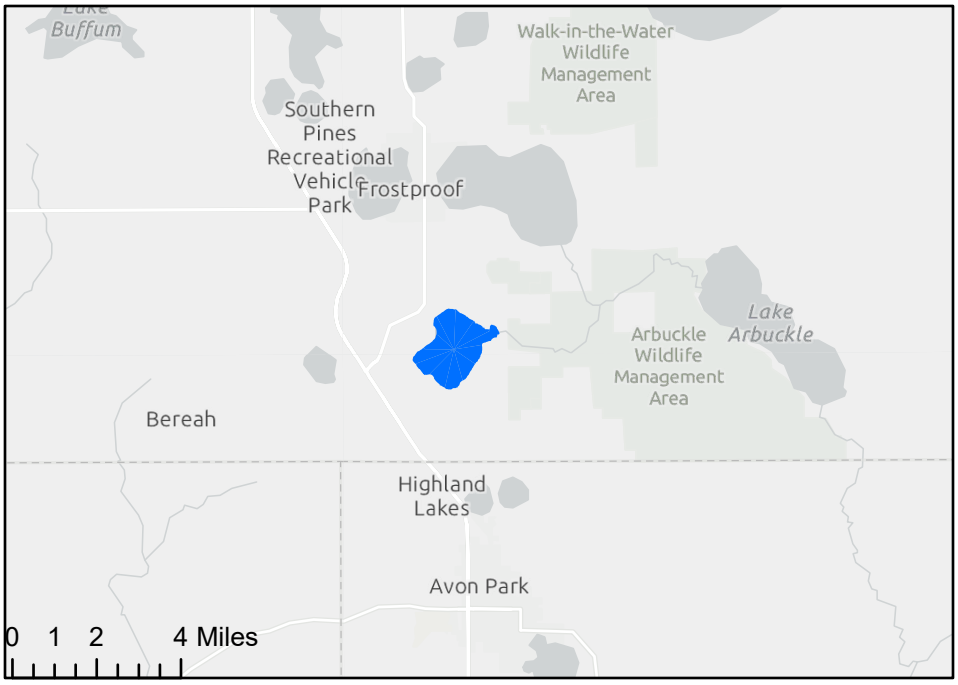
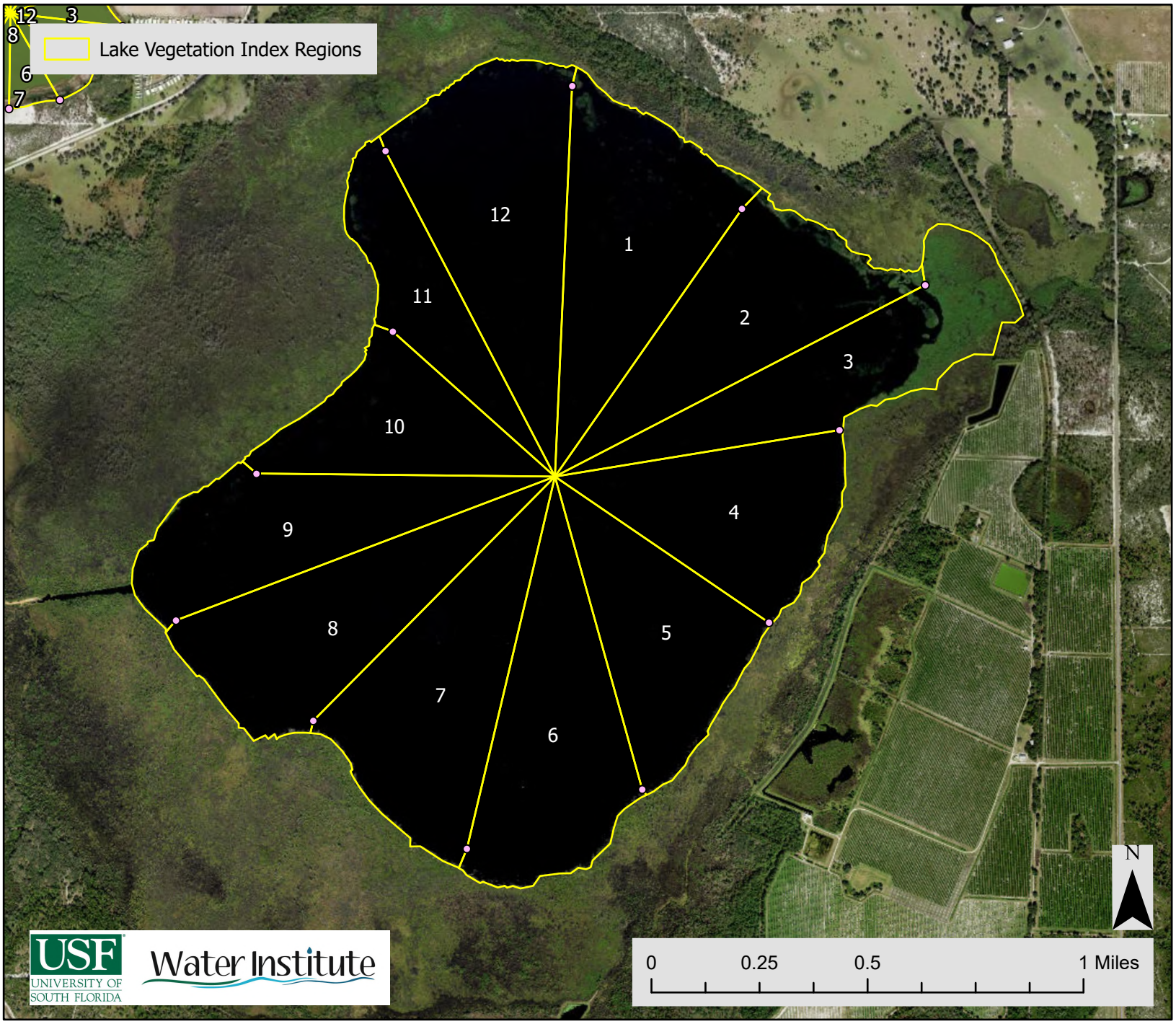


