



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

STRATEGIC MONITORING PLAN Field Sheet

July 2022

Meter
Passed End
of Day CCV

Yes / No

WIN Station Name:	LOW LAKE CENTER				Sample Date:	9/28/2023	
WIN / Field ID:	21020065	ORG ID:	21FLA	ENR:	-	Latitude:	30.22169
County:	SUWANNEE	WBID:	3496A	LAKE		Longitude:	-82.8363
Receiving Body of Water:	-				RQ-	2023-08-28-72	

Sampling Team Members	WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check
Jeremy Parrish	x		x		
Katrin Villinger		x		x	x

Sampling Equipment			
x	Sample Container		Carboy
	Dipper		Van Dorn
	Syringe		Pole
Syringe Lot#		Filter Lot# 175533	
Secchi Equipment ID:		D#3	
Collection Method			
	Wading		Canoe/Kayak
	From Shore		Electric Motor
		x	Gasoline Motor
Depth Measured With		Meter	

Water Level:	Normal
Flow:	NA
Matrix:	Fresh
Tide Stage:	
High Tide:	
Low Tide:	
Photos:	NA
Meter ID:	Desi
Depth Gauge ID:	depth_gauge

Time Zone	Time	Total Depth (m)	Sample Depth (m)	DO (mg/L)	DO (%SAT)	Temp. (°C)	pH	Secchi Disk (m)	Sp COND (µmhos/cm)	Salinity (PPTth)
EST	1135	6.1	0.3	4.12	50.4	25.9	6.02	0.6	60	0.03
	1138		2	3.63	45	25.9	5.94		60	0.03
	1140		5.6	0.67	7.5	20.1	5.99		123	0.06

Biological Samples Collected: None

SBIO Visit ID: HA ID: RPS ID: Macrophyte ID: LIMS Sample ID
In The Macrophyte Module:

Parameter Suite	Parameter Methods (LIMS Test Codes)			Preservation			
	Type	Lot#	Expiration Date	pH Check			
Microbiology							
Chlorophyll	CHLSUITE-W						
Physical/Aggregate	ALKALINITY, TURBIDITY, W-F, W-TSS						
Nutrients	W-CL-IC, W-COLOR, W-SO4-IC, W-TDS						
Filtered Nutrients	W-PO4-F	Field Filtered 0.45 µm Filter					Syringe Lot#; Filter Lot#:175533
Acid Preserved Nutrients	W-NH3 / W-NO2NO3 / W-TKN / W-TOC / W-S-A-TP	ICE	H2SO4*	Sa3013020	01/25/2024	H2SO4 pH<2	
Metals	W-ICPMS	W-ICP	W-HARD	ICE	HNO3**	Na3123030	05/10/2024
Organics (LC)	W-E8321-MS						
Macroinvertebrates							
Organics (GC)	W-PSNP-TQ	W-TR-SQ-R		Ice	*2.0 ml of H2SO4 Used Unless Noted Otherwise **2.0 ml of HNO3 Used Unless Noted Otherwise		
Molecular							
Periphyton							
Phytoplankton							
BOD							
DOC					SyringeLot#	FilterLot#	
Other(s)							
Field Comments:							
Comments on COC:							
Relinquish Date:	09/28/2023	Signature:					

LIMS EVENT ID: WIN Import ID:

Enter Field Parameters, Verify Station ID In LIMS DMT: (Initials/Date)

QC Station ID, Field Parameters In LIMS DMT: (Initials/Date)

Save Field Sheets on Network: 9/28/23 KV (Initials/Date)

Migrate Data to WIN: (Initials/Date)

