

**FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION**

STRATEGIC MONITORING PLAN Field Sheet

July 2022

Meter
Passed End
of Day CCV
Yes / No

WIN Station Name:		Lake Hiawatha @ Center				Sample Date:		7/20/2022	
WIN / Field ID:	G1CE0069	ORG ID:	21FLCEN	ENR:		Latitude:	28.56437		
County:	Lake	WBID:	2839B	LAKE		Longitude:	-81.77928		
Receiving Body of Water:		Palatka River				RQ-	2022-07-18-30		

Sampling Team Members	WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check
Elizabeth Bates		x		x	x
Katie March	x		x		

Sampling Equipment			
x	Sample Container	Carboy	
	Dipper	Van Dorn	
x	Syringe	Pole	
Syringe Lot# 1335260		Filter Lot# 17413308	
Secchi Equipment ID:		Knothead	
Collection Method			
	Wading	Canoe/Kayak	
	From Shore	Electric Motor	
		x Gasoline Motor	
Depth Measured With Secchi			

Water Level:	Normal
Flow:	NA
Matrix:	Fresh
Tide Stage:	
High Tide:	
Low Tide:	
Photos:	NA
Meter ID:	Craw Daddy

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 (PPT)
EST	1100	3.4	0.3	6.26	83	30.2	5.87	0.9	84.4	0.04
	1105		2	5.79	76.4	29.8	5.85		84.2	0.04
	1106		2.9	5.62	73.9	29.7	5.78		84.2	0.04

Biological Samples Collected:

LVI

SBIO Visit ID: 85162

HA ID:

RPS ID:

Macrophyte ID: 12264

LIMS Sample ID Entered
Into The Macrophyte Module: 2343199

Parameter Suite	Parameter Methods (LIMS Test Codes)			Preservation								
				Type	Lot#	Expiration Date	pH Check					
Microbiology												
Chlorophyll	CHLSUITE-W			ICE								
Physical/Aggregate Nutrients	ALKALINITY, TURBIDITY, W-F, W-TSS			ICE								
	W-CL-IC, W-COLOR, W-SO4-IC, W-TDS			ICE								
Filtered Nutrients	W-PO4-F	Field Filtered 0.45 µm Filter		ICE								
Acid Preserved Nutrients	W-NH3 / W-NO2NO3 / W-TKN / W-TOC / W-S-A-TP			ICE	H2SO4*	132683	12/18/22	H2SO4 pH<2				
Metals	W-ICPMS	W-ICP		ICE		NA1286110	11/16/22					
Organics (LC)	W-E8321-DI	W-E8321-MS										
Macroinvertebrates												
Organics (GC)	W-PSNP-TQ	W-TR-SQ-R		Ice	*2.0 ml of H2SO4 Used Unless Noted Otherwise							
Molecular												
Periphyton												
Phytoplankton												
BOD												
Other(s)												
Field Comments:												
Comments on COC:												
Relinquish Date:	07/20/2022	Signature:										

LIMS EVENT ID: CEN-DIST-2022-07-21-03

WIN Import ID: 35389

Enter Field Parameters, Verify Station ID In LIMS DMT: EB 8/11/22

QC Station ID, Field Parameters In LIMS DMT:

Save Field Sheets on Network: KWM 9/9/22 (Initials/Date)

Migrate Data to WIN: KWM 9/9/22

(Initials/Date)

(Initials/Date)

(Initials/Date)

DEP FORM FD 9000-31: LAKE OBSERVATION FIELD SHEET

SAMPLE ID: _____ MACROPHYTE ID: _____ LATITUDE: 28.56437
 COUNTY: Lake STORET #: G1CE0069 LONGITUDE: -81.77928
 DATE: 7/20/22 TIME: _____ SAMPLING AGENCY: 21FLCEN
 SITE NAME: _____ WBID: 2839B
 FIELD ID/NAME: Lake Hianatua LAKE SIZE: _____ RQ: 2022-07-18-30