Lake Livingston
WBID 1730B

Sample Date - August 17, 2026
Surface Area - 1,192 acres (51,944,339 sqft)
100m Landscape Development Intensity - 1.03
Dominant Land Use 100m Buffer -
Natural (98.9%)
Agricultural (0.7%)
Lake Vegetation Index - 53
Lake Habitat Assessment - 92
Water Clarity - 0.4 m (1.31 ft)

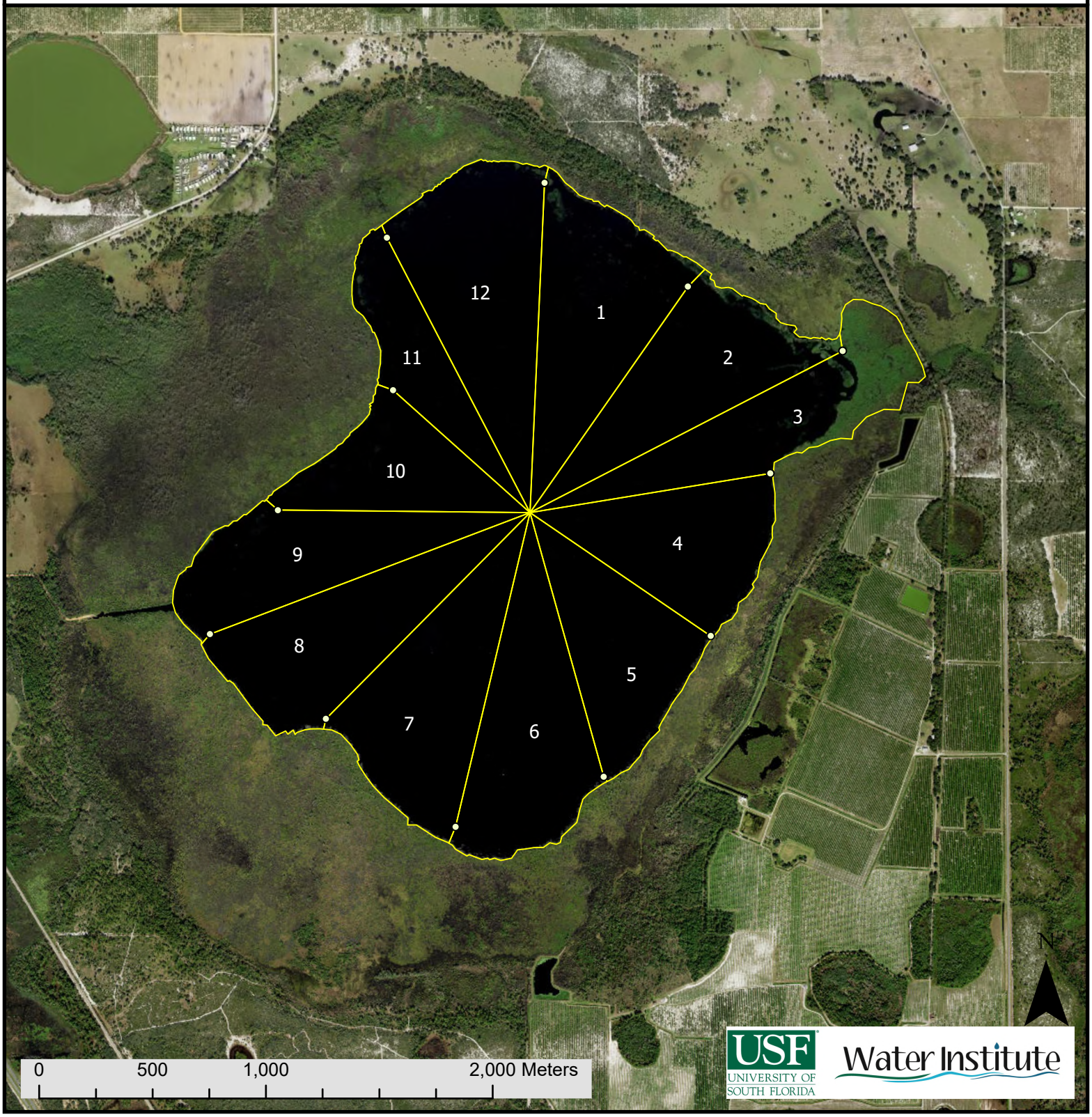


Lake Livingston
WBID 1730B

Lake Vegetation Index Regions

Sample Date - August 17, 2026
Regions Assessed - (2, 5, 8, 11)
Dominant Species Per Region -
2 - Nuphar
5 - Ludwigia peruviana, Scoenoplectus californicus
8 - Scoenoplectus californicus
11 - Ludwigia peruviana, Nuphar

Lake Description
Water Clarity - 0.4 meters (1.31 ft) - Turbid
Color - Tannic
Sediment Types
Organic Smooth (muck)
Organic fibrous (CPOM)
Lake Vegetation Index - 53



DEP FORM FD 9000-31: LAKE OBSERVATION FIELD SHEET

SAMPLE ID: Livingston | MACROPHYTE ID: | LATITUDE: 27.68522
COUNTY: Polk | STORET #: | LONGITUDE: -81.99316
DATE: 8/17/26 | TIME: 9:00 | SAMPLING AGENCY: USFWS
SITE NAME: Lake Livingston | WBID: 1730B
FIELD ID/NAME: Livingston | LAKE SIZE: 1192 | RQ:

WATERSHED / LAKESIDE FEATURES

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category – from GIS) :

Forest/Natural	Silviculture	Field/Pasture	Agricultural	Residential	Commercial	Industrial	Other (Specify)
98.9			0.7				

LANDSCAPE DEVELOPMENT INTENSITY (100 m buffer) LDI: 1.03

Land Use Source & Year:

Local Watershed Erosion (select one) : ☑ None ☐ Slight ☐ Moderate ☐ Heavy

Local Watershed NPS Pollution : ☑ No evidence ☐ Slight ☐ Moderate ☐ Heavy

Artificially Impounded ☐ Yes ☑ No

STORMWATER INPUTS 20	Stormwater enters system via sheet flow over non-cultivated and/or natural vegetation 20 19 18 17 16	Some direct stormwater inputs (ditches, pipes, cultivated vegetation < 10%) but good BMPs in place 15 14 13 12 11	Moderate direct inputs of stormwater (ditches, pipes, cultivated vegetation 11%-50%) but few BMPs in place 10 9 8 7 6	Much direct input of stormwater (ditches, pipes, cultivated vegetation > 51%) and no or ineffective BMPs in place 5 4 3 2 1
LAKESIDE ALTERATIONS 20	Very few man-made structures, roads, or other disturbance adjacent to lake (<10% lakeside affected) 20 19 18 17 16	Moderate disturbance visible - structures, roads or other (10%-49% lakeside affected) 15 14 13 12 11	Many structures, roads or other human disturbance visible (50%-70% lakeside affected) 10 9 8 7 6	Highly developed or disturbed (>70% of lakeside affected) 5 4 3 2 1
BUFFER ZONE 20	Expected native vegetation between uplands and littoral zone, greater than 90% of shore with >18 m buffer 20 19 18 17 16	89%-51% of shoreline with >18m buffer or >75% with 10m to 18m buffer 15 14 13 12 11	50%-30% of shoreline with >18m buffer or 50%-74% with 10m to 18m buffer 10 9 8 7 6	< 29% of shoreline with >18m buffer 5 4 3 2 1

