White Water Lily, Fragrant Water Lily	Nymphaea odorata	80%	Floating	Native	NL
Southern Red Maple	Acer rubrum	70%	Emergent	Native	NL
Buttonbush	Cephalanthus occidentalis	60%	Emergent	Native	NL
Fragrant Flatsedge	Cyperus odoratus	60%	Emergent	Native	NL
Sedge	Cyperus spp.	60%	Emergent	Unknown	NL
Manyflower Marshpennywort, Water Pennywort	Hydrocotyl umbellata	60%	Emergent	Native	NL
Pickereel Weed	Pontederia cordata	60%	Emergent	Native	NL
Sedge	Carex spp.	50%	Emergent	Unknown	Unknown
Wax Myrtle	Myrica cerifera	50%	Emergent	Native	NL
Maidencane	Panicum hemitomon	40%	Emergent	Native	NL
Algal Mats, Floating	Algal spp.	30%	Floating	Unknown	Unknown



Carolina Redroot	Lachnanthes caroliniana	30%	Emergent	Native	NL
Pine Tree	Pinus spp.	30%	Emergent	Native	NL
Common Bacopa	Bacopa monnieri	20%	Submersed	Native	NL
Jamaica Swamp Saw Grass	Cladium jamaicense	20%	Emergent	Native	NL
Umbrella Flat Sedge	Cyperus alternifolius	20%	Emergent	Exotic	II
Punk Tree, Melaleuca	Melaleuca quinquenervia	20%	Emergent	Exotic	I
Marsh Fleabane, Camphorweed	Pluchea spp.	20%	Emergent	Native	NL
Carolina Willow	Salix caroliniana	20%	Emergent	Native	NL
Bald Cypress	Taxodium distichum	20%	Emergent	Native	NL
Para Grass	Urochloa mutica	20%	Emergent	Exotic	I
Creeping Oxeye	Wedelia trilobata	20%	Emergent	Exotic	II
Canna	Canna spp.	10%	Emergent	Exotic	NL
Dahoon Holly	Ilex cassine	10%	Emergent	Native	NL
Smartweed, Knotweed	Polygonum spp.	10%	Emergent	Native	NL
Chinese Tallow Tree	Sapium sebiferum	10%	Emergent	Exotic	I
Cattails	Typha spp.	10%	Emergent	Native	NL