FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

STRATEGIC MONITORING PLAN Field Sheet

July 2022

Meter Passed End of Day CCV: (Yes) / No

WIN Station Name:	HENDERSON LAKE AT CENTER					**Sample Date:**	5/16/2023
WIN / Field ID:	G4CE0232	**ORG ID:**	21FLCEN	**ENR:**	-	**Latitude:**	28.8392
County:	CITRUS	**WBID:**	1340N	LAKE		**Longitude:**	-82.31779
Receiving Body of Water:	-					**RQ-**	2023-05-15-68

Sampling Team Members	WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check
Leif Boman	x	x	x		
Denver Bourassa		x		x	x

Sampling Equipment					
x	Sample Container			Carboy	
	Dipper			Van Dorn	
x	Syringe			Pole	
Syringe Lot#	*2298556*		**Filter Lot#**	*17413308*	
Secchi Equipment ID:	*Light*				

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:	*Yes*
Meter ID:	*Shrimp Trap*
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 (PPTh)
EST	1223	3.5	0.3	10.49	137.9	29.9	8.84	0.8	174.4	0.08
	1232		2	10.67	136.8	28.2	8.82		172.9	0.08
	1240		3	9.9	129	27.9	8.85		172.6	0.08

Biological Samples Collected: LVI

SBIO Visit ID: 87383 **HA ID:** **RPS ID:** **Macrophyte ID:** 12497 **LIMS Sample ID Entered Into The Macrophyte Module:** 2410531

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**		Syring Lot#:2298556; Filter Lot#:17413308		
Acid Preserved Nutrients	**W-NH3 / W-NO2NO3 / W-TKN / W-TOC / W-S-A-TP**			**ICE**	**H2SO4***	*SA2229010*	*08/30/2023*	*H2SO4 pH<2*
Metals	**W-ICPMS**	**W-ICP**	**W-HARD**	**ICE**	**HNO3****	NA2126030	2298556	HNO3 pH<2
Organics (LC)	**W-E8321-DI**	**W-E8321-MS**						
Macroinvertebrates								
Organics (GC)				**Ice**				
	W-PSNP-TQ	**W-TR-SQ-R**						
Molecular								
Periphyton								
Phytoplankton								
BOD								
DOC								
Other(s)								

*2.0 ml of H2SO4 Used Unless Noted Otherwise
**2.0 ml of HNO3 Used Unless Noted Otherwise

SyringLot# **FilterLot#**

Field Comments:	Sunny, partly cloudy
Comments on COC:	
Relinquish Date:	05/16/2023
Signature:	

LIMS EVENT ID: CEN-DIST-2023-05-17-01 **WIN Import ID:** 41771

Enter Field Parameters, Verify Station ID In LIMS DMT: KWM 7/25/23

QC Station ID, Field Parameters In LIMS DMT: VLS 7/25/23 (Initials/Date)

Save Field Sheets on Network: KWM 8/3/23 (Initials/Date)

Migrate Data to WIN: KWM 7/26/23 (Initials/Date)

DEP FORM FD 9000-31: LAKE OBSERVATION FIELD SHEET

SAMPLE ID: _____ **MACROPHYTE ID:** _____ LATITUDE: _____

COUNTY: CITRUS STORET #: _____ LONGITUDE: _____

DATE: 05/16/2023 TIME: _____ SAMPLING AGENCY: FDEP - CEROC

SITE NAME: LAKE HENDERSON LAKE AT CENTER WBID: 1340N

FIELD ID/NAME: G4CE0232 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)
10		5		85			

LANDSCAPE DEVELOPMENT INTENSITY (100 m buffer)

LDI: _____

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: 6	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: 5	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: 8	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:	0.3	29.9	8.84	10.49	137.9	174.4	.08
Mid-Depth:	2.0	28.2	8.82	10.67	136.8	172.9	.08
Bottom :	3.0	27.9	8.85	9.9	129	172.6	.08

Meter ID: STRAMP TRAP

Clarity: ☐ Clear ☐ Opaque ☐ Turbid ☑ Slightly Turbid

Color: ☐ Clear ☐ Tannic ☑ Green

SECCHI (M): .8 VOB ☐

Total Station Depth (M): 3.5

Sediment Type: (may check more than one)

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

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

Sample Taken? ☐ Yes ☑ No

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

SAMPLING TEAM: Luis Borrero, Denver Borrero **SIGNATURE:** _____ **DATE:** 05/16/2023

DEP FORM FD 9000-27 LAKE VEGETATION INDEX FIELD SHEET

Waterbody: Lake Henderson	County: Citrus	Date: 5/16/23
Analyst: Denver Bourassa + Leif Boden	Signature:	STORET:

