

LAKE ASSESSMENT REPORT

SEMINARY, LAKE

5 /30/2000

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

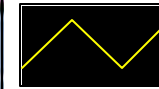
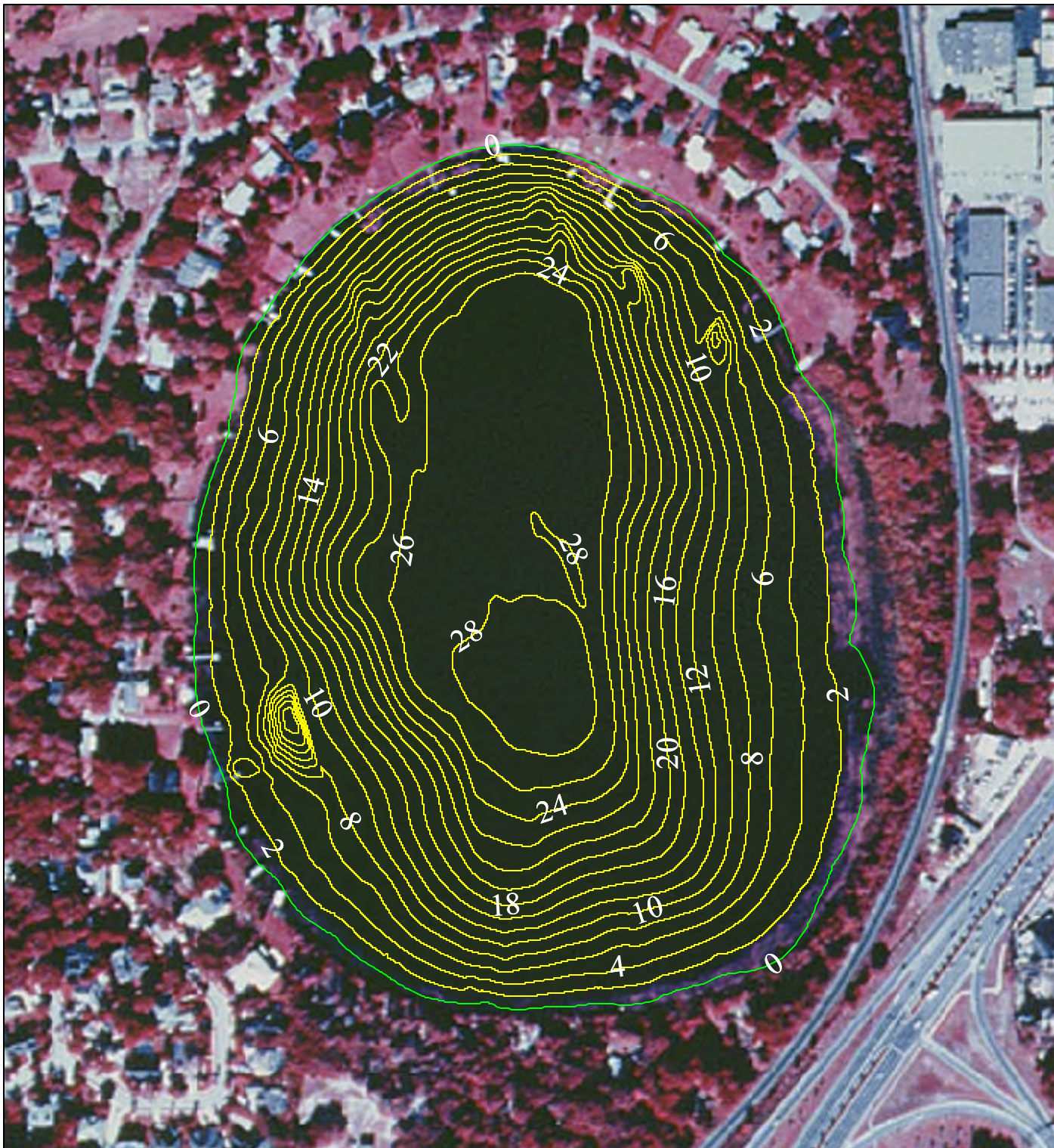
Surface Area (acres):	56
Mean Depth (feet):	14.1
Maximum Depth (feet):	30.4
Volume (gallons):	259,584,722



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 Seminary

Section - Township - Range
19-21-30



Contour Lines
Expressed in
2-Foot Intervals



Estimated Lake
Perimeter

EXPLANATION:

Assessment Date: May 30, 2000.

Lake water level was 80.2 ft above sea level when the lake was assessed. Contours are expressed in absolute depth below this level.

DATA SOURCES:

April 2000 georeferenced Color Infrared Digital Ortho Quarter Quads (DOQQs) obtained from Seminole County GIS Division. All contours generated by Florida Center for Community Design and Research based on GPS/Sonar data provided by the Seminole County Stormwater Division.



