Lake Piney Z 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 Piney Z was 57, placing the lake's vegetative community in the healthy category.

Sixty one species were found during the survey. Buttonbush (*Cephalanthus occidentalis*), American lotus (*Nelumbo lutea*), denseflower knotweed (*Polygonum densiflorum*), were the most dominant species at the lake. Other native shoreline vegetation included; red maple (*Acer rubrum*), coastal plain willow (*Salix carolina*) and pond cypress (*Taxodium ascendens*). Unfortunately, camphor tree (*Cinnamomum camphora*), wild taro (*Colocasia esculenta*), torpedo grass (*Panicum repens*), Chinese privet (*Ligustrum sinense*), Chinese tallow (*Sapium sebiferum*), and kudzu (*Pueraria montana*) all listed as Category I Invasive Exotics by the Florida Exotic Pest Control Council http://www.fleppc.org/ were found in or along the shoreline of Piney Z. Alligator weed (*Alternanthera philoxeroides*) is a Category II Invasive Exotic found in the lake. Water spangles (*Salvina minima*) was another exotic plant found in Lake Piney Z.

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 Piney Z LVI survey (7-24-18).

Scientific Name	Common Name
Acer rubrum	red maple
Agalinis fasciculata	beach false fox glove
Alternanthera philoxeroides(II)	alligator weed
Ampelopsis arborea	peppervine
Baccharis sp.	salt bush
Bacopa caroliniana	lemon bacopa
Bidens laevis	smooth beggartick
Bidens mitis	smallfruit beggartick
Boehmeria cylindrica	false nettle
Cephalanthus occidentalis	buttonbush
Cinnamomum camphora (I)	camphor tree
Colocasia esculenta (I)	wild taro
Cyperus haspan	haspan flatsedge
Cyperus odoratus	fragrant flatsedge
Cyperus sp.	flatsedge
Echinochloa walteri	coast cockspur grass
Eleocharis sp.	eleocharis
Eupatorium capillifolium	dogfennel
Hydrocotyle sp.	water pennywort
Hypericum sp.	St. Johns wort
Juncus effusus	common rush
Ligustrum sinense (I)	Chinese privet
Liquidamber styraciflua	American sweetgum
Ludwigia leptocarpa	anglestem primrose willow
Ludwigia linearis	narrowleaf primrose willow
Lygodium japonicum	Japanese climbing fern
Mikania scandens	climbing hempvine
Myrica cerifera	wax myrtle
Nelumbo lutea	American lotus
Nymphaea odorata	fragrant waterlily
Nymphoides aquatica	banana lilly
Nyssa sylvatica var. biflora	swamp tupelo
Osmunda cinnamomea	cinnamon fern
Panicum hemitomon	maidencane
Panicum repens(I)	torpedo grass
Pinus taeda	loblolly pine
Polygonum densiflorum (glabrum)	denseflower knotweed
Polygonum hirsutum	hairy smartweed
Polygonum punctatum	dotted smartweed
Pontederia cordata	pickerelweed
Pueraria montana (I)	kudzu
Quercus nigra	water oak
Quercus virginiana	southern live oak
Rhexia mariana	maryland meadowbeauty
Rhus copallinum	winged sumac
Rhynchospora inundata	narrowfruit horned beaksedge
Rubus trivialis	southern dewberry
Sagittaria lancifolia	duck potato
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
Scirpus cyperinus	woolgrass
Sesbania herbacea	bigpod sesbania
Solidago sp.	goldenrod
Taxodium ascendens	pond cypress
Typha sp.	cattail
Utricularia biflora (U. gibba)	humped bladderwort
Vitis rotundifolia	muscadine
Woodwardia areolata	netted chain fern
Woodwardia virginica	Virginia chain fern

Names in bold are exotic
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; 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 Piney Z showing unit divisions. Circled numbers denote surveyed units.