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

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	1	4	7	10	Collected? (√)
Acer rubrum		/	/	/	
Alternanthera philoxeroides					
Amaranthus australis					
Andropogon sp.					
Azolla filiculoides (A. caroliniana)					
Baccharis sp.			/		
Bacopa caroliniana					
Bacopa monnieri					
Bidens alba					
Bidens laevis					
Bidens mitis					
Blechnum serrulatum					
Boehmeria cylindrica					
Brasenia schreberi					
Cabomba caroliniana	/	/		/	
Canna					
Centella asiatica					
Cephalanthus occidentalis	/	/	/	/	
Ceratophyllum demersum					
Chara sp.					
Cladium jamaicense					
Colocasia esculenta	/		/	/	
*Commelina					
Crinum americanum					
***Cyperus alternifolius (C. involucratus)**					
Cyperus articulatus					
Cyperus haspan					
*Cyperus lecontei					
*Cyperus polystachyos					
*Cyperus odoratus					
*Cyperus surinamensis					
Cyrilla racemiflora					
Decodon verticillatus					
Diodia virginiana					
*Echinochloa crus-galli					
*Echinochloa muricatum					
Echinochloa walteri					
Eclipta prostrata (E. alba)					
Eichhornia crassipes					
*Eleocharis					
Eleocharis cellulosa					
*Eleocharis elongata					
Eleocharis equisetoides					
Eleocharis interstincta					
Eleocharis submersed viviparous	/			/	
*Eriocaulon compressum					
*Eriocaulon decangulare					
Eupatorium capillifolium					
Fraxinus					

SPECIES	1	4	7	10	Collected? (√)
Fuirena scirpoides					
Gordonia lasianthus					
Habenaria repens					
Hibiscus coccineus					
Hibiscus grandiflora					
Hydrilla verticillata				/	
Hydrocotyle sp.	/			/	
Hygrophila polysperma					
Hymenocallis sp.					
*Hypericum fasciculatum					
*Hypericum hypericoides					
*Hypericum myrtifolium					
Ilex cassine					
Ipomoea aquatica					
Ipomoea sagittata					
Itea virginica					
Juncus effusus					
*Juncus marginatus					
*Juncus megacephalus					
Juncus repens					
*Juncus scirpoides					
Lachnanthes caroliniana					
Leersia hexandra					
Landoltia punctata (Spirodela punctata)					
Lemna sp.					
Leucothoe racemosa (Eubotrys racemosa)					
Limnobium spongia					
Limnophila sessiliflora					
Liquidamber styraciflua					
*Ludwigia arcuata					
*Ludwigia grandiflora					
*Ludwigia hexapetala					
*Ludwigia leptocarpa					
Ludwigia (native)					
*Ludwigia octovalvis					
***Ludwigia peruviana**				/	
*Ludwigia repens					
Ludwigia suffruticosa					
Luziola fluitans (Hydrochloa carolinensis)					
Magnolia virginiana					
Mayaca fluviatilis					
Melaleuca quinquenervia					
Micranthemum glomeratum					
Micranthemum umbrosum					
Mikania scandens					
Mimosa pigra					
Myrica cerifera			/	/	