WATER / SUBSTRATE / BIOLOGICAL: SAMPLES AND OBSERVATIONS

Water:

Nutrient Sample Taken? ☐ Yes ☑ No Preserved? ☐ Yes ☐ pH<2 ☐ No

Color Sample Taken? ☐ Yes ☑ No Lot # _____ Exp. Date: _____

Alkalinity Sample Taken? ☐ Yes ☑ No

Water Level ☑ Low ☐ Normal ☐ High

Water Odors: ☑ Normal ☐ Sewage ☐ Petroleum ☐ Other _____

Water Surface Oils: ☑ None ☐ Sheen/Slick ☐ Glob ☐ Other _____

Meter Readings:

	Depth (M)	Temp. (°C)	pH (SU)	D.O. (MG/L)	D.O. Sat. (%)	Cond. (UMHO/CM)	Salinity (PPT)
Top:	0.25	32.1	6.68	5.56	75.8	171.7	0.09
Mid-Depth:							
Bottom :	0.78	30.43	6.39	4.54	60.20	154.7	0.09

Meter ID:

Clarity: ☐ Clear ☐ Opaque ☑ Turbid ☐ Slightly Turbid

Color: ☐ Clear ☑ Tannic ☐ Green

SECCHI (M) 0.40 VOB ☐

Total Station Depth (M) 1.0

Sediment Type: (may check more than one) Sample Taken? ☑ Yes ☐ No

☐ Sandy ☑ Organic fibrous (peaty, CPOM) ☐ Vegetated

☐ Sand/Silt ☑ Organic smooth (muck) ☐ Other (Specify):_____

Sediment Odors: ☐ Normal ☐ Other (Specify): ☑ Anaerobic

Biological Communities:

LVI Conducted? ☑ Yes ☐ No

Phytoplankton Sample Taken? ☐ Yes ☑ No

Sample Preserved? ☐ Yes ☑ No

Lot #: _____ Exp Date: _____

Algal Bloom/Algal ID Sample Taken? Yes (No)

Active Vegetation Mgmt? ☑ Yes ☐ No ☐ Don't Know

Abundance:

	Absent	Rare	Common	Abundant
Periphyton	☐	☑	☐	☐
Nuisance Plants	☐	☑	☐	☐
Submersed Plants	☑	☐	☐	☐
Exotic Apple Snails	☐	☐	☑	☐

Additional Notes:

Weather Conditions : Sunny, Calm

SAMPLING TEAM: David Eilers Madilyn Hicks | **SIGNATURE:** | **DATE:**

DEP FORM FD 9000-27 LAKE VEGETATION INDEX FIELD SHEET

Waterbody: Livingston	County: Polk	Date: 2/17/26
Analyst: D Ellis	Signature:	STORET:

Except where noted as "sp." species level identification required. *Genera that may require lab verification*
Plants in bold= FLEPPC invasive exotic.

It is important to note dominant or co-dominant taxa (by areal extent) for each unit. Use "D" to denote dominant taxon, or "C" for the 2 co-dominant taxa.

