Lake Jackson Lake Vegetation Index Results (9-18-2015)

The Lake Vegetation Index (LVI) is a multimetric 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.

Aquatic life use category	LVI Range	Description
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 that 10% of the taxa are sensitive.

The Lake Vegetation Index score for Lake Jackson was 61, placing the lake's vegetative community in the healthy category.

Sixty-four species were found during the survey. The native species, watershield (*Brasenia schreberi*), fragrant waterlily (*Nymphaea odorata*), American lotus (*Nelumbo lutea*), maidencane (*Panicum hemitomon*) and the Category II Invasive Exotic species alligator weed (*Alternanthera philoxeroides*) were the most dominant species in the lake. Other native vegetation included: red maple (*Acer rubrum*), buttonbush (*Cephalanthus occidentalis*) and coastal plain willow (*Salix carolina*).

Unfortunately, Chinese tallow tree (*Sapium sebiferum*), wild taro (*Colocasia esculenta*), torpedo grass (*Panicum repens*), hydrilla (*Hydrilla verticillata*) and water hyacinth (*Eichhornia crassipes*), are listed as Category I Invasive Exotics by the Florida Exotic Pest Control Council http://www.fleppc.org/ and were found in Lake Jackson. Alligator weed (*Alternanthera philoxeroides*) and rattlebox (*Sesbania punicea*) are Category II Invasive Exotics found in the lake. Additionally, the exotic vaseygrass (*Paspalum urville*) and yellow nut sedge (*Cyperus esculentus*) were found in and near 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 Jackson LVI survey (9-18-15).

Scientific Name	Common Name
Acer rubrum	red maple
Alternanthera philoxeroides(II)	alligator weed
Ampelopsis arborea	peppervine
Andropogon virginicus	broomsedge bluestem
Bacopa caroliniana	lemon bacopa
Betula nigrans	river birch
Bidens laevis	smooth beggartick
Bidens mitis	smallfruit beggartick
Boehmeria cylindrica	false nettle
Brasenia schreberi	watershield
Cabomba caroliniana	fanwort
Cephalanthus occidentalis	buttonbush
Ceratophyllum demersum	coontail
Cyperus esculentus	yellow nutsedge
Diospyros virginiana	common persimmon
Echinochloa walteri	coast cockspur grass
Eichhornia crassipes (I)	water hyacinth
Eleocharis sp.	eleocharis
Eupatorium capillifolium	dogfennel
Hibiscus moscheutos	crimson-eyed rosemallow
Hydrilla verticillata (I)	hydrilla
Hydrocotyle sp.	water pennywort
Hydrolea quadrivalvis	waterpod
Juncus effusus	common rush
Leersia hexandra	southern cutgrass
Lemna minor	common duckweed
Limnobium spongia	frog's bit
Liquidamber styraciflua	American sweetgum
Ludwigia arcuata	needleleaf ludwigia
Ludwigia decurrens	wingleaf primrose willow
Ludwigia leptocarpa	anglestem primrose willow
Ludwigia suffruticosa	shrubby primrose willow
Myrica cerifera	wax myrtle
Myriophyllum heterophyllum	twoleaf watermilfoil
Nelumbo lutea	American lotus
Nuphar sp.	spatterdock
Nymphaea odorata	fragrant waterlily
Nymphoides aquatica	banana lilly
Nyssa sylvatica var. biflora	swamp tupelo

Scientific Name	Common Name
Panicum hemitomon	maidencane
Panicum repens(I)	torpedo grass
Pinus taeda	loblolly pine
Polygonum densiflorum (glabrum)	denseflower knotweed
Polygonum hirsutum	hairy smartweed
Polygonum hydropiperoides	swamp smartweed
Polygonum punctatum	dotted smartweed
Pontederia cordata	pickerelweed
Quercus virginiana	southern live oak
Rhynchospora inundata	narrowfruit horned beaksedge
Ricciocarpus natans	purple-fringed riccia
Saccharum giganteum	sugarcane plumegrass
Sacciolepis striata	American cupscale-grass
Sagittaria filiformis	threadleaf arrowhead
Sagittaria lancifolia	duck potato
Sagittaria latifolia	broadleaf arrowhead
Salix carolina	coastal plain willow
Salvinia minima	water spangles
Sapium sebiferum(I)	Chinese tallow tree
Scirpus cubensis	burhead sedge
Sesbania herbacea	bigpod sesbania
Sesbania punicea(II)	rattlebox
Solidago fistulosa	pine barren goldenrod
Taxodium ascendens	pond cypress
Utricularia foliosa	leafy bladderwort
Utricularia sp.	bladderwort

Names in bold are exotics
I - Category I Invasive Exotics
II - Category I 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. For additional information about exotic Category I and Category II invasive exotic plants, please go to the Florida Exotic Pest Plant Council http://www.fleppc.org/list/list.htm.

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