DEP FORM FD 9000-27 LAKE VEGETATION INDEX FIELD SHEET

Waterbody: <u>Longlake Center</u>		County: <u>Sumner</u>		Date: <u>9/28/23</u>							
Analyst: <u>Jerry Pan</u>		Signature: <u>Jerry Pan</u>		STORET: <u>21020065</u>							
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 <u>3, 6, 9, 12</u>							
SPECIES	3	6	9	12	Collected? (✓)	SPECIES	3	6	9	12	Collected? (✓)
Acer rubrum	✓	✓	✓	✓		Habenaria repens					
Alternanthera philoxeroides	✓					Hydrilla verticillata					
Andropogon sp.	✓			✓		Hydrocotyle sp.					
Azolla filiculoides (A. caroliniana)						Hygrophila polysperma					
Baccharis sp.						*Hypericum fasciculatum					
Bacopa caroliniana						*Hypericum hypericoides					
Bacopa monnieri						*Hypericum myrtifolium					
Bidens laevis						Ilex cassine	✓	✓	✓	✓	
Bidens mitis						Ipomoea aquatica					
Blechnum serrulatum	✓	✓	✓	✓		Ipomoea sagittata					
Boehmeria cylindrica	✓	✓	✓	✓		Itea virginica					
Brasenia schreberi						Juncus effusus					
Cabomba caroliniana						*Juncus marginatus					
Casuarina equisetifolia						*Juncus megacephalus					
Centella asiatica						Juncus repens					
Cephalanthus occidentalis	✓		✓	✓		*Juncus scirpoides					
Ceratophyllum demersum						Lachnanthes caroliniana					
Chara sp.						Leersia hexandra					
Cladium jamaicense						Landoltia punctata (Spirodela punctata)					
Cliftonia monophylla						Lemna sp.	✓	✓	✓	✓	
Colocasia esculenta						Leucothoe racemosa (Eubotrys racemosa)					
*Commelina						Limnium spongia	D	✓	D	✓	
Crinum americanum						Limnophila sessiliflora					
*Cyperus alternifolius (C. involucratus)						Liquidambar styraciflua		✓		✓	
Cyperus articulatus						*Ludwigia arcuata					
Cyperus haspan						*Ludwigia leptocarpa					
*Cyperus lecontei						*Ludwigia linearis					
*Cyperus polystachyos						*Ludwigia octovalvis			✓	✓	
*Cyperus odoratus				✓		*Ludwigia peruviana					
*Cyperus surinamensis						*Ludwigia repens					
Cyrtilla racemiflora						*Ludwigia					
Decodon verticillatus						Luziola fluitans (Hydrochloa carolinensis)					
Diodia virginiana						Lyonia lucida					
*Echinochloa crus-galli						Magnolia virginiana	✓	✓			
*Echinochloa muricatum						Mayaca fluviatilis					
Echinochloa walteri						Melaleuca quinquenervia					
Eclipta prostrata (E. alba)						Micranthemum glomeratum					
Egeria densa						Micranthemum umbrosum					
Eichhornia crassipes	D	D	D	D		Mikania scandens				✓	
*Eleocharis baldwini						Mimosa pigra					
*Eleocharis						Myrica cerifera	✓	✓	✓	✓	
Eleocharis cellulosa						May. grandiflora					
Eleocharis equisetoides											
Eleocharis interstincta											
*Eriocaulon compressum											
*Eriocaulon decangulare											
Eupatorium capillifolium											
*Fuirena											
Fuirena scirpoidea											
Gordonia lasianthus	✓										

FORM FD 9000-27: LAKE VEGETATION INDEX FIELD SHEET

Site:					Date:				
SPECIES				Collected? (✓)	SPECIES				Collected? (✓)
Myriophyllum aquaticum					Salix caroliniana				
*Myriophyllum heterophyllum					Salvinia minima	✓	✓	✓	✓
*Myriophyllum laxum					Sambucus canadensis				
*Myriophyllum pinnatum					Sapillum sebiferum				
Myriophyllum spicatum					Saururus cernuus				
*Najas filifolia					Schinus terebinthifolius				
*Najas guadalupensis					*Schoenoplectus californicus				
*Najas minor					*Schoenoplectus pungens				
Nelumbo lutea					*Schoenoplectus tabernaemontani (Scirpus validus)				
Nitella spp.					Scirpus cubensis (Oxycaryon cubense)				
Nuphar sp.					Scirpus cyperinus				✓
Nymphaea odorata					*Sesbania				
Nymphoides aquatica					Solidago sp.				
Nyssa sylvatica var. biflora	✓	✓	✓	✓	Sparganium americanum				
Orontium aquaticum					Spartina bakeri				
Osmunda cinnamomea					Spirodela polyrhiza				
Osmunda regalis					Taxodium sp.				
Panicum hemitomon			✓	✓	Thalia geniculata				
Panicum repens					Thelypteris palustris				
Paspalidium geminatum					Triadenum virginicum				
*Paspalum repens					Typha sp.			✓	✓
Paspalum urvillei					Urochloa mutica (Brachiaria mutica)				
Peltandra sp.					*Utricularia gibba (U. biflora)				
Persea sp.		✓			*Utricularia floridana				
Pennisetum purpureum					*Utricularia foliosa				
Phragmites australis					*Utricularia inflata				
Pinus elliotii	✓	✓	✓	✓	*Utricularia purpurea				
Pistia stratioides					*Utricularia comuta				
Pluchea sp.					*Utricularia radiata				
*Polygonum glabrum (densiflorum)					Vallisneria americana				
*Polygonum hydropiperoides					*Websteria confervoides				
*Polygonum punctatum		✓	✓	✓	Wedelia trilobata (Sphagneticola trilobata)				
*Polygonum					Wolffiella spp.				
Pontederia cordata					Woodwardia virginica	✓	✓	✓	✓
*Potamogeton diversifolius					Xyris sp.				
*Potamogeton illinoensis					Zizania aquatica				
*Potamogeton pusillus					Zizaniopsis milacea				
*Potamogeton pectinatus (Stuckenia pectinatus)					Woodwardia areolata	✓	✓		
Proserpinaca pectinata					Vitis Vitis sp.			✓	
*Rhexia									
*Rhynchospora corniculata									
*Rhynchospora inundata									
Rhynchospora tracyi									
Ricciocarpus natans									
Sabal palmetto									
Sagittaria striata		✓	✓	✓					
*Sagittaria filiformis									
*Sagittaria graminea									
*Sagittaria isoetiformis									
Sagittaria lancifolia									
Sagittaria latifolia									

