

# LAKE ASSESSMENT REPORT

## PEARL LAKE (Altamonte Springs)

6 /13/2001

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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**

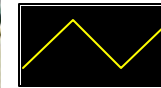
Surface Area (acres):	30
Mean Depth (feet):	7.2
Maximum Depth (feet):	13.9
Volume (gallons):	71,050,016



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)).

# Pearl Lake

Section - Township - Range  
16-21-29



Contour Lines  
Expressed in  
2-Foot Intervals



Estimated Lake  
Perimeter

## EXPLANATION:

Assessment Date: June 13, 2001.

Lake water level was 57.6 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.



0 100 200 300 400 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>	<u>Watershed</u>
	PEARL LAKE (Altamonte Springs)	Little Wekiva
	(Average)	
Number of Taxa:	35	36
Percent Exotic Plants:	14%	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.	75%	Floating	Unknown	Unknown
Peruvian Primrosewillow	Ludwigia peruviana	75%	Emergent	Exotic	NL
Aster spp., Elliot's Aster	Aster spp.	58%	Unknown	Unknown	Unknown
Common Bacopa	Bacopa monnieri	50%	Submersed	Native	NL
Mock Bishopsweed; Herbwilliam	Ptilimnium capillaceum	50%	Emergent	Native	NL
Carolina Willow	Salix caroliniana	50%	Emergent	Native	NL
Cattails	Typha spp.	50%	Emergent	Native	NL
Climbing Hempvine	Mikania scandens	42%	Emergent	Native	NL
Sedge	Carex spp.	33%	Emergent	Unknown	
Sedge	Cyperus spp.	33%	Emergent	Unknown	NL
Wax Myrtle	Myrica cerifera	33%	Emergent	Native	NL
Torpedo Grass	Panicum repens	33%	Emergent	Exotic	I
Marsh Fleabane,Camphorweed	Pluchea spp.	33%	Emergent	Native	NL
Unidentified Plant Species	UNKNOWN SPP	33%	Unknown	Unknown	Unknown
Southern Red Maple	Acer rubrum	25%	Emergent	Native	NL
Wild Taro	Colocasia esculenta	25%	Emergent	Exotic	I
Yerba De Tajo	Eclipta alba	25%	Emergent	Native	NL
Manyflower Marshpennywort, Water Penny	Hydrocotyl umbellata	25%	Emergent	Native	NL

Rush	Juncus spp.	25%	Emergent	Native	NL
Frog-fruit, Carpetweed, Turkey Tangle Fogf	Phyla nodiflora	25%	Emergent	Native	NL
Smartweed, Knotweed	Polygonum spp.	25%	Emergent	Native	NL
Bald Cypress	Taxodium distichum	25%	Emergent	Native	NL
Baldwin's Spikerush, Roadgrass	Eleocharis baldwinii	17%	Submersed	Native	NL
Spatterdock, Yellow Pondlily	Nuphar lutea	17%	Floating	Native	NL
Panic Grasses	Panicum spp.	17%	Emergent	Unknown	NL
Elderberry	Sambucus canadensis	17%	Emergent	Native	NL
Alligator Weed	Alternanthera philoxeroides	8%	Emergent	Exotic	II
Bur Marigold	Bidens spp.	8%	Emergent	Native	NL
Pickrel Weed	Pontederia cordata	8%	Emergent	Native	NL
Duck Potato	Sagittaria lancifolia	8%	Emergent	Native	NL
Wapato, Common Arrowhead, Duck Potato	Sagittaria latifolia	8%	Emergent	Native	NL
Arrowhead	Sagittaria spp.	8%	Emergent	Native	NL
Chinese Tallow Tree	Sapium sebiferum	8%	Emergent	Exotic	I
Giant Bulrush	Scirpus californicus	8%	Emergent	Native	NL
Bristlegrass, Foxtail	Setaria spp.	8%	Emergent	Unknown	