

## Lake Carr Lake Vegetation Index Results (10-12-2015)

The Lake Vegetation Index (LVI) is a multi-metric index that evaluates how closely a lake's plant community resembles one that would be expected in a condition of minimal human disturbance. It is based on a rapid field assessment of aquatic and wetland plants as indicators of various effects of human disturbance over time. Plants respond to physical disturbances such as introduction of exotic species or lakeshore alterations,

and chemical disturbance such as introduction of excess nutrients, particulates, or herbicides from the surrounding land uses.

The LVI method is performed from a boat, and involves dividing a lake into 12 units and identifying plants in 4 of the 12 units (Figure 1). Plants are identified in the selected unit by a visual boat "drive by" and also via a transect approach. The resulting data is used to calculate the LVI and is evaluated according to the scoring system in Table 1.

**TABLE 1. Category names, ranges of values for LVI, and example descriptions of biological conditions typically found for that category.**

<i>Aquatic life use category</i>	<i>LVI Range</i>	<i>Description</i>
Exceptional	78–100	Nearly every plant present is a species native to Florida, invasive taxa typically not found. About 30% of taxa present are identified as sensitive to disturbance.
Healthy	43–77	About 85% of plant taxa are native to Florida; invasive taxa present. Sensitive taxa have declined to about 15%.
Impaired	0–42	About 70% of plant taxa are native to Florida. Invasive taxa may represent up to 1/3 of total taxa. Less than 10% of the taxa are sensitive.

The Lake Vegetation Index score for Lake Carr was 68, placing the lake's vegetative community in the healthy category.

Forty-eight plant species were found during the survey. The native species, fanwort (*Cabomba caroliniana*), coontail (*Ceratophyllum demersum*) and fragrant waterlily (*Nymphaea odorata*) were the most dominant plants in the lake. Other native shoreline vegetation included; American sweetgum (*Liquidambar styraciflua*), buttonbush (*Cephalanthus occidentalis*) and dotted

smartweed (*Polygonum punctatum*). Unfortunately, water hyacinth (*Eichhornia crassipes*), listed as Category I Invasive Exotics by the Florida Exotic Pest Control Council (<http://www.fleppc.org/>) is an invasive exotic that is a concern in Lake Carr. Another invasive exotic, Alligator weed (*Alternanthera philoxeroides*), a Category II Invasive Exotic, was also found in the lake.

For a complete list of plants found during the LVI survey, please see Table 2.

**TABLE 2. Scientific and common names of the plants identified during the Lake Carr LVI survey (10-12-15).**

<b>Scientific Name</b>	<b>Common Name</b>
<i>Acer rubrum</i>	red maple
<b><i>Alternanthera philoxeroides(II)</i></b>	alligator weed
<i>Andropogon virginicus</i>	broomsedge bluestem
<i>Bacopa caroliniana</i>	lemon bacopa
<i>Bidens laevis</i>	smooth beggartick
<i>Bidens mitis</i>	smallfruit beggartick
<i>Boehmeria cylindrica</i>	false nettle
<i>Brasenia schreberi</i>	watershield
<i>Cabomba caroliniana</i>	fanwort
<i>Cephalanthus occidentalis</i>	buttonbush
<i>Ceratophyllum demersum</i>	coontail
<i>Decodon verticillatus</i>	swamp loosestrife
<i>Dulichium arundinaceum</i>	three-way sedge
<b><i>Eichhornia crassipes (I)</i></b>	water hyacinth
<i>Eleocharis baldwinii</i>	road-grass
<i>Eleocharis sp.</i>	eleocharis
<i>Eupatorium capillifolium</i>	dogfennel
<i>Fuirena scirpoidea</i>	southern umbrella sedge
<i>Habenaria repens</i>	water spider orchid
<i>Hydrocotyle sp.</i>	water pennywort
<i>Juncus effusus</i>	common rush
<i>Leersia hexandra</i>	southern cutgrass
<i>Limnobium spongia</i>	frog's bit
<i>Liquidamber styraciflua</i>	American sweetgum
<i>Ludwigia arcuata</i>	needleleaf ludwigia
<i>Ludwigia leptocarpa</i>	anglestem primrose willow
<i>Ludwigia sphaerocarpa</i>	globe-fruited primrose willow
<i>Lycopus rubellus</i>	taperleaf water horehound
<i>Myriophyllum heterophyllum</i>	twoleaf watermilfoil
<i>Nelumbo lutea</i>	American lotus
<i>Nymphaea odorata</i>	fragrant waterlily
<i>Panicum hemitomon</i>	maidencane
<i>Polygonum hirsutum</i>	hairy smartweed
<i>Polygonum punctatum</i>	dotted smartweed
<i>Pontederia cordata</i>	pickerelweed
<i>Quercus nigra</i>	water oak
<i>Ricciocarpus natans</i>	purple-fringed riccia
<i>Saccharum giganteum</i>	sugarcane plumegrass
<i>Sacciolepis striata</i>	American cupscale-grass

<b>Scientific Name</b>	<b>Common Name</b>
<i>Sagittaria lancifolia</i>	duck potato
<i>Sagittaria latifolia</i>	broadleaf arrowhead
<i>Salix carolina</i>	coastal plain willow
<i>Scirpus cubensis</i>	burhead sedge
<i>Solidago fistulosa</i>	pine barren goldenrod
<i>Triadenum virginicum</i>	marsh st. johnswort
<i>Typha</i> sp.	cattail
<i>Utricularia biflora</i> ( <i>U. gibba</i> )	humped bladderwort
<i>Utricularia foliosa</i>	leafy bladderwort
<i>Xyris</i> sp.	yelloweyed grass

I - Category I Invasive Exotics

II - Category II Invasive Exotics

For additional information about the LVI, please go to the Florida Department of Environmental Protection webpage

[http://www.dep.state.fl.us/water/sas/training/docs/lvi\\_primer.pdf](http://www.dep.state.fl.us/water/sas/training/docs/lvi_primer.pdf). For additional information about exotic Category I and II invasive exotic plants, please go to the Florida Exotic Pest Plant Council

<http://www.fleppc.org/list/list.htm>.

**FIGURE 1. Lake Carr showing unit divisions. Circled numbers denote surveyed units.**

