Lake Munson Lake Vegetation Index Results (7-24-2018)

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	79–100	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	43–78	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 57, placing the lake's vegetative community in the healthy category.

Sixty seven species were found during the survey. The native species pond cypress (*Taxodium ascendens*), denseflower knotweed (*Polygonum densiflorum*) and southern waternymph (*Najas guadalupensis*) were 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, wild taro (*Colocasia esculenta*), water hyacinth (*Eichhornia crassipes*) Chinese privet (*Ligustrum sinense*), camphor tree (*Cinnamomum camphora*), wandering Jew (*Tradescantia fluminensis*), paragrass (*Urochloa mutica*) 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*), is a Category II Invasive Exotic found in the lake. Other non-native species in and around the lake include parrot feather watermilfoil (*Myriophyllum aquaticum*) burhead sedge (*Oxycaryum cubense*) 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 (7-24-18).

Scientific Name	Common Name
Acer rubrum	red maple
Alternanthera philoxeroides(II)	alligator weed
Ampelopsis arborea	peppervine
Azolla caroliniana	mosquito fern
Baccharis sp.	salt bush
Bidens laevis	smooth beggartick
Boehmeria cylindrica	false nettle
Campsis radicans	trumpet vine
Carex sp.	sedge
Cephalanthus occidentalis	buttonbush
Ceratophyllum demersum	coontail
Cicuta maculata	water hemlock
Cinnamomum camphora (I)	camphor tree
Colocasia esculenta (I)	wild taro
Cyperus odoratus	fragrant flatsedge
Cyperus sp.	flatsedge
Echinochloa walteri	coast cockspur grass
Eichhornia crassipes (I)	water hyacinth
Eleocharis sp.	eleocharis
Fraxinus caroliniana	carolina ash
Hydrocotyle sp.	water pennywort
Hygrophila polysperma	dwarf hygrophila
Iris hexagona	dixie iris
Itea virginica	Virginia sweetspire
Juncus effusus	common rush
Juncus marginatus	grassleaf rush
Lemna sp.	duckweed
Ligustrum sinense (I)	Chinese privet
Liquidamber styraciflua	American sweetgum
Ludwigia leptocarpa	anglestem primrose willow
Ludwigia octovalvis	Mexican primrose willow
*Lycopus*sp.	bugleweed
Magnolia grandiflora	southern magnollia
Magnolia virginiana	sweetbay magnolia
Mikania scandens	climbing hempvine
Morus rubra	red mulberry
Myrica cerifera	wax myrtle
Myriophyllum aquaticum	parrot feather watermilfoil
Najas filifolia	needleleaf waternymph
Najas guadalupensis	southern waternymph
Nymphoides aquatica	banana lilly
Nyssa sylvatica var. biflora	swamp tupelo
Oxycaryum cubense	burhead sedge
Panicum hemitomon	maidencane
Parthenocissus quinquefolia	Virginia creeper
Pinus taeda	loblolly pine
Polygonum densiflorum (glabrum)	denseflower knotweed
Polygonum punctatum	dotted smartweed
Quercus virginiana	southern live oak
Rhynchospora inundata	narrowfruit horned beaksedge
Rumex verticillatus	swamp dock
Sabal palmetto	cabbage palm
Salix carolina	coastal plain willow
Salvinia minima	water spangles
Sapium sebiferum (I)	Chinese tallow tree
Saururus cernuus	lizard's tail
Schoenoplectus californicus	giant bulrush
Smilax sp.	greenbrier
Solidago sp.	goldenrod
Spirodela polyrhiza	common duckweed
Taxodium ascendens	pond cypress
Toxicodendron radicans	eastern poison ivy
Tradescantia fluminensis (I)	wandering jew
Triadenum virginicum	marsh st. johnswort
Typha sp.	cattail
Urochloa mutica (I)	paragrass
Vitis rotundifolia	muscadine
Woodwardia virginica	Virginia 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; https://floridadep.gov/sites/default/files/lvi-primer-102411.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.