Lake units sampled (circle one group):
1, 4, 7, 10 2, 5, 8, 11
3, 6, 9, 12

SPECIES	2	5	8	11	Collected? (√)	SPECIES	2	5	8	11	Collected? (√)
Acer rubrum	1	1	1	1		**Hydrilla verticillata**					
Alternanthera philoxeroides	1	1	1	1		Hydrocotyle sp.	1	1	1	1	
Andropogon sp.						Hydrocotyle umbellata					
Andropogon glomeratus						Hymenachne amplexicaulis					
Azolla filiculoides (A. caroliniana)						Ilex cassine					
Baccharis sp.						Imperata cylindrica					
Baccharis ~~glomeruliflora~~ halimifolia			1	1		Ipomoea sagittata					
Bacopa monnieri						Itea virginica					
Bidens alba						Juncus effusus					
Blechnum serrulatum	1	1	1	1		*Juncus marginatus					
Boehmeria cylindrica						*Juncus megacephalus					
Casuarina equisitifolia						Juncus repens					
Centella asiatica						*Juncus scirpoides					
Cephalanthus occidentalis	1	1	1	1		Lachnanthes caroliniana					
Ceratophyllum demersum						Leersia hexandra					
Chara sp.						**Landoltia punctata** (Spirodela punctata)					
Cladium jamaicense						Lemna sp.					
Colocasia esculenta						Lemna minor					
*Commelina						**Limnophila sessiliflora**					
Crinum americanum						Liquidamber styraciflua					
Cyperus sp.						*Ludwigia sp.					
Cyperus articulatus						*Ludwigia arcuata					
***Cyperus alternifolius** (C. involucratus)						*Ludwigia erecta					
*Cyperus belephaleptos	1	1		1		*Ludwigia leptocarpa		1	1	1	
Cyperus haspan						*Ludwigia linearis					
*Cyperus lecontei	1					*Ludwigia octovalvis		1	1		
*Cyperus odoratus	1	1	1	1		***Ludwigia peruviana**	1	C	1	C	
*Cyperus polystachyos	1					*Ludwigia repens					
*Cyperus surinamensis						Luziola fluitans (Hydrochloa carolinensis)					
Diodia virginiana						Magnolia virginiana		1	1		
Dioscorea bulbifera						**Melaleuca quinquenervia**					
*Echinochloa crus-galli						Micranthemum glomeratum					
Echinochloa walteri						Micranthemum umbrosum					
Eclipta prostrata (E. alba)						Mikania scandens	1			1	
Eichhornia crassipes	1	1	1	1		**Mimosa pigra**					
*Eleocharis						Musa					
*Eleocharis baldwinii						Myrica cerifera	1	1	1	1	
Eleocharis cellulosa						Myriophyllum aquaticum					
Eleocharis equisetoides						**Myriophyllum spicatum**					
Eleocharis interstincta						*Najas guadalupensis					
Eleocharis vivipara						Nelumbo lutea					
Erechitetes hieraciifolius				1		Nitella sp.					
Eupatorium capillifolium	1	1	1	1		Amaranthus australis				1	
*Fuirena						Ancolepsis cotula			1	1	
Fuirena breviseta											
Fuirena pumila						Ipomea aquatica			1		
Fuirena scirpoidea											
Gordonia lasianthus											
Habenaria repens											
Hibiscus grandiflorus				1							

FORM FD 9000-27: LAKE VEGETATION INDEX FIELD SHEET

Site: Livingston | Date: 8/1/12

SPECIES	2	5	8	11	Collected? (√)
Nuphar sp.	D	I	I	C	
Nymphaea odorata					
Nymphoides aquatica					
Nyssa sylvatica biflora	1	1	F	1	
Orontium aquaticum					
Osmunda cinnamomea					
Osmunda regalis					
Panicum hemitomon	1				
Panicum repens	1				
Parthenocissus quinquefolia					
Paspalidium geminatum	1	1	1	1	
*Paspalum repens					
Paspalum urvillei					
Peltandra sp.					
Pennisetum purpureum					
Persea sp.					
Persea palustris				1	
Persea glabra					
Phragmites australis					
Phyla nodiflora					
Pinus elliottii					
Pistia stratioides					
Pluchea sp.					
Pluchea baccharis					
Pluchae odorata					
*Polygonum					
*Polygonum glabrum (densiflorum)	1	1	1	1	
*Polygonum hydropiperoides					
*Polygonum punctatum	1	1	1	1	
Pontederia cordata	1	1			
*Potamogeton illinoensis					
Ptilimnium capillaceum					
Quercus					
Quercus laurifolia					
Quercus nigra					
*Rhexia					
Rhynchospora microcephala					
Rhynchospora nitens					
Sabal palmetto					
Sacciolepis striata	1		1	1	
Sagittaria lancifolia			1		
Sagittaria latifolia					
Salix caroliniana	1	1	1	1	
Salvinia minima	1	1	1	1	
Sambucus canadensis					
Sambucus nigra					
Sapium sebiferum					
Sarcostemma clausum					
Schinus terebinthifolius					
*Schoenoplectus californicus	1	C	D		
*Schoenoplectus tabernaemontani (Scirpus validus)					
*Sesbania					
*Sesbania herbacea					
Solidago sp.					

