

LAKE ASSESSMENT REPORT

BRANTLEY, LAKE

7 /12/2000

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

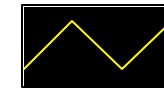
Surface Area (acres):	258
Mean Depth (feet):	12.1
Maximum Depth (feet):	27.7
Volume (gallons):	1,023,051,032



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 Brantley

Section - Township - Range
4 & 5-21-29



Contour Lines
Expressed in
2-Foot Intervals



Estimated Lake
Perimeter

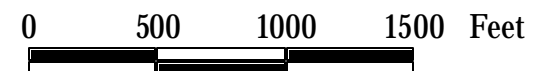
EXPLANATION:

Assessment Date: July 6, 2000

Lake water level above sea level
is undetermined. 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> BRANTLEY, LAKE (Average)	<u>Watershed</u> Big Wekiva
Number of Taxa:	47	38
Percent Exotic Plants:	17%	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
Bladderwort	Utricularia spp.	86%	Submersed	Native	NL
Arrowhead	Sagittaria spp.	71%	Emergent	Native	NL
Southern Red Maple	Acer rubrum	57%	Emergent	Native	NL
Spatterdock, Yellow Pondlily	Nuphar lutea	57%	Floating	Native	NL
Peruvian Primrosewillow	Ludwigia peruviana	50%	Emergent	Exotic	NL
Torpedo Grass	Panicum repens	50%	Emergent	Exotic	I
Buttonbush	Cephalanthus occidentalis	36%	Emergent	Native	NL
Jamaica Swamp Saw Grass	Cladium jamaicense	36%	Emergent	Native	NL
Wax Myrtle	Myrica cerifera	36%	Emergent	Native	NL
Creeping Oxeye	Wedelia trilobata	36%	Emergent	Exotic	II
Baldwin's Spikerush, Roadgrass	Eleocharis baldwinii	29%	Submersed	Native	NL
Dog Fennel	Eupatorium capillifolium	29%	Emergent	Native	NL
Rush Fuirena	Fuirena spp.	29%	Emergent	Native	NL
Manyflower Marshpennywort, Water Penny	Hydrocotyl umbellata	29%	Emergent	Native	NL
Climbing Hempvine	Mikania scandens	29%	Emergent	Native	NL
Algae	Periphyton spp.	29%	Submersed	Native	NL
Alligator Weed	Alternanthera philoxeroides	21%	Emergent	Exotic	II
Lemon Bacopa	Bacopa caroliniana	21%	Submersed	Native	NL

Muskgrass	<i>Chara</i> spp.	21%	Submersed	Native	NL
Wild Taro	<i>Colocasia esculenta</i>	21%	Emergent	Exotic	I
Sedge	<i>Cyperus polystachyos</i> var. <i>texensis</i>	21%	Emergent	Native	NL
Dahoon Holly	<i>Ilex cassine</i>	21%	Emergent	Native	NL
Sweetbay Magnolia	<i>Magnolia virginiana</i>	21%	Emergent	Native	NL
Punk Tree, Melaleuca	<i>Melaleuca quinquenervia</i>	21%	Emergent	Exotic	I
Maidencane	<i>Panicum hemitomon</i>	21%	Emergent	Native	NL
Pond Weed	<i>Potamogeton</i> spp.	21%	Submersed	Native	NL
Duck Potato	<i>Sagittaria lancifolia</i>	21%	Emergent	Native	NL
Grapevine	<i>Vitis</i> spp.	21%	Emergent	Native	NL
Asian Pennywort, Coinwort	<i>Centella asiatica</i>	14%	Emergent	Native	NL
Sandweed, Peelbark St. John's-wort	<i>Hypericum fasciculatum</i>	14%	Emergent	Native	NL
Black Gum, Swamp Tupelo	<i>Nyssa sylvatica</i> var. <i>biflora</i>	14%	Emergent	Native	NL
Royal Fern	<i>Osmunda regalis</i>	14%	Emergent	Native	NL
Frog-fruit, Carpetweed, Turkey Tangle Fogf	<i>Phyla nodiflora</i>	14%	Emergent	Native	NL
Rattlebox, Purple Sesbans	<i>Sesbania punicea</i>	14%	Emergent	Exotic	NL
Cypress	<i>Taxodium</i> spp.	14%	Emergent	Native	NL
Common Bacopa	<i>Bacopa monnieri</i>	7%	Submersed	Native	NL
False Daisy	<i>Eclipta prostrata</i>	7%	Emergent	Native	NL
Creeping Primrosewillow, Red Ludwigia	<i>Ludwigia repens</i>	7%	Emergent	Native	NL
Cinnamon Fern	<i>Osmunda cinnamomea</i>	7%	Emergent	Native	NL
Virginia Creeper, Woodbine	<i>Parthenocissus quinquefolia</i>	7%	Emergent	Native	NL
Marsh Fleabane, Camphorweed	<i>Pluchea</i> spp.	7%	Emergent	Native	NL
Smartweed, Knotweed	<i>Polygonum</i> spp.	7%	Emergent	Native	NL
Rustweed, Juniperleaf	<i>Polypernum procumbens</i>	7%	Emergent	Native	NL
Sawtooth Blackberry, Dewberry	<i>Rubus</i> spp.	7%	Emergent	Unknown	NL
Chinese Tallow Tree	<i>Sapium sebiferum</i>	7%	Emergent	Exotic	I
Spanish Moss	<i>Tillandsia usneoides</i>	7%	Epiphytic	Native	NL
Tapegrass	<i>Valisneria americana</i>	7%	Submersed	Native	NL