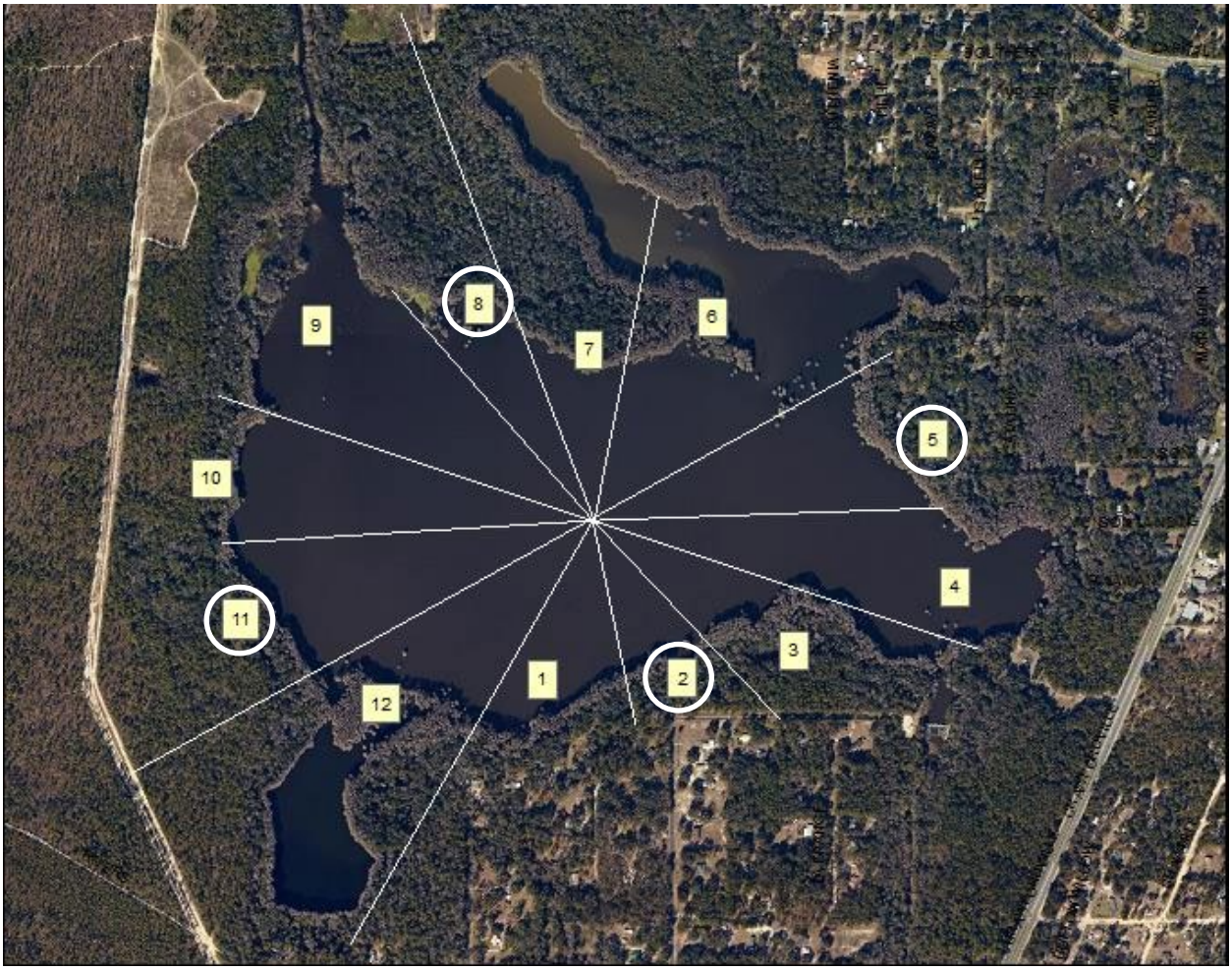

FIGURE 1. Lake Munson showing unit divisions. Circled numbers denote surveyed units.