

Lake Assessment Report

BURKETT, LAKE

7/24/2003

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>77.40</u>
Mean Depth (feet):	<u>8.60</u>
Maximum Depth (feet):	<u>29.70</u>
Volume (gallons):	<u>216,076,554</u>



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

Lake Burkett

Section Township Range
1-22-30

 Contour Lines Expressed
in 2-Ft intervals

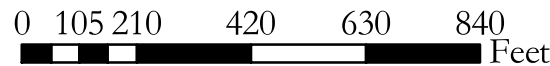
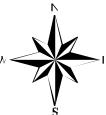
 Estimated Lake
Perimeter

EXPLANATION:

Assessment Date: July 7, 2003
Lake water level was 54 ft 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 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> BURKETT, LAKE	<u>Watershed</u> Howell Creek
	<i>(Average)</i>	
Number of Taxa:	45	40
Percent Exotic Plants:	18%	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
Alligator Weed	Alternanthera philoxeroides	82%	Emergent	Exotic	II
Buttonbush	Cephalanthus occidentalis	82%	Emergent	Native	NL
Wild Taro	Colocasia esculenta	82%	Emergent	Exotic	I
Baldwin's Spikerush, Roadgrass	Eleocharis baldwinii	82%	Submersed	Native	NL
Spatterdock, Yellow Pondlily	Nuphar lutea	82%	Floating	Native	NL
Torpedo Grass	Panicum repens	73%	Emergent	Exotic	I
Wapato, Common Arrowhead, Duck Potato	Sagittaria latifolia	73%	Emergent	Native	NL
Carolina Willow	Salix caroliniana	64%	Emergent	Native	NL
Southern Red Maple	Acer rubrum	55%	Emergent	Native	NL
Manyflower Marshpennywort, Water Pennywort	Hydrocotyl umbellata	55%	Emergent	Native	NL
Wax Myrtle	Myrica cerifera	55%	Emergent	Native	NL
Banana Lily, Big Floatingheart	Nymphoides aquatica	55%	Floating	Native	NL

Cattails	Typha spp.	55%	Emergent	Native	NL
Peruvian Primrosewillow	Ludwigia peruviana	45%	Emergent	Exotic	NL
Pickernel Weed	Pontederia cordata	45%	Emergent	Native	NL
Common Bacopa	Bacopa monnieri	36%	Submersed	Native	NL
Pine Tree	Pinus spp.	36%	Emergent	Native	NL
Jamaica Swamp Saw Grass	Cladium jamaicense	27%	Emergent	Native	NL
Sedge	Cyperus spp.	27%	Emergent	Unknown	NL
Sweetbay Magnolia	Magnolia virginiana	27%	Emergent	Native	NL
Bald Cypress	Taxodium distichum	27%	Emergent	Native	NL
Para Grass	Urochloa mutica	27%	Emergent	Exotic	I
Creeping Primrosewillow, Red Ludwigia	Ludwigia repens	18%	Emergent	Native	NL
Stream Bog Moss	Mayaca fluviatilis	18%	Submersed	Native	NL
Climbing Hempvine	Mikania scandens	18%	Emergent	Native	NL
Stonewort	Nitella spp.	18%	Submersed	Native	NL
American White Water Lily, Fragrant Water Lily	Nymphaea odorata	18%	Floating	Native	NL
Smartweed, Knotweed	Polygonum spp.	18%	Emergent	Native	NL
Algal Mats, Floating	Algal spp.	9%	Floating	Unknown	Unknown
Dayflower	Commelina diffusa	9%	Emergent	Native	NL
Umbrella Flat Sedge	Cyperus alternifolius	9%	Emergent	Exotic	II
Buttonweed	Diodia virginiana	9%	Emergent	Native	NL
Yerba De Tajo	Eclipta alba	9%	Emergent	Native	NL
Roadgrass, Spikerushes	Eleocharis spp.	9%	Emergent	Native	NL
Rush Fuirena	Fuirena spp.	9%	Emergent	Native	NL
Dahoon Holly	Ilex cassine	9%	Emergent	Native	NL
Mexican Primrosewillow, Long-stalked Ludwigia	Ludwigia octovalvis	9%	Emergent	Native	NL
Water Primroses, Primrosewillow	Ludwigia spp.	9%	Emergent	Unknown	NL
Watergrass	Luziola fluitans	9%	Emergent	Native	NL
Royal Fern	Osmunda regalis	9%	Emergent	Native	NL
Frog-fruit, Carpetweed, Turkey Tangle Fogfruit	Phyla nodiflora	9%	Emergent	Native	NL
Duck Potato	Sagittaria lancifolia	9%	Emergent	Native	NL

Chinese Tallow Tree	Sapium sebiferum	9%	Emergent	Exotic	I
Marsh St. John's Wort	Triadenum virginicum	9%	Emergent	Native	NL
Creeping Oxeye	Wedelia trilobata	9%	Emergent	Exotic	II