SPECIES	2	5	8	11	Collected? (√)
Sparganium americanum					
Spartina bakeri				1	
Taxodium sp.					
Taxodium ascendens					
Taxodium distichum					
Thalia geniculata					
Thelypteris interrupta			1	1	
Thelypteris palustris					
Triadenum virginicum					
Typha sp.	1	1	1	1	
Urena lobata					
Urochloa mutica (Brachiaria mutica)					
*Utricularia					
*Utricularia floridana					
*Utricularia foliosa					
*Utricularia gibba (U. biflora)					
*Utricularia purpurea					
*Utricularia radiata					
Vallisneria americana					
Vigna luteola					
Vitis					
Vitis rotundifolia			1	1	
*Websteria confervoides					
Wedelia trilobata (Sphagneticola trilobata)					
Woodwardia virginica					
Xyris sp.					
Zizania aquatica					
Zizaniopsis milacea					

DEP Form FD 9000-6: Lake Habitat Assessment Field Sheet

STORET STATION NUMBER:	DATE (M/D/Y): 8/17/26	LAKE NAME: Lake Livingston	FIELD ID / NAME: Livingston
ECO-REGION: 75c	COUNTY: Polk	SAMPLING LOCATION/DESCRIPTION: Lake Livingston	LAKE SIZE: 1192

PARAMETER				
HYDROLOGY	No surface inflow or outflow present, very long water residence time, groundwater seepage dominates ☐	Surface water inflow present, but flow is rare, moderate to long water residence time ☑	Surface water inflow and outflow present (or outflow only), sometimes with visible flow, short water residence time ☐	Impounded, hydrology of system artificially controlled ☐
Color	Very clear, uncolored water (benthic sampling appropriate) ☐	Water somewhat tannin stained (benthic sampling appropriate) ☐	Dark, discolored water (water color 20 PCU or higher) ☐	Visibility extremely reduced due to high color ☑

	Optimal					Suboptimal					Marginal					Poor				
Secchi 4	Secchi >3 m				Secchi(m)	3	2.6	2.2	1.8	1.4	1.0	0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1
	Or VOB	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
Vegetation Quality 6	Diverse, expected native vegetation (emergent or submersed), less than 5% nuisance taxa					Mostly expected native plants, but moderate growths (6%-20% of lake) of nuisance macrophytes, or more than 50% of lake covered with plants					Large masses (21%- 40%) of nuisance macrophytes (e.g., Hydrilla, hyacinth, cattail, etc.) or algal mats					Lake choked (>40%) with nuisance macrophytes (duckweed, hyacinth, etc.) or algal mats, or few plants present at all (e.g., plants removed)				
	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
Stormwater Inputs 20	Stormwater enters system via sheet flow over non-cultivated and/or natural vegetation					Some direct stormwater inputs (ditches, pipes, cultivated vegetation < 10%) but good BMPs in place					Moderate direct inputs of stormwater (ditches, pipes, cultivated vegetation 11%-50%) but few BMPs in place					Much direct input of stormwater (ditches, pipes, cultivated vegetation > 51%) and no or ineffective BMPs in place				
	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
Bottom Substrate Quality 5	Diverse mixture of sand, detritus, with small amounts of CPOM/mud/muck. SAV may be present					Mixture of sand or clay and detritus with higher % CPOM/mud/muck content. SAV may be present					Moderate layer of CPOM/mud/muck, or hardpacked sand only, or moderate algal growth (mats or Chara) on bottom					Thick deposits of CPOM, or fine detritus and anaerobic muck/mud/silt, or algal growth or nuisance plants (Hydrilla) cover bottom				
	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
Lakeside Adverse Human Alternations 20	Very few man-made structures, roads, or other disturbance adjacent to lake (<10%)					Moderate disturbance visible (structures, roads or other), 10%-49% lakeside affected					Many structures, roads or other human disturbance visible (50%-70%) lakeside affected)					Highly developed or disturbed (>70% of lakeside affected)				
	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
Upland Buffer Zone 20	Expected native vegetation between uplands and littoral zone, greater than 90% of shore with >18 m buffer					89%-51% of shoreline with >18m buffer or >75% with 10m to 18m buffer					50%-30% of shoreline with >18m buffer or 50%-74% with 10m to 18m buffer					< 29% of shoreline with >18m buffer				
	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
Adverse Watershed Land Use 17	Score the potential effects from adverse human land uses, based on a continuum of amount and type, with least to most adverse as follows: Native vegetation, Silviculture, Pasture or Citrus, Low Density Residential, Row Crops, Commercial, High Density Residential, Urban, Industrial																			
	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1

TOTAL SCORE: 92	COMMENTS: Large Emergent Swamp surrounds Lake

ANALYSIS DATE: 8/17/26	ANALYST: David Eilers	SIGNATURE: