

LVI

Site Name Lake Ann Sample Date 5/9/19

WBID 2997 B1 WIN ID G2CE0097 RQ-2019-05-06-53

	Initial/Date	QC Initial/Date
Water chemistry data to LIMS	LMD 5/10/19	MKL 5/21/19
Create SBIO station visit 79460	LMD 5/10/19	n/a
Vascular Entry (add LIMS ID) 11284	LMD 5/10/19	MKL 5/22/19
Lake Observation Sheet Entry	LMD 5/10/19	MKL 5/22/19
Authorize SBIO data	MKL 5/22/19	n/a
Scan all sheets to 21FLCEN folder	LMD 5/10/19	n/a
LIMS/WIN migration	LMD 7/26/19	n/a
File in cabinet		n/a

Comments/notes:

Packet includes 2 WQ samples (Ellen / Concord)



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION STRATEGIC MONITORING PROGRAM FIELD SHEET

January 2019

Data Qualified?
Yes / No

WIN Station Name: Lake Ann @ Center

Date: 05/09/2019
(mm/dd/yyyy)

WIN/ Field ID: G2CE0097

WBID: 2997B1

Latitude: 28.627186

County: Seminole

ORG ID: 21FLCEN

Longitude: -81.308936

Receiving Body of Water: _____

RQ-2019- 05-06-53

Sampling Team Members					WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check	Sampling Equipment				
<u>Mike Linger</u>					☒	☒	☒	☒	☒	☒ Sample Container	☐ Van Dorn	☐ Pole		
										☐ Carboy	☒ Syringe			
<u>Mike Drannan</u>					☐	☐	☐	☐	☐	☐ Dipper	☐ Other			
										Depth Measured with <u>Secchi Disk Line / Meter</u>				
										Equipment ID <u>Leadfoot, Knothead, Crusty/ Bucket, Mucky/ Trap</u>				
Collection Method														
					☐	☐	☐	☐	☐	☐ Wading	☒ Canoe/Kayak			
										☐ From Shore	☒ Electric Motor			
										☐ Other	☐ Gasoline Motor			
Water Level: <u>Dry/ Pooled/ Low / Normal / High / Flooded</u>					Motor ID# <u>Shrimp Trap</u>					Matrix: <u>Fresh</u> / Marine / DI				
Photos: Yes / <u>No</u>					Flow: <u>No Flow / Intestinal / Flowing / NA</u>					Tide: <u>Rising/ Falling/ Slack/ NA</u>				
Tide Times: <u>High</u> <u>Low</u>														
Time Zone	Time	Total Depth (m)	Sample Depth (m)	Secchi Disk (m)	DO (mg/L)	DO (%SAT)	pH	Salinity (PPTH)	Sp COND (µmhos/cm)	Temp. (C°)				
EST	956	3.7	0.3	0.9	9.39	120.5	7.43	0.08	164.6	28.2				
CEN			3.2		0.21	2.3	6.34	0.08	172.3	24.3				
Biological Samples Collected: <u>None</u> <u>HA</u> <u>SCI</u> <u>RPS</u> <u>Algae ID</u> <u>LVS</u> <u>LVI</u> Other: _____														
SBIO ID Numbers: SBIO-ID: <u>79460</u> HA-ID: <u>15782</u> RPS-ID: _____ Macrophyte-ID: <u>11284</u> LIMS#: <u>2085483</u>														
Parameter Suite		Parameter Methods					Preservation		Lot#	Expiration	pH Check			
Preserved Nutrients		☒ W-NH3 / W-NO2NO3 / W-TKN / W-TOC / W-S-A-TP					☒ Ice ☒ H2SO4		<u>SA9010030</u>	<u>4/10/20</u>	☒ <2			
Metals		☐ W-ICPMS ☐ W-ICP					☐ Ice ☐ HNO3				☐ <2			
Filtered Nutrients		☒ W-PO4-F ☒ Field Filtered 0.45 µm Filter					☒ Ice		<u>13615055</u>					
Chlorophyll		☒ CHLSUITE-W					☒ Ice							
Physical/Aggregate (Fresh)		☒ Alkalinity / W-F / W-TSS / TURBIDITY / W-CL-IC / W-COLOR / W-SO4-IC / W-TDS					☒ Ice							
Physical/Aggregate (Marine)		☐ Alkalinity / W-F / W-TSS / TURBIDITY					☐ Ice							
Macroinvertebrates		☐ ME-FW-QLDC					☐ Formalin							
Periphyton		☐ ALGAE-ID					☐ Ice							
Microbiology		☐ E Coli ☐ F Coli ☐ Enterococci					☐ Ice							
Molecular		☐ PCR-FILTER ☐ PCR-BacR ☐ PCR-GULL2 ☐ PCR-HF183 ☐ PCR-DG3 ☐ PCR-GFD					☐ Ice							
Tracers		☐ W-E8321-DI ☐ W-E8321-MS					☐ Ice							
Pesticides		☐ W-PSNP-TQ ☐ W-CT-CL-R ☐ W-E8321-DI ☐ W-PCL-SQ-R ☐ WE8321-MS ☐ W-CARB-AA					☐ Ice ☐ Other							
Phytoplankton		☐ DTY-QN-C ☐ PKD-QN-C					☐ Ice							