0 200 400 600 Feet



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> SEMINARY, LAKE (Average)	<u>Watershed</u> Howell Creek
Number of Taxa:	50	42
Percent Exotic Plants:	18%	17%

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
Rush Fuirena	Fuirena spp.	90%	Emergent	Native	NL
American White Water Lily, Fragrant Water	Nymphaea odorata	90%	Floating	Native	NL
Torpedo Grass	Panicum repens	90%	Emergent	Exotic	I
Baldwin's Spikerush, Roadgrass	Eleocharis baldwinii	80%	Submersed	Native	NL
Manyflower Marshpennywort, Water Penny	Hydrocotyl umbellata	80%	Emergent	Native	NL
Peruvian Primrosewillow	Ludwigia peruviana	80%	Emergent	Exotic	NL
Pickereel Weed	Pontederia cordata	80%	Emergent	Native	NL
Lemon Bacopa	Bacopa caroliniana	70%	Submersed	Native	NL
Buttonbush	Cephalanthus occidentalis	60%	Emergent	Native	NL
Manatee Mudflower, Baby's Tears	Micranthemum glomeratum	60%	Submersed	Native	NL
Stonewort	Nitella spp.	60%	Submersed	Native	NL
Southern Red Maple	Acer rubrum	50%	Emergent	Native	NL
Dog Fennel	Eupatorium capillifolium	50%	Emergent	Native	NL
Sedge	Cyperus spp.	40%	Emergent	Unknown	NL
Climbing Hempvine	Mikania scandens	40%	Emergent	Native	NL
Banana Lily, Big Floatingheart	Nymphoides aquatica	40%	Floating	Native	NL
Chinese Tallow Tree	Sapium sebiferum	40%	Emergent	Exotic	I
Sedge	Cyperus polystachyos var. texensis	30%	Emergent	Native	NL

Punk Tree, Melaleuca	Melaleuca quinquenervia	30%	Emergent	Exotic	I
Wax Myrtle	Myrica cerifera	30%	Emergent	Native	NL
Duck Potato	Sagittaria lancifolia	30%	Emergent	Native	NL
Alligator Weed	Alternanthera philoxeroides	20%	Emergent	Exotic	II
Sandweed, Peelbark St. John's-wort	Hypericum fasciculatum	20%	Emergent	Native	NL
Mexican Primrosewillow, Long-stalked Lud	Ludwigia octovalvis	20%	Emergent	Native	NL
Maidencane	Panicum hemitomon	20%	Emergent	Native	NL
Algae	Periphyton spp.	20%	Submersed	Native	NL
Smartweed, Knotweed	Polygonum spp.	20%	Emergent	Native	NL
Cordgrass	Spartina spp.	20%	Emergent	Native	NL
Cypress	Taxodium spp.	20%	Emergent	Native	NL
Tapegrass	Valisneria americana	20%	Submersed	Native	NL
Grapevine	Vitis spp.	20%	Emergent	Native	NL
Common Bacopa	Bacopa monnieri	10%	Submersed	Native	NL
Umbrella Flat Sedge	Cyperus alternifolius	10%	Emergent	Exotic	II
Virginia Willow; Virginia Sweetspire	Itea virginica	10%	Emergent	Native	NL
Soft Rush	Juncus effusus var solutus	10%	Emergent	Native	NL
Bog Buttons	Lachnocaulon spp.	10%	Emergent	Native	NL
Stream Bog Moss	Mayaca fluviatilis	10%	Submersed	Native	NL
Spatterdock, Yellow Pondlily	Nuphar lutea	10%	Floating	Native	NL
Black Gum, Swamp Tupelo	Nyssa sylvatica var. biflora	10%	Emergent	Native	NL
Cinnamon Fern	Osmunda cinnamomea	10%	Emergent	Native	NL
Marsh Fleabane, Camphorweed	Pluchea spp.	10%	Emergent	Native	NL
Arrowhead	Sagittaria spp.	10%	Emergent	Native	NL
Willow	Salix spp.	10%	Emergent	Native	NL
Elderberry	Sambucus canadensis	10%	Emergent	Native	NL
Brazilian Pepper	Schinus terebinthifolius	10%	Emergent	Exotic	I
Baldwin's Nutrush	Scleria baldwinii	10%	Emergent	Native	NL
Rattlebox, Purple Sesbans	Sesbania punicea	10%	Emergent	Exotic	NL
Cattails	Typha spp.	10%	Emergent	Native	NL
Para Grass	Urochloa mutica	10%	Emergent	Exotic	I
Bladderwort	Utricularia spp.	10%	Submersed	Native	NL