

LAKE ASSESSMENT REPORT

ORIENTA, LAKE

7 /3 /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):	<u>131</u>
Mean Depth (feet):	<u>6.4</u>
Maximum Depth (feet):	<u>24.3</u>
Volume (gallons):	<u>272,220,415</u>

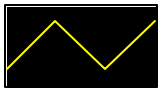



The lake assessments are created in partnership with Seminole County and the Florida Center for Community Design and Research. If you have any questions, please use the "Contact Us" form on the Seminole Atlas Website (www.seminole.wateratlas.org).

Lake Orienta

Section - Township - Range
13,14,23 & 24-21-29




 Contour Lines
Expressed in
2-Foot Intervals


 Estimated Lake
Perimeter

EXPLANATION:
Assessment Date: June 30, 2000.
Lake water level was 58.2 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.



0 500 1000 1500 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> ORIENTA, LAKE (Average)	<u>Watershed</u> Little Wekiva
Number of Taxa:	53	36
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
Torpedo Grass	<i>Panicum repens</i>	88%	Emergent	Exotic	I
Manyflower Marshpennywort, Water Penny	<i>Hydrocotyl umbellata</i>	85%	Emergent	Native	NL
Haspan Flatsedge	<i>Cyperus haspan</i>	46%	Emergent	Native	NL
Willow	<i>Salix</i> spp.	46%	Emergent	Native	NL
Rush Fuirena	<i>Fuirena</i> spp.	38%	Emergent	Native	NL
Peruvian Primrosewillow	<i>Ludwigia peruviana</i>	38%	Emergent	Exotic	NL
Smartweed, Knotweed	<i>Polygonum</i> spp.	38%	Emergent	Native	NL
Climbing Hempvine	<i>Mikania scandens</i>	35%	Emergent	Native	NL
Frog-fruit, Carpetweed, Turkey Tangle Fogf	<i>Phyla nodiflorea</i>	35%	Emergent	Native	NL
Creeping Oxeye	<i>Wedelia trilobata</i>	35%	Emergent	Exotic	II
Common Bacopa	<i>Bacopa monnieri</i>	31%	Submersed	Native	NL
Dog Fennel	<i>Eupatorium capillifolium</i>	31%	Emergent	Native	NL
Alligator Weed	<i>Alternanthera philoxeroides</i>	23%	Emergent	Exotic	II
Wild Taro	<i>Colocasia esculenta</i>	23%	Emergent	Exotic	I
Lemon Bacopa	<i>Bacopa caroliniana</i>	19%	Submersed	Native	NL
Sea Myrtle	<i>Baccharis halimifolia</i>	15%	Emergent	Native	NL
Manatee Mudflower, Baby's Tears	<i>Micranthemum glomeratum</i>	15%	Submersed	Native	NL
Sensitive Plant	<i>Phyllanthus urinaria</i>	15%	Terrestrial	Exotic	NL

Cypress	Taxodium spp.	15%	Emergent	Native	NL
Cattails	Typha spp.	15%	Emergent	Native	NL
Asian Pennywort, Coinwort	Centella asiatica	12%	Emergent	Native	NL
Buttonbush	Cephalanthus occidentalis	12%	Emergent	Native	NL
Rattlebox	Crotalaria spp.	12%	Terrestrial	Unknown	NL
Sedge	Cyperus polystachyos var. texenis	12%	Emergent	Native	NL
Baldwin's Spikerush, Roadgrass	Eleocharis baldwinii	12%	Submersed	Native	NL
Wax Myrtle	Myrica cerifera	12%	Emergent	Native	NL
Banana Lily, Big Floatingheart	Nymphoides aquatica	12%	Floating	Native	NL
Virginia Creeper, Woodbine	Parthenocissus quinquefolia	12%	Emergent	Native	NL
Chinese Tallow Tree	Sapium sebiferum	12%	Emergent	Exotic	I
Hairy pod Cowpea	Vigna luteola	12%	Terrestrial	Native	NL
Sedge	Cyperus spp.	8%	Emergent	Unknown	NL
Yerba De Tajo	Eclipta alba	8%	Emergent	Native	NL
Marsh Fleabane, Camphorweed	Pluchea spp.	8%	Emergent	Native	NL
Mock Bishopsweed; Herbwilliam	Ptilimnium capillaceum	8%	Emergent	Native	NL
Sabal Palm, Cabbage Palm	Sabal palmetto	8%	Terrestrial	Native	NL
Elderberry	Sambucus canadensis	8%	Emergent	Native	NL
Brazilian Pepper	Schinus terebinthifolius	8%	Emergent	Exotic	I
Para Grass	Urochloa mutica	8%	Emergent	Exotic	I
Common Ragweed	Ambrosia artemisiifolia	4%	Emergent	Native	NL
Swamp Fern	Blechnum serrulatum	4%	Emergent	Native	NL
Golden Canna	Canna flaccida	4%	Emergent	Native	NL
Sedge	Carex spp.	4%	Emergent	Unknown	
Dayflower	Commelina diffusa	4%	Emergent	Native	NL
Buttonweed	Diodia virginiana	4%	Emergent	Native	NL
Air Potato	Dioscorea bulbifera	4%	Emergent	Exotic	I
Punk Tree, Melaleuca	Melaleuca quinquenervia	4%	Emergent	Exotic	I
Spatterdock, Yellow Pondlily	Nuphar lutea	4%	Floating	Native	NL
Pickerel Weed	Pontederia cordata	4%	Emergent	Native	NL
Purslane	Portulaca sp.	4%	Terrestrial	Unknown	NL
Laurel Oak; Diamond Oak	Quercus laurifolia	4%	Emergent	Native	NL
Duck Potato	Sagittaria lancifolia	4%	Emergent	Native	NL
Coffeeweed; Sicklepod	Senna obtusifolia	4%	Emergent	Exotic	NL
Grapevine	Vitis spp.	4%	Emergent	Native	NL