

LAKE ASSESSMENT REPORT

SPRING LAKE

6 /6 /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

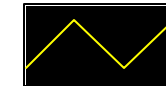
Surface Area (acres):	81
Mean Depth (feet):	6.4
Maximum Depth (feet):	19.4
Volume (gallons):	167,641,707



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).

Spring Lake

Section - Township - Range
22&23-21-29



Contour Lines
Expressed in
2-Foot Intervals



Estimated Lake
Perimeter

EXPLANATION:

Assessment Date: June 7, 2000.

Lake water level was 62.5 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.



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> SPRING LAKE	<u>Watershed</u> Little Wekiva
	(Average)	
Number of Taxa:	32	36
Percent Exotic Plants:	19%	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
Manyflower Marshpennywort, Water Penny	Hydrocotyl umbellata	90%	Emergent	Native	NL
Duck Potato	Sagittaria lancifolia	90%	Emergent	Native	NL
Tapegrass	Valisneria americana	80%	Submersed	Native	NL
Spatterdock, Yellow Pondlily	Nuphar lutea	70%	Floating	Native	NL
American White Water Lily, Fragrant Water	Nymphaea odorata	70%	Floating	Native	NL
Torpedo Grass	Panicum repens	70%	Emergent	Exotic	I
Peruvian Primrosewillow	Ludwigia peruviana	60%	Emergent	Exotic	NL
Pickereel Weed	Pontederia cordata	60%	Emergent	Native	NL
Alligator Weed	Alternanthera philoxeroides	50%	Emergent	Exotic	II
Arrowhead	Sagittaria spp.	50%	Emergent	Native	NL
Muskgrass	Chara spp.	40%	Submersed	Native	NL
Baldwin's Spikerush, Roadgrass	Eleocharis baldwinii	30%	Submersed	Native	NL
Dog Fennel	Eupatorium capillifolium	30%	Emergent	Native	NL
Manatee Mudflower, Baby's Tears	Micranthemum glomeratum	30%	Submersed	Native	NL
Climbing Hempvine	Mikania scandens	30%	Emergent	Native	NL
Mock Bishopsweed; Herbilliam	Ptilimnium capillaceum	30%	Emergent	Native	NL
Creeping Oxeye	Wedelia trilobata	30%	Emergent	Exotic	II
Common Bacopa	Bacopa monnieri	20%	Submersed	Native	NL

Buttonbush	<i>Cephalanthus occidentalis</i>	20%	Emergent	Native	NL
Wild Taro	<i>Colocasia esculenta</i>	20%	Emergent	Exotic	I
Dayflower	<i>Commelina diffusa</i>	20%	Emergent	Native	NL
Yerba De Tajo	<i>Eclipta alba</i>	20%	Emergent	Native	NL
Cypress	<i>Taxodium</i> spp.	20%	Emergent	Native	NL
Cattails	<i>Typha</i> spp.	20%	Emergent	Native	NL
Royal Fern	<i>Osmunda regalis</i>	10%	Emergent	Native	NL
Maidencane	<i>Panicum hemitomon</i>	10%	Emergent	Native	NL
Algae	Periphyton spp.	10%	Submersed	Native	NL
Frog-fruit, Carpetweed, Turkey Tangle Fogf	<i>Phyla nodiflora</i>	10%	Emergent	Native	NL
Beaksedge, Beakrush	<i>Rhynchospora</i> spp.	10%	Emergent	Unknown	NL
Willow	<i>Salix</i> spp.	10%	Emergent	Native	NL
Rattlebox, Purple Sesbans	<i>Sesbania punicea</i>	10%	Emergent	Exotic	NL
Caesar's-weed	<i>Urena lobata</i>	10%	Emergent	Native	II