Notes:

Carry canoe through yard @ 28.6254, -81.30758

WIN ID / Field ID →

Lake Ann @ Center

Signature: [Signature] Date: 5/9/19

H2SO4
LOT# SA9010030
EXP: 04/10/2020
PH: _____
(If Available)

LIMS EVENT ID: CENT-DIST-2019-05-10-02

Enter Field Parameters, Verify Station ID In LIMS DMT: LMD 5/10/19

QC Station ID, Field Parameters In LIMS DMT: MKL 5/21/19

Scan/Save Field Sheets LMD 5/10/19 (Initials/Date)

Migrate Data to WIN: LMD 07/26/19 (Initials/Date)

Verify Data In WIN: _____ (Initials/Date)

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

STORET STATION NUMBER: G2CE0097	DATE (M/D/Y) 05/09/2019	LAKE NAME Lake Ann		FIELD ID / NAME:	
ECO-REGION:	COUNTY: Seminole	SAMPLING LOCATION/DESCRIPTION: @ Center		LAKE SIZE: med.	
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	Marginal	Poor	
Secchi 9	Secchi >3 m Or VOB 20 19 18 17 16	3 2.6 2.2 1.8 1.4 15 14 13 12 11	1.0 0.9 0.8 0.7 0.6 10 9 8 7 6	0.5 0.4 0.3 0.2 0.1 5 4 3 2 1	
Vegetation Quality 12	Diverse, expected native vegetation (emergent or submersed), less than 5% nuisance taxa 20 19 18 17 16	Mostly expected native plants, but moderate growths (6%-20% of lake) of nuisance macrophytes, or more than 50% of lake covered with plants 15 14 13 12 11	Large masses (21%- 40%) of nuisance macrophytes (e.g., Hydrilla, hyacinth, cattail, etc.) or algal mats 10 9 8 7 6	Lake choked (>40%) with nuisance macrophytes (duckweed, hyacinth, etc.) or algal mats, or few plants present at all (e.g., plants removed) 5 4 3 2 1	
Stormwater Inputs 10	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	
Bottom Substrate Quality 14	Diverse mixture of sand, detritus, with small amounts of CPOM/mud/muck. SAV may be present 20 19 18 17 16	Mixture of sand or clay and detritus with higher % CPOM/mud/muck content. SAV may be present 15 14 13 12 11	Moderate layer of CPOM/ mud/muck, or hardpacked sand only, or moderate algal growth (mats or Chara) on bottom 10 9 8 7 6	Thick deposits of CPOM, or fine detritus and anaerobic muck/mud/silt, or algal growth or nuisance plants (Hydrilla) cover bottom 5 4 3 2 1	
Lakeside Adverse Human Alterations 6	Very few man-made structures, roads, or other disturbance adjacent to lake (<10%) 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	
Upland 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	
Adverse Watershed Land Use 10	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 69	COMMENTS:				

