University of South Florida USF

FLORIDA CENTER CD+R

Hillsborough County Florida

The lake assessments are created in partnership with Hillsborough County and the Florida Center for Community Design and Research
LAKE ASSESSMENT DOCUMENT

Lake Jennette   9/19/01   Watershed: Sweetwater Creek

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 your 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 your 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 sophisticated 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 your lake's area, mean and maximum depths, and volume (Table 1) and the creation of a bottom contour map.

Table 1. Physical Characteristics of Your Lake.

Surface Area (acres):	
Mean Depth (feet):	
Maximum Depth (feet):	
Volume (gallons):	

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II. Ecological Data

Aquatic Plant Survey

Approximately equispaced sites are haphazardly 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 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 your lake and other assessed lakes located within your watershed.

	Lake Jennette	Sweetwater Creek
		(Average)
Number of Taxa:	18	29
Percent Exotic Plants:	28%	16%

Table 3. Botanical and common names of the most commonly found plants on your lake. Percent frequency (of occurence), habit (location where found), status (native or exotic), and EPPC status are provided.

Common Name	Plant Species	Frequency	Habit	Status	EPPC
Algal Mats, Floating	Algal spp.	100%	Floating	Unknown	Unknow
Manyflower Marshpennywort, Water Penny	Hydrocotyl umbellata	100%	Emergent	Native	NL
Water Primroses, Primrosewillow	Ludwigia spp.	100%	Emergent	Unknown	NL
Alligator Weed	Alternanthera philoxeroides	71%	Emergent	Exotic	II
Bur Marigold	Bidens spp.	71%	Emergent	Native	NL
Sedge	Cyperus spp.	71%	Emergent	Unknown	NL
Torpedo Grass	Panicum repens	71%	Emergent	Exotic	I
Pickerel Weed	Pontederia cordata	71%	Emergent	Native	NL
Bulltongue Arrowhead, Duck Potato	Sagittaria lancifolia	71%	Emergent	Native	NL
Common Bacopa, Herb-Of-Grace	Bacopa monnieri	43%	Submersed	Native	NL
Punk Tree, Melaleuca	Melaleuca quinquenervia	29%	Emergent	Exotic	I
Para Grass	Urochloa (Brachiaria) mutica	29%	Emergent	Exotic	I
Fragrant Flatsedge	Cyperus odoratus	14%	Emergent	Native	NL
Creeping Primrosewillow, Red Ludwigia	Ludwigia repens	14%	Emergent	Native	NL
Smartweed, Knotweed	Polygonum spp.	14%	Emergent	Native	NL
Brazilian Pepper	Schinus terebinthifolius	14%	Emergent	Exotic	I

Cypress	Taxodium spp.	14%	Emergent	Native	NL

Standing Crop

In addition to an overall survey of the types of plants on a lake, an estimate of the standing crop (biomass) of the lake has been obtained for many lakes. This was done by calculating the average weight of the vegetation within a quarter-meter square quadrat tossed haphazardly into three zones (see Figure) at each sampling site around the lake: (1) the emergent zone, (2) the floating zone and (3) the submersed zone. The average weight of the plants (Table 4) from all sampling sites and the dominant type of vegetation (Table 5) are provided. If data tables are not shown, no standing crop estimates were obtained for this lake.