FORM FD 9000-27: LAKE VEGETATION INDEX FIELD SHEET

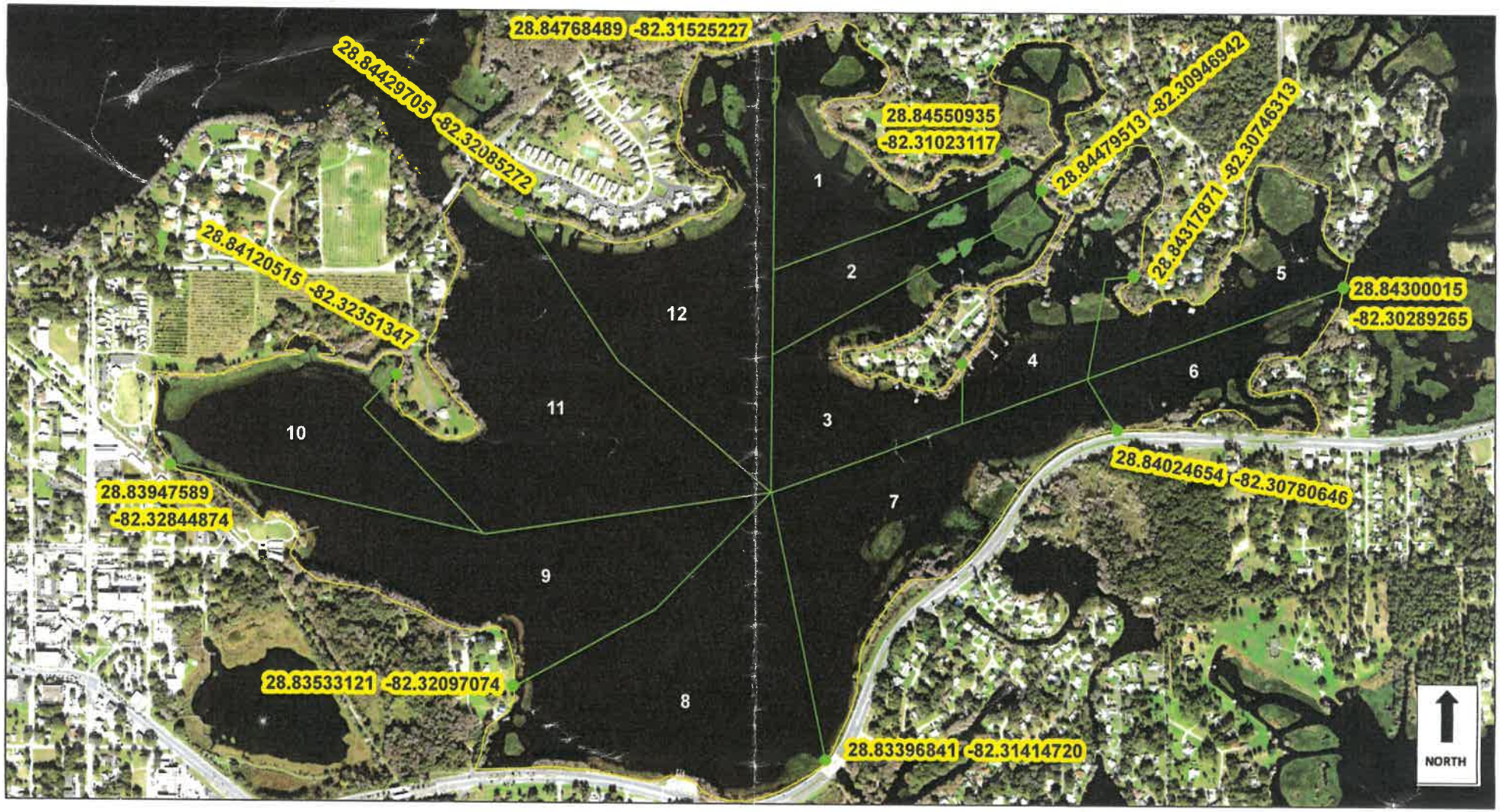
Site: Lake Henderson

Date: 07/05/2023 (4) 05/16/2023

SPECIES	1	4	7	10	Collected? (√)
Myriophyllum aquaticum					
*Myriophyllum heterophyllum					
*Myriophyllum laxum					
*Myriophyllum pinnatum					
Myriophyllum spicatum					
*Najas filifolia					
*Najas guadalupensis	/	/	/	/	
*Najas minor					
Nelumbo lutea					
Nitella spp.	/	D	/	/	
Nuphar sp.	/	/	/	/	
Nymphaea mexicana					
Nymphaea odorata	/				
Nymphoides aquatica					
Nyssa sylvatica var. biflora					
Orontium aquaticum					
Osmunda cinnamomea					
Osmunda regalis					
Panicum hemitomon	D	/	D	D	
Panicum repens	/	/	/	/	
Paspalidium geminatum	/	/	/		
*Paspalum repens					
Paspalum urvillei					
Peltandra sp.					
Persea sp.					
Pennisetum purpureum					
Phragmites australis					
Pinus elliottii					
Pistia stratioides					
Pluchea sp.					
*Polygonum glabrum (densiflorum)					
Polygonum hirsutum					
*Polygonum hydropiperoides					
*Polygonum punctatum					
*Polygonum					
Pontederia cordata					
*Potamogeton diversifolius					
*Potamogeton illinoensis	/		/	/	
*Potamogeton pusillus					
*Potamogeton pectinatus (Stuckenia pectinatus)					
Proserpinaca pectinata					
*Rhexia					
*Rhynchospora corniculata					
*Rhynchospora inundata					
Rhynochospora nitens					
Ricciocarpus natans					
Sabal palmetto					
Sacciolepis striata					
*Sagittaria filiformis					
*Sagittaria graminea					
*Sagittaria isoetiformis					
Sagittaria lancifolia					
Sagittaria latifolia					

SPECIES	1	4	7	10	Collected? (√)
Salix caroliniana			/		
Salvinia minima					
Sambucus canadensis					
Sapium sebiferum					
Saururus cernuus					
Schinus terebinthifolius					
*Schoenoplectus californicus					
*Schoenoplectus pungens					
*Schoenoplectus tabernaemontani (Scirpus validus)					
Scirpus cubensis (Oxycaryon cubense)				/	
Scirpus cyperinus					
*Sesbania					
Solidago sp.					
Sparganium americanum					
Spartina bakeri					
Spirodela polyrhiza					
Taxodium sp.	/	/	/	/	
Thalia geniculata					
Thelypteris interrupta					
Thelypteris palustris					
Triadenum virginicum					
Typha sp.		/		/	
Urochloa mutica (Brachiaria mutica)					
*Utricularia foliosa	/				
*Utricularia gibba (U. biflora)	/		/	/	
*Utricularia inflata		/	/	/	
*Utricularia purpurea					
*Utricularia radiata				/	
*Utricularia resupinata					
Vallisneria americana	/		/	/	
Vigna luteola					
Vitis sp.					
*Websteria confervoides					
Wedelia trilobata (Sphagneticola trilobata)					
Wolffiella spp.					
Woodwardia virginica					
Xyris sp.					
Zizania aquatica					
Zizaniopsis milacea					

LVI MAP FOR WBID 1340N, LAKE HENDERSON



1:9,028

0 0.1 0.2 0.4 mi

0 0.15 0.3 0.6 km

FDOT