ANALYSIS DATE: 5/9/19	ANALYST: Mike Linger	SIGNATURE: 
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DEP FORM FD 9000-31: LAKE OBSERVATION FIELD SHEET

SAMPLE ID: 79460 MACROPHYTE ID: 11284 LATITUDE: 28.627186
 COUNTY: Seminole STORET #: 62CE0097 LONGITUDE: -81.308936
 DATE: 05/09/2019 TIME: 956 SAMPLING AGENCY: FDEP CE. ROC
 SITE NAME: Seminole Lake Ann @ Center WBID: 2997B1
 FIELD ID/NAME: _____ LAKE SIZE: med RQ: 2019-05-06-53

WATERSHED / LAKESIDE FEATURES

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category – from GIS) : Forest/Natural <u>35</u> Silviculture _____ Field/Pasture _____ Agricultural _____ Residential <u>65</u> Commercial _____ Industrial _____ Other (Specify) _____					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 <u>10</u>		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 <u>6</u>		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 <u>8</u>		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 ☐ 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: Depth (M) Temp. (°C) pH (SU) D.O. (MG/L) D.O. Sat. (%) Cond. (UMHO/CM) Salinity (PPT) Top: <u>0.3</u> <u>28.2</u> <u>7.43</u> <u>9.39</u> <u>120.5</u> <u>164.6</u> <u>0.08</u> Mid-Depth: _____ Bottom: <u>3.2</u> <u>24.3</u> <u>6.34</u> <u>0.21</u> <u>2.3</u> <u>172.3</u> <u>0.08</u> Meter ID: <u>Shrimp Trap</u>						Clarity: ☐ Clear ☒ Turbid ☐ Slightly Turbid Color: ☐ Clear ☒ Green? <u>Brown</u> SECCHI (M) <u>0.9</u> Total Station Depth (M) <u>3.7</u> VOB ☐					
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 ☐ 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: Absent Rare Common Abundant Periphyton ☐ ☒ ☐ ☐ Nuisance Plants ☐ ☐ ☒ ☐ Submersed Plants ☐ ☒ ☐ ☐ Exotic Apple Snails ☒ ☐ ☐ ☐					
Weather Conditions: <u>80's clear</u>											
SAMPLING TEAM: <u>Mike Linger / Mike Drennan</u>						SIGNATURE: <u>Mike Linger</u>			DATE: <u>5/9/19</u>		