DEP FORM FD 9000-31: LAKE OBSERVATION FIELD SHEET

SAMPLE ID: _____ MACROPHYTE ID: _____ LATITUDE: _____
COUNTY: Sumner STORET #: 21020065 LONGITUDE: _____
DATE: 9/28/2023 TIME: 1135 SAMPLING AGENCY: _____
SITE NAME: Low Lake Center WBID: 3496A
FIELD ID/NAME: _____ LAKE SIZE: _____ 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) ☐						LANDSCAPE DEVELOPMENT INTENSITY (100 m buffer) LDI:			
Local Watershed Erosion (select one) : ☒ None ☐ Slight ☐ Moderate ☐ Heavy						Artificially Impounded ☐ Yes ☒ No			
Local Watershed NPS Pollution : ☒ No evidence ☐ Slight ☐ Moderate ☐ Heavy						Land Use Source & Year:			
STORMWATER INPUTS <u>13</u>		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	
LAKESIDE ALTERATIONS <u>15</u>		Very few man-made structures, roads, or other disturbance adjacent to lake (<10% lakeside affected)		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	
BUFFER ZONE <u>15</u>		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	

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 <u>Anaerobic</u>					
Meter Readings: Top: <u>0.3</u> <u>25.9</u> <u>6.02</u> <u>4.12</u> <u>50.4</u> <u>60</u> <u>0.03</u> Mid-Depth: <u>2</u> <u>25.9</u> <u>5.94</u> <u>3.63</u> <u>46.450</u> <u>60</u> <u>0.03</u> Bottom: <u>5.6</u> <u>20.1</u> <u>5.99</u> <u>0.67</u> <u>7.5</u> <u>123</u> <u>0.06</u> Meter ID: _____						Water Surface Oils: ☒ None ☐ Sheen/Slick ☐ Glob ☐ Other _____ Clarity: ☐ Clear ☐ Opaque ☐ Turbid ☒ Slightly Turbid Color: ☐ Clear ☒ Tannic ☐ Green SECCHI (M) <u>0.6</u> Total Station Depth (M) <u>6.1</u> VOB ☐					
Sediment Type: (may check more than one) ☐ Sandy ☐ Organic fibrous (peaty, CPOM) ☐ Vegetated ☐ Sand/Silt ☒ Organic smooth (muck) ☐ Other (Specify): _____						Sediment Odors: ☐ Normal ☐ Other (Specify): <u>gas bubbles</u> ☒ 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 ☐ ☐ ☐ ☐					
Weather Conditions :						Additional Notes: <u>Anaerobic Bubbles</u>					
SAMPLING TEAM: <u>Jerry Carr / K. Villiger</u>						SIGNATURE: <u>Jerry Carr</u>					
DATE: <u>9/28/2023</u>											

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

STORET STATION NUMBER: 21020065	DATE (M/D/Y): 9/28/2023	LAKE NAME: Low Lake Center		FIELD ID / NAME:												
ECO-REGION:	COUNTY:	SAMPLING LOCATION/DESCRIPTION:		LAKE SIZE:												
PARAMETER	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 ☐												
HYDROLOGY																
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		Poor												
Secchi	Secchi >3 m Or VOB	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
6	20 19 18 17 16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
Vegetation Quality	Diverse, expected native vegetation (emergent or submersed), less than 5% nuisance taxa 8	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	Stormwater enters system via sheet flow over non-cultivated and/or natural vegetation 13	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	Diverse mixture of sand, detritus, with small amounts of CPOM/mud/muck. SAV may be present 8	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 Alterations	Very few man-made structures, roads, or other disturbance adjacent to lake (<10%) 15	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	Expected native vegetation between uplands and littoral zone, greater than 90% of shore with >18 m buffer 15	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	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															
17	20 19 18 17 16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
TOTAL SCORE	82															
COMMENTS:																

ANALYSIS DATE: 9/28/23	ANALYST: Jeremy Corn / K. Williams	SIGNATURE: Jeremy Corn
----------------------------------	--	----------------------------------