WATERSHED / LAKESIDE FEATURES

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category – from GIS) :				LANDSCAPE DEVELOPMENT INTENSITY (100 m buffer)			
Forest/Natural	Silviculture	Field/Pasture	Agricultural	Residential	Commercial	Industrial	Other (Specify)
<u>50</u>				<u>50</u>			
Local Watershed Erosion (select one) : ☐ None ☐ Slight ☐ Moderate ☐ Heavy						Artificially Impounded	
Local Watershed NPS Pollution : ☐ No evidence ☐ Slight ☒ Moderate ☐ Heavy						☐ Yes ☒ No	
STORMWATER INPUTS		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	
<u>km 13 10</u>		20 19 18 17 16		15 14 13 12 11		10 9 8 7 6	
LAKESIDE ALTERATIONS		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)	
<u>11</u>		20 19 18 17 16		15 14 13 12 11		10 9 8 7 6	
BUFFER ZONE		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	
<u>12</u>		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 ☐ No 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: <table border="1"> <thead> <tr> <th></th> <th>Depth (M)</th> <th>Temp. (°C)</th> <th>pH (SU)</th> <th>D.O. (MG/L)</th> <th>D.O. Sat. (%)</th> <th>Cond. (UMHO/CM)</th> <th>Salinity (PPT)</th> </tr> </thead> <tbody> <tr> <td>Top:</td> <td><u>0.3</u></td> <td><u>30.2</u></td> <td><u>5.87</u></td> <td><u>6.24</u></td> <td><u>83</u></td> <td><u>84.4</u></td> <td><u>0.04</u></td> </tr> <tr> <td>Mid-Depth:</td> <td><u>2.0</u></td> <td><u>29.8</u></td> <td><u>5.85</u></td> <td><u>5.79</u></td> <td><u>74.4</u></td> <td><u>84.2</u></td> <td><u>0.04</u></td> </tr> <tr> <td>Bottom:</td> <td><u>2.9</u></td> <td><u>29.7</u></td> <td><u>5.78</u></td> <td><u>5.62</u></td> <td><u>73.9</u></td> <td><u>84.2</u></td> <td><u>0.04</u></td> </tr> </tbody> </table>							Depth (M)	Temp. (°C)	pH (SU)	D.O. (MG/L)	D.O. Sat. (%)	Cond. (UMHO/CM)	Salinity (PPT)	Top:	<u>0.3</u>	<u>30.2</u>	<u>5.87</u>	<u>6.24</u>	<u>83</u>	<u>84.4</u>	<u>0.04</u>	Mid-Depth:	<u>2.0</u>	<u>29.8</u>	<u>5.85</u>	<u>5.79</u>	<u>74.4</u>	<u>84.2</u>	<u>0.04</u>	Bottom:	<u>2.9</u>	<u>29.7</u>	<u>5.78</u>	<u>5.62</u>	<u>73.9</u>	<u>84.2</u>	<u>0.04</u>	Clarity: ☒ Clear ☐ Opaque ☐ Turbid ☐ Slightly Turbid Color: ☐ Clear ☒ Tannic ☐ Green SECCHI (M) <u>0.9</u> Total Station Depth (M) <u>3.4</u> VOB ☐					
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Sediment Type: (may check more than one) ☐ Sandy ☒ Organic fibrous (peaty, CPOM) ☐ Sand/Silt ☐ Organic smooth (muck) Sample Taken? ☐ Yes ☒ No ☐ Vegetated ☐ Other (Specify): _____						Sediment Odors: ☒ Normal ☐ Anaerobic ☐ Other (Specify): _____																																					
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: <table border="1"> <thead> <tr> <th></th> <th>Absent</th> <th>Rare</th> <th>Common</th> <th>Abundant</th> </tr> </thead> <tbody> <tr> <td>Periphyton</td> <td>☐</td> <td>☒</td> <td>☐</td> <td>☐</td> </tr> <tr> <td>Nuisance Plants</td> <td>☐</td> <td>☐</td> <td>☐</td> <td>☒</td> </tr> <tr> <td>Submersed Plants</td> <td>☐</td> <td>☐</td> <td>☒</td> <td>☐</td> </tr> <tr> <td>Exotic Apple Snails</td> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> </tr> </tbody> </table>							Absent	Rare	Common	Abundant	Periphyton	☐	☒	☐	☐	Nuisance Plants	☐	☐	☐	☒	Submersed Plants	☐	☐	☒	☐	Exotic Apple Snails	☐	☐	☐	☐							
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Exotic Apple Snails	☐	☐	☐	☐																																							
Weather Conditions: <u>HOT, HUMID</u>						Additional Notes: <u>big seawall for portion of section 5</u>																																					
SAMPLING TEAM: <u>Katie March, Liz Bates</u>						SIGNATURE: <u>KMarch</u>																																					
						DATE: <u>7/20/22</u>																																					

