Lake Munson Lake Vegetation Index Results (7-31-2015)

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 Munson was 58, placing the lake's vegetative community in the healthy category.

Sixty-nine species were found during the survey. The native species pond cypress (*Taxodium ascendens*) was the most dominant species in the lake. Other native shoreline vegetation included: red maple (*Acer rubrum*), buttonbush (*Cephalanthus occidentalis*) and swamp tupelo (*Nyssa sylvatica biflora*).

Unfortunately, camphor tree (*Cinnamomum camphora*), wild taro (*Colocasia esculenta*), Chinese privet (*Ligustrum sinense*), water hyacinth (*Eichhornia crassipes*), Peruvian primrose willow (*Ludwigia peruviana*), wandering jew (*Tradescantia zebrina*) and Chinese tallow (*Sapium sebiferum*), all listed as Category I Invasive Exotics (Florida Exotic Pest Control Council http://www.fleppc.org/), were found in the littoral zone of Lake Munson. Alligator weed (*Alternanthera philoxeroides*) and rattlebox (*Sesbania punicea*) are Category II Invasive Exotics found in the lake. Other non-native species in and around the lake include yellow nut sedge (*Cyperus esculentus*), parrot feather watermilfoil (*Myriophyllum aquaticum*) and water spangles (*Salvinia minima*).

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 Munson LVI survey (7-31-15).

Scientific Name	Common Name
Acer rubrum	red maple
Alternanthera philoxeroides(II)	alligator weed
Ambrosia trifida	great ragweed
Ampelopsis arborea	peppervine
Baccharis halimifolia	eastern baccharis
Bidens laevis	smooth beggartick
Boehmeria cylindrica	false nettle
Campsis radicans	trumpet vine
Canna flaccida	golden canna
Carex crus-corvi	ravenfoot sedge
Carex decomposita	cypressknee sedge
Carex lupulina	hop sedge
Carex sp.	sedge
Catalpa bignonioides	southern catalpa
Cephalanthus occidentalis	buttonbush
Cinnamomum camphora (I)	camphor tree
Colocasia esculenta (I)	wild taro
Commelina virginica	Virginia dayflower
Cyperus esculentus	yellow nutsedge
Echinochloa walteri	coast cockspur grass
Eichhornia crassipes (I)	water hyacinth
Eupatorium capillifolium	dogfennel
Fraxinus caroliniana	carolina ash
Gelsemium sempervirens	evening trumpet flower
Hydrocotyle sp.	water pennywort
Hydrolea quadrivalvis	waterpod
Hymenocallis sp.	spiderlily
Iris hexagona	dixie iris
Itea virginica	Virginia sweetspire
Lemna minor	common duckweed
Leucothoe racemosa	sweetbells
Ligustrum sinense (I)	Chinese privet
Liquidamber styraciflua	American sweetgum
Ludwigia leptocarpa	anglestem primrose willow
Ludwigia peruviana (I)	Peruvian primrosewillow
Lycopus rubellus	taperleaf water horehound
Mikania scandens	climbing hempvine
Morus rubra	red mulberry
Myrica cerifera	wax myrtle

Scientific Name	Common Name
Myriophyllum aquaticum	parrot feather watermilfoil
Nyssa aquatica	water tupelo
Nyssa sylvatica var. biflora	swamp tupelo
Phanopyrum gymnocarpon	savannah panicgrass
Polygonum densiflorum (glabrum)	denseflower knotweed
Polygonum punctatum	dotted smartweed
Pontederia cordata	pickerelweed
Ptilimnium capillaceum	mock bishop's weed
Quercus nigra	water oak
Quercus virginiana	southern live oak
Rubus trivialis	southern dewberry
Sabal palmetto	cabbage palm
Saccharum giganteum	sugarcane plumegrass
Sacciolepis striata	American cupscale-grass
Sagittaria latifolia	broadleaf arrowhead
Salix carolina	coastal plain willow
Salvinia minima	water spangles
Sambucus canadensis subsp. *nigra*	American elderberry
Sapium sebiferum(I)	Chinese tallow tree
Saururus cernuus	lizard's tail
Schoenoplectus californicus	giant bulrush
Sesbania punicea(II)	rattlebox
Smilax auriculata	earleaf greenbriar
Solidago fistulosa	pine barren goldenrod
Taxodium ascendens	pond cypress
Toxicodendron radicans	eastern poison ivy
Tradescantia fluminensis (I)	wandering jew
Triadenum virginicum	marsh st. johnswort
Tripsacum dactyloides	eastern gamagrass
Vitis rotundifolia	muscadine
Woodwardia areolata	netted chain fern

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

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