

LAKE ASSESSMENT REPORT

RUTH, LAKE

7 /25/2002

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

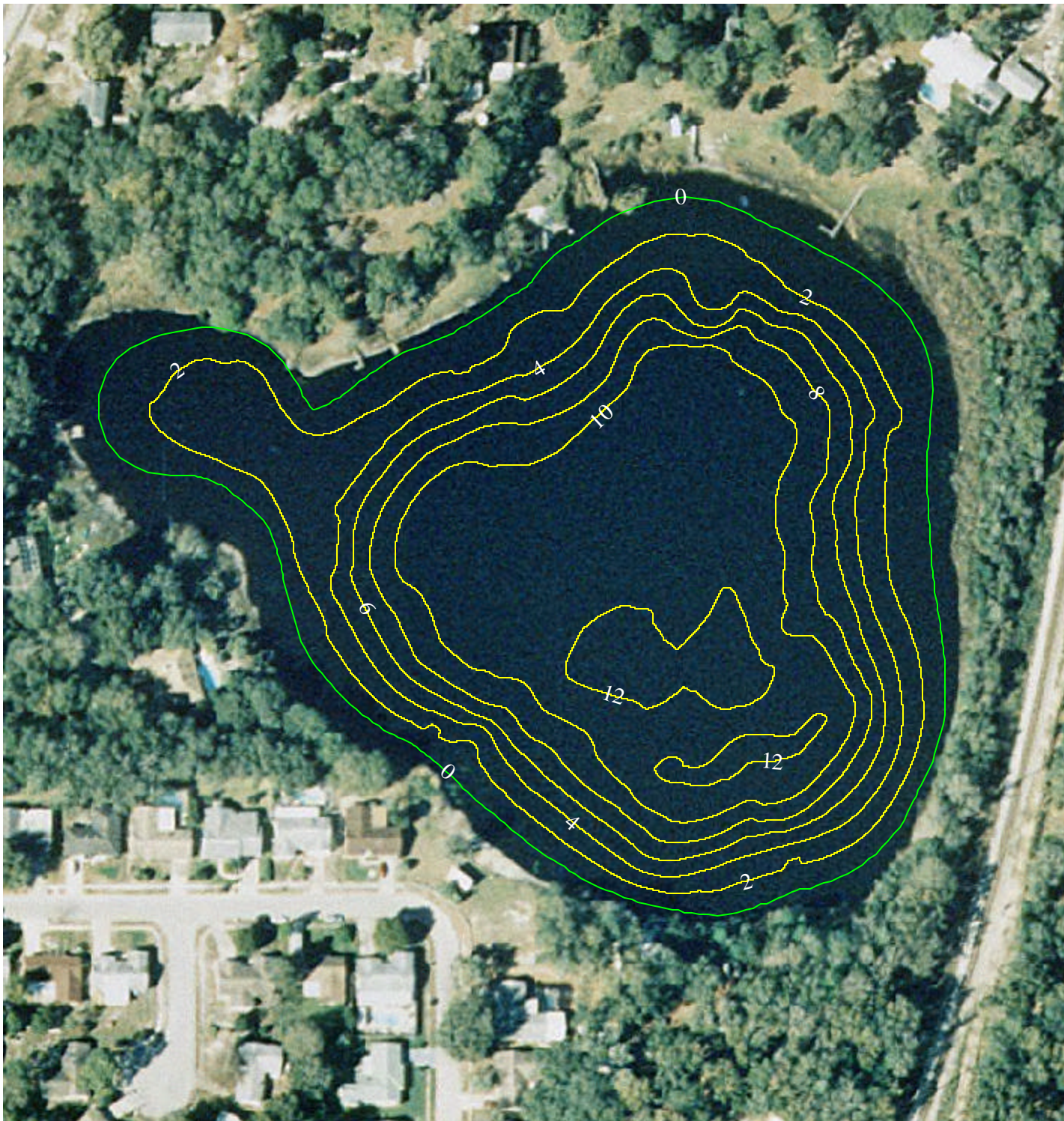
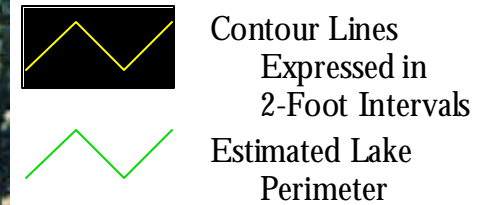
Surface Area (acres):	10
Mean Depth (feet):	6.5
Maximum Depth (feet):	13.4
Volume (gallons):	21,380,452



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).

Lake Ruth

Section - Township - Range
29 - 20 - 30

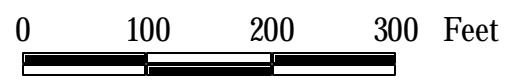


EXPLANATION:

Assessment Date: July 22, 2002.
Lake water level was 55.3 feet 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 Florida Center for Community Design and Research based on GPS/Sonar data provided by the 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> RUTH, LAKE	<u>Watershed</u> Soldiers Creek
	(Average)	
Number of Taxa:	28	24
Percent Exotic Plants:	18%	16%

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
Sedge	Cyperus spp.	100%	Emergent	Unknown	NL
Southern Umbrellasedge	Fuirena scirpoidea	100%	Emergent	Native	NL
Manatee Mudflower, Baby's Tears	Micranthemum glomeratum	100%	Submersed	Native	NL
Torpedo Grass	Panicum repens	100%	Emergent	Exotic	I
Yellow-eyed Grass	Xyris spp.	100%	Emergent	Native	NL
Fragrant Flatsedge	Cyperus odoratus	71%	Emergent	Native	NL
Baldwin's Spikerush, Roadgrass	Eleocharis baldwinii	71%	Submersed	Native	NL
Wax Myrtle	Myrica cerifera	71%	Emergent	Native	NL
Spatterdock, Yellow Pondlily	Nuphar lutea	71%	Floating	Native	NL
Banana Lily, Big Floatingheart	Nymphoides aquatica	71%	Floating	Native	NL
Buttonbush	Cephalanthus occidentalis	57%	Emergent	Native	NL
Maidencane	Panicum hemitomon	57%	Emergent	Native	NL
Aster spp., Elliot's Aster	Aster spp.	43%	Unknown	Unknown	Unknown
Manyflower Marshpennywort, Water Penny	Hydrocotyl umbellata	43%	Emergent	Native	NL
Burhead Sedge, Cuban Scirpus	Scirpus cubensis	43%	Emergent	Native	NL
Hypericum spp., St. John's Wort	Hypericum spp.	29%	Emergent	Unknown	Unknown
Peruvian Primrosewillow	Ludwigia peruviana	29%	Emergent	Exotic	NL
Climbing Hempvine	Mikania scandens	29%	Emergent	Native	NL

Cattails	Typha spp.	29%	Emergent	Native	NL
Asian Pennywort, Coinwort	Centella asiatica	14%	Emergent	Native	NL
Dahoon Holly	Ilex cassine	14%	Emergent	Native	NL
Pine Tree	Pinus spp.	14%	Emergent	Native	NL
Willow	Salix spp.	14%	Emergent	Native	NL
Chinese Tallow Tree	Sapium sebiferum	14%	Emergent	Exotic	I
Sedge	Scirpus spp.	14%	Emergent	Unknown	NL
Cordgrass	Spartina spp.	14%	Emergent	Native	NL
Para Grass	Urochloa mutica	14%	Emergent	Exotic	I
Creeping Oxeye	Wedelia trilobata	14%	Emergent	Exotic	II