

# LAKE ASSESSMENT REPORT

## CUB LAKE

6 /4 /2001

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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**

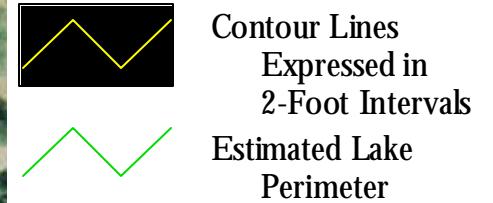
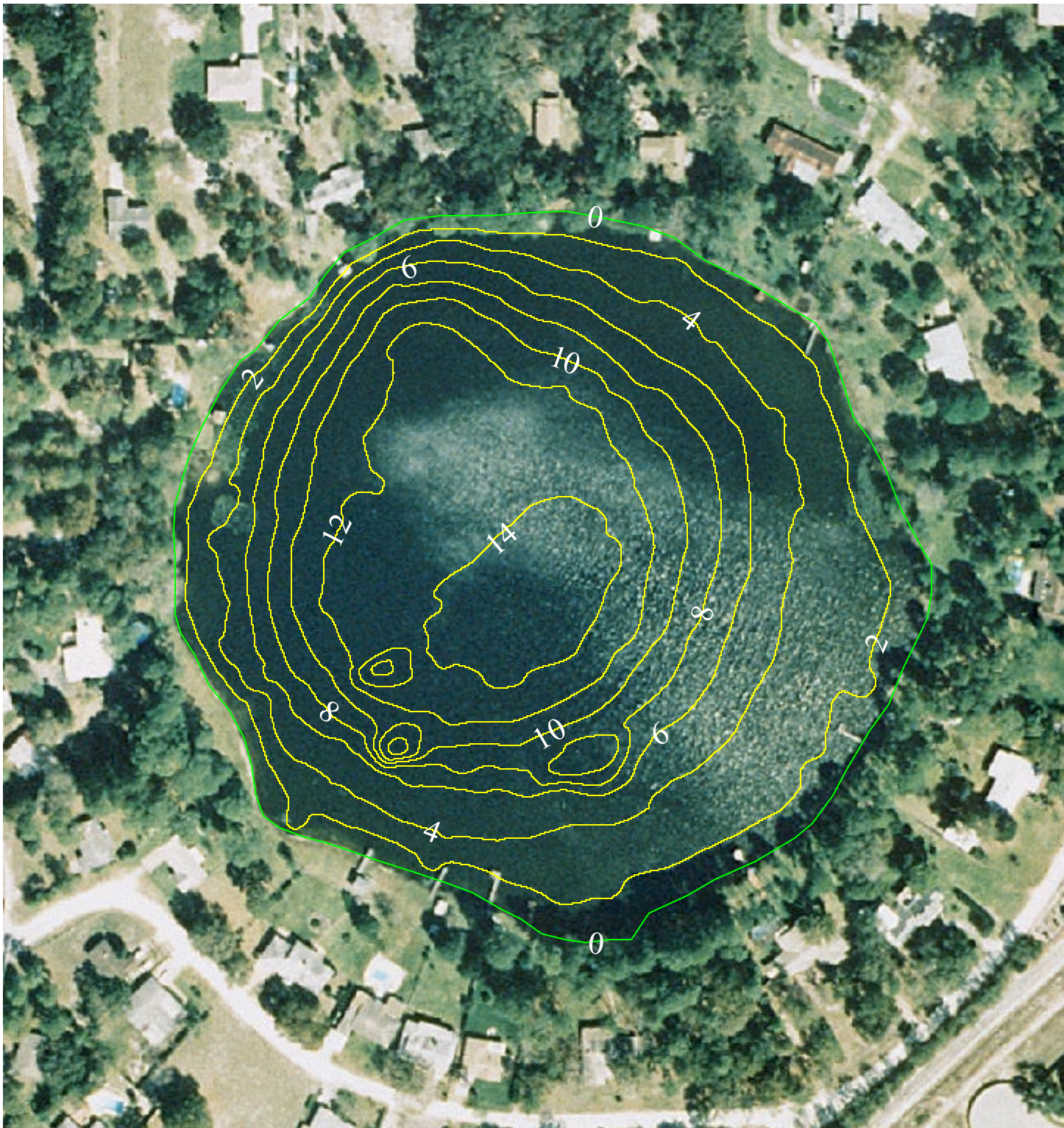
Surface Area (acres):	15
Mean Depth (feet):	7.1
Maximum Depth (feet):	16.8
Volume (gallons):	33,928,863



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](http://www.seminole.wateratlas.org)).