DEP FORM FD 9000-27 LAKE VEGETATION INDEX FIELD SHEET

Waterbody: <u>Lake Ann</u>		County: <u>Seminole</u>		Date: <u>5/9/19</u>							
Analyst: <u>Mike Linger, Mike Drennan</u>		Signature: <u>[Signature]</u>		STORET: <u>67C60097</u>							
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): <u>1, 4, 7, 10</u> 2, 5, 8, 11 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	1	4	7	10	Collected? (✓)	SPECIES	1	4	7	10	Collected? (✓)
Acer rubrum						Fraxinus					
Alternanthera philoxeroides						Fuirena scirpoides					
Amaranthus australis						Gordonia lasianthus					
Andropogon sp.						Habenaria repens					
Azolla filiculoides (A. caroliniana)						Hibiscus coccineus					
Baccharis sp.						Hibiscus grandiflora					
Bacopa caroliniana						Hydrilla verticillata					
Bacopa monnieri						Hydrocotyle sp.					
Bidens alba						Hygrophila polysperma					
Bidens laevis						Hymenocallis sp.					
Bidens mitis						*Hypericum fasciculatum					
Blechnum serrulatum						*Hypericum hypericoides					
Boehmeria cylindrica						*Hypericum myrtifolium					
Brasenia schreberi						Ilex cassine					
Cabomba caroliniana						Ipomoea aquatica					
Canna						Ipomoea sagittata					
Centella asiatica						Itea virginica					
Cephalanthus occidentalis						Juncus effusus					
Ceratophyllum demersum						*Juncus marginatus					
Chara sp.						*Juncus megacephalus					
Cicuta maculata						Juncus repens					
Cinnamomum camphora						*Juncus scirpoides					
Cladium jamaicense						Lachnanthes caroliniana					
Colocasia esculenta						Leersia hexandra					
*Commelina						Landoltia punctata (Spirodela punctata)					
Crinum americanum						Lemna sp.					
* Cyperus alternifolius (C. involucratus)						Leucothoe racemosa (Eubotrys racemosa)					
Cyperus articulatus						Limnobia spongia					
Cyperus haspan						Limnophila sessiliflora					
*Cyperus lecontei						Liquidambar styraciflua					
*Cyperus polystachyos						*Ludwigia arcuata					
*Cyperus odoratus						*Ludwigia grandiflora					
*Cyperus surinamensis						*Ludwigia hexapetala					
Cyrtilla racemiflora						*Ludwigia leptocarpa					
Decodon verticillatus						Ludwigia (native)					
Diodia virginiana						*Ludwigia octovalvis					
*Echinochloa crus-galli						* Ludwigia peruviana					
*Echinochloa muricatum						*Ludwigia repens					
Echinochloa walteri						Ludwigia suffruticosa					
Eclipta prostrata (E. alba)						Luziola fluitans (Hydrochloa carolinensis)					
Eichhornia crassipes						Magnolia virginiana					
*Eleocharis						Mayaca fluviatilis					
Eleocharis cellulosa						Melaleuca quinquenervia					
*Eleocharis elongata						Micranthemum glomeratum					
Eleocharis equisetoides						Micranthemum umbrosum					
Eleocharis interstincta						Mikania scandens					
Eleocharis submersa viviparous						Mimosa pigra					
*Eriocaulon compressum						Myrica cerifera					
*Eriocaulon decangulare											
Eupatorium capillifolium											

FORM FD 9000-27: LAKE VEGETATION INDEX FIELD SHEET

Site: Lake Ann

Date: 5/9/19

SPECIES	1	4	7	10	Collected? (✓)	SPECIES	1	4	7	10	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 gibba (U. biflora)					
Persea sp.						*Utricularia foliosa					
Pennisetum purpureum						*Utricularia inflata					
Phragmites australis						*Utricularia purpurea					
Pinus elliotii						*Utricularia radiata					
Pistia stratioides						*Utricularia resupinata					
Pluchea sp.						Vallisneria americana					
*Polygonum glabrum (densiflorum)						Vitis sp.					
Polygonum hirsutum						*Websteria confervoides					
*Polygonum hydropiperoides						Wedelia trilobata (Sphagneticola trilobata)					
*Polygonum punctatum						Wolffiella spp.					
*Polygonum						Woodwardia virginica					
Pontederia cordata						Xyris sp.					
*Potamogeton diversifolius						Zizania aquatica					
*Potamogeton illinoensis						Zizaniopsis milacea					
*Potamogeton pusillus						Lyonia? Ardisia crenata					
*Potamogeton pectinatus (Stuckenia pectinatus)						Serenoa repens					
Proserpinaca pectinata						Smilax sp.					
*Rhexia						U. rigida crispas P. quinquefolia					
*Rhynchospora corniculata						Rubus					
*Rhynchospora inundata						Rhizanthium capillaceum					
Rhynchospora nitens						Fuzz-y 1st frica Perspa palustris					
Ricciocarpus natans											
Sabal palmetto											
Sacciolepis striata											
*Sagittaria filiformis											
*Sagittaria graminea											
*Sagittaria isoetiformis											
Sagittaria lancifolia											
Sagittaria latifolia											

Thesphat not on list, added to notes and

✓

✓

LVI Map for , WBID 2997B1 Lake Ann