DEP FORM FD 9000-27 LAKE VEGETATION INDEX FIELD SHEET

Waterbody: <u>Lake Hawatha</u>		County: <u>Lake</u>		Date: <u>7/20/22</u>					
Analyst: <u>Trish Bates, Kate March</u>		Signature: <u>[Signature]</u>		STORET:					
Except where noted as "sp." species level identification required. *Genera that may require lab verification* Plants in bold = FLEPPC invasive exotic.				Lake units sampled (circle one group): 1, 4, 7, 10 <u>2, 5, 8, 11</u> 3, 6, 9, 12					
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.									
SPECIES				Collected? (✓)	SPECIES				Collected? (✓)
Acer rubrum					Fuirena scirpoides				
Alternanthera philoxeroides					Gordonia lasianthus				
Amaranthus australis					Habenaria repens				
Andropogon sp.					Hibiscus coccineus				
Azolla filiculoides (A. caroliniana)					Hibiscus grandiflora				
Baccharis sp.					Hydrilla verticillata				
Bacopa caroliniana					Hydrocotyle sp.				
Bacopa monnieri					Hygrophila polysperma				
Bidens alba					Hymenocallis sp.				
Bidens laevis					*Hypericum fasciculatum				
Bidens mitis					*Hypericum hypericoides				
Blechnum serrulatum					*Hypericum myrtifolium				
Boehmeria cylindrica					Ilex cassine				
Brasenia schreberi					Ipomoea aquatica				
Cabomba caroliniana					Ipomoea sagittata				
Canna					Itea virginica				
Centella asiatica					Juncus effusus				
Cephalanthus occidentalis					*Juncus marginatus				
Ceratophyllum demersum					*Juncus megacephalus				
Chara sp.					Juncus repens				
Cladium jamaicense					*Juncus scirpoides				
Colocasia esculenta					Lachnanthes caroliniana				
*Commelina					Leersia hexandra				
Crinum americanum					Landoltia punctata (Spirodela punctata)				
*Cyperus alternifolius (C. involucratus)					Lemna sp.				
Cyperus articulatus					Leucothoe racemosa (Eubotrys racemosa)				
Cyperus haspan					Limnobium spongia				
*Cyperus lecontei					Limnophila sessiliflora				
*Cyperus polystachyos					Liquidambar styraciflua				
*Cyperus odoratus					*Ludwigia arcuata				
*Cyperus surinamensis					*Ludwigia grandiflora				
Cyrtilla racemiflora					*Ludwigia hexapetala				
Decodon verticillatus					*Ludwigia leptocarpa				
Diodia virginiana					Ludwigia (native)				
*Echinochloa crus-galli					*Ludwigia octovalvis				
*Echinochloa muricatum					*Ludwigia peruviana				
Echinochloa walteri					*Ludwigia repens				
Eclipta prostrata (E. alba)					Ludwigia suffruticosa				
Eichhornia crassipes					Luziola fluitans (Hydrochloa carolinensis)				
*Eleocharis <u>scandens</u>					Magnolia virginiana				
Eleocharis cellulosa					Mayaca fluviatilis				
*Eleocharis elongata					Melaleuca quinquenervia				
Eleocharis equisetoides					Micranthemum glomeratum				
Eleocharis interstincta					Micranthemum umbrosum				
Eleocharis submersed viviparous					Mikania scandens				
*Eriocaulon compressum					Mimosa pigra				
*Eriocaulon decangulare					Myrica cerifera				
Eupatorium capillifolium									
Fraxinus									

FORM FD 9000-27: LAKE VEGETATION INDEX FIELD SHEET

Site:					Date: 7/20/22						
SPECIES	2	5	8	11	Collected? (✓)	SPECIES	2	5	8	11	Collected? (✓)
Myriophyllum aquaticum						Salix caroliniana					
*Myriophyllum heterophyllum						Salvinia minima					
*Myriophyllum laxum						Sambucus canadensis					
*Myriophyllum pinnatum						Sapium 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 mexicana						*Sesbania					
Nymphaea odorata						Solidago sp.					
Nymphoides aquatica						Sparganium americanum					
Nyssa sylvatica var. biflora						Spartina bakeri					
Orontium aquaticum						Spirodela polyrhiza					
Osmunda cinnamomea						Taxodium sp.					
Osmunda regalis						Thalia geniculata					
Panicum hemitomon						Thelypteris interrupta					
Panicum repens						Thelypteris palustris					
Paspalidium geminatum						Triadenum virginicum					
*Paspalum repens						Typha sp.					
Paspalum urvillei						Urochloa mutica (Brachiaria mutica)					
Peltandra sp.						*Utricularia foliosa					
Persea sp.						*Utricularia gibba (U. biflora)					
Pennisetum purpureum						*Utricularia inflata					
Phragmites australis						*Utricularia purpurea					
Pinus elliotii						*Utricularia radiata					
Pistia stratioides						*Utricularia resupinata					
Pluchea sp.						Vallisneria americana					
*Polygonum glabrum (densiflorum)						Vigna luteola					
Polygonum hirsutum						Vitis sp.					
*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)											
Proserpinaca pectinata											
*Rhexia											
*Rhynchospora corniculata											
*Rhynchospora inundata											
Rhynchospora nitens											
Ricciocarpus natans											
Sabal palmetto											
Sacciolepis striata											
*Sagittaria filiformis											
*Sagittaria graminea											
*Sagittaria isoetiformis											
Sagittaria lancifolia											
Sagittaria latifolia											

LVI Map for LAKE HIAWATHA, WBID 2839B