# Cub Lake

Section - Township - Range  
20-21-29



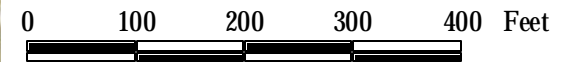
## EXPLANATION:

Assessment Date: June 4, 2001.

Lake water level was 101.3 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> CUB LAKE (Average)	<u>Watershed</u> Little Wekiva
Number of Taxa:	43	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
Algal Mats, Floating	Algal spp.	67%	Floating	Unknown	Unknow
Sedge	Cyperus spp.	67%	Emergent	Unknown	NL
Manyflower Marshpennywort, Water Penny	Hydrocotyl umbellata	67%	Emergent	Native	NL
Peruvian Primrosewillow	Ludwigia peruviana	67%	Emergent	Exotic	NL
Torpedo Grass	Panicum repens	67%	Emergent	Exotic	I
Alligator Weed	Alternanthera philoxeroides	56%	Emergent	Exotic	II
Asian Pennywort, Coinwort	Centella asiatica	56%	Emergent	Native	NL
Roadgrass, Spikerushes	Eleocharis spp.	56%	Emergent	Native	NL
Rush Fuirena	Fuirena spp.	56%	Emergent	Native	NL
Spatdock, Yellow Pondlily	Nuphar lutea	56%	Floating	Native	NL
Climbing Hempvine	Mikania scandens	44%	Emergent	Native	NL
American White Water Lily, Fragrant Water	Nymphaea odorata	44%	Floating	Native	NL
Common Bacopa	Bacopa monnieri	33%	Submersed	Native	NL
Bur Marigold	Bidens spp.	33%	Emergent	Native	NL
Water Primroses, Primrosewillow	Ludwigia spp.	33%	Emergent	Unknown	NL
Cattails	Typha spp.	33%	Emergent	Native	NL
Aster spp., Elliot's Aster	Aster spp.	22%	Unknown	Unknown	Unknow
Buttonweed	Diodia virginiana	22%	Emergent	Native	NL

Duckweed	Lemna spp.	22%	Floating	Native	NL
Frog-fruit, Carpetweed, Turkey Tangle Fogf	Phyla nodiflora	22%	Emergent	Native	NL
Pine Tree	Pinus spp.	22%	Emergent	Native	NL
Para Grass	Urochloa mutica	22%	Emergent	Exotic	I
Canna	Canna spp.	11%	Emergent	Exotic	NL
Australian Pine	Casuarina equisetifolia	11%	Emergent	Exotic	I
Buttonbush	Cephalanthus occidentalis	11%	Emergent	Native	NL
Wild Taro	Colocasia esculenta	11%	Emergent	Exotic	I
Pink Sundew	Drosera capillaris	11%	Emergent	Native	NL
Yerba De Tajo	Eclipta alba	11%	Emergent	Native	NL
Baldwin's Spikerush, Roadgrass	Eleocharis baldwinii	11%	Submersed	Native	NL
Waterspider False Reinorchid	Habenaria repens	11%	Emergent	Native	NL
Water Spinach	Ipomoea aquatica	11%	Emergent	Exotic	I
Rush	Juncus spp.	11%	Emergent	Native	NL
Bog Buttons	Lachnocaulon spp.	11%	Emergent	Native	NL
Mexican Primrosewillow, Long-stalked Lud	Ludwigia octovalvis	11%	Emergent	Native	NL
Southern Naiad	Najas guadelupensis	11%	Submersed	Native	NL
Maidencane	Panicum hemitomon	11%	Emergent	Native	NL
Pickerel Weed	Pontederia cordata	11%	Emergent	Native	NL
Beaksedge, Beakrush	Rhynchospora spp.	11%	Emergent	Unknown	NL
Arrowhead	Sagittaria spp.	11%	Emergent	Native	NL
Water Spangles, Water Fern	Salvinia minima	11%	Floating	Native	NL
Pond Cypress	Taxodium acendens	11%	Emergent	Native	NL
Marsh St. John's Wort	Triadenum virginicum	11%	Emergent	Native	NL
Unidentified Plant Species	UNKNOWN SPP	11%	Unknown	Unknown	Unknow