

LVI

Site Name Lake Starke at Center Sample Date 5/21/18
WBID 3002D WIN ID G2CE0094 RQ 2018-05-21-26

	Initial/Date	QC Initial/Date
Water chemistry data to LIMS	LMD 5/25/18	JR 5/30/18
Create SBIO station visit	LMD 5/25/18	n/a
Vascular Entry (add LIMS ID)	LMD 5/25/18	JR 5/30/18
Lake Observation Sheet Entry	LMD 5/25/18	JR 5/30/18
Authorize SBIO data	JR 5/30/18	n/a
Scan all sheets to 21FLCEN folder	LMD 6/25/18	n/a
LIMS/WIN migration	LMD 10/1/18	n/a
File in cabinet		n/a

Comments/notes:



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION STRATEGIC MONITORING PROGRAM FIELD SHEET

April 2018

Data Qualified?
Yes / No

WIN Station Name: Lake Starke at Center

Date: 5/21/2018
(mm/dd/yyyy)

WIN/ Field ID: G2CE0094

WBID: 3002D

Latitude: 28.5713273
(Decimal Degrees)

County: Orange

ORG ID: 21 FL CEN

Longitude: -81.53639461
(Decimal Degrees)

Receiving Body of Water: _____

RQ-2018- 05-21-26

Sampling Team Members					WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check	Sampling Equipment				
TERRY RIORDAN										☒ Sample Container	☐ Van Dorn	☐ Pole		
MIKE DRENNAN										☐ Carboy	☒ Syringe			
<u>LL2 Bates</u>										☐ Dipper	☐ Other			
										Depth Measured with <u>SECCHI DISK LINE/METER</u>				
										Equipment ID (KNOTHEAD/67, LEADFOOT/NON, RUSTY/SCUD)				
										Collection Method				
										☐ Wading	☐ Canoe/Kayak			
										☐ From Shore	☐ Electric Motor			
										☐ Other	☒ Gasoline Motor			
Water Level: Dry/ Pooled/ Low / <u>Normal</u> / High / Flooded					Meter ID# <u>BOOP / NON</u>					Matrix: <u>Fresh</u> / Marine / DI				
Photos: Yes / No					Flow: No Flow / Intestinal / Flowing / <u>NA</u>					Tide: Rising/Falling/ Slack/ <u>NA</u>				
					Tide Times: High Low									
Time Zone	Time	Total Depth (m)	Sample Depth (m)	Secchi Disk (m)	DO (mg/L)	DO (%SAT)	pH	Salinity (PPT)	Sp COND (µmhos/cm)	Temp. (C°)				
<u>EST</u>	<u>1031</u>	<u>7.0</u>	<u>3.4</u>	<u>0.7</u>	<u>7.7</u>	<u>93.4</u>	<u>7.87</u>	<u>.12</u>	<u>253</u>	<u>25.47</u>				
<u>CEN</u>			<u>6.5</u>		<u>.72</u>	<u>13.98</u>	<u>7.07</u>	<u>.14</u>	<u>305</u>	<u>22.37</u>				
Biological Samples Collected: None HA SCI RPS Algae ID LVS <u>LVI</u> Other:														
SBIO ID Numbers: SBIO-ID: <u>78408</u> HA-ID: <u>15159</u> RPS-ID: _____ Macrophyte-ID: <u>10937</u> LIMS#: <u>1994423</u>														
Parameter Suite	Parameter Methods				Preservation	Lot#	Expiration	pH Check						
Preserved Nutrients	☒ W-NH3 / W-NO2NO3 / W-TKN / W-TOC / W-SA-TP				☒ Ice ☒ H2SO4	<u>SA8085170</u>	<u>3/26/19</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-CH-IC / W-COLOR / W-SO4-IC / W-TDS				☒ Ice									
Physical/Aggregate (Marine)	☐ Alkalinity / W-F / W-TSS / TURBIDITY				☐ Ice									
Macroinvertebrates	☐ MI-FW-QLDC				☐ Formalin									
Periphyton	☐ ALGAE-ID				☐ Ice									
Microbiology	☐ E Coli ☐ F Coli ☐ Enterococci				☐ Ice									
Molecular	☐ PCR-FILTER ☐ PCR-HF183 ☐ PCR-BacR ☐ PCR-GULL2 ☐ 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 ☐ Ot her									

Notes:

Public ramp at 28.57180077 x -81.54233731

BOTTLE GROUP A

WIN ID / Field ID →

Lake Starke @ Center
(3002D)



G2CE0094

Signature: [Signature]

Date: 5/21/18

Enter Field Parameters, Verify Station ID in LIMS DMT: LMD 5/25/18

QC Station ID, Field Parameters in LIMS DMT: TR 5/30/18

Scan/Save Field Sheets LMD 6/25/18

Migrate Data to WIN: LMD 10/1/18

Verify Data in WIN: _____

DEP FORM FD 9000-31: LAKE OBSERVATION FIELD SHEET

SAMPLE ID: 78408 MACROPHYTE ID: 10937 LATITUDE: 28.5713273
 COUNTY: Orange STORET #: 62CE0094 LONGITUDE: -81.53639461
 DATE: 5/21/18 TIME: 1031 SAMPLING AGENCY: FDEP-CEROC
 SITE NAME: Lake Starke at Center WBID: 3002D
 FIELD ID/NAME: 62CE0094 LAKE SIZE: 205 ACRE RQ: 2018-05-21-26

WATERSHED / LAKESIDE FEATURES

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category - from GIS) : Forest/Natural ☐ Silviculture ☐ Field/Pasture ☐ Agricultural ☐ Residential ☒ 90 Commercial ☒ 5 Industrial ☐ Other (Specify) ☒ 5 (Park)					LANDSCAPE DEVELOPMENT INTENSITY (100 m buffer) LDI:				
Local Watershed Erosion (select one) : ☒ None ☐ Slight ☐ Moderate ☐ Heavy Local Watershed NPS Pollution : ☒ No evidence ☐ Slight ☐ Moderate ☐ Heavy					Artificially Impounded ☐ Yes ☒ No Land Use Source & Year:				
STORMWATER INPUTS <u>11</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>2</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>2</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 # <u>54885170</u> Exp. Date: <u>3/26/19</u> 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: Top: Depth (M) <u>0.3</u> Temp. (°C) <u>25.47</u> pH (SU) <u>7.87</u> D.O. (MG/L) <u>7.7</u> D.O. Sat. (%) <u>93.4</u> Cond. (UMHO/CM) <u>253</u> Salinity (PPT) <u>0.12</u> Mid-Depth: _____ Bottom: Depth (M) <u>6.5</u> Temp. (°C) <u>22.37</u> pH (SU) <u>7.07</u> D.O. (MG/L) <u>.72</u> D.O. Sat. (%) <u>12.5</u> Cond. (UMHO/CM) <u>305</u> Salinity (PPT) <u>0.14</u> Meter ID: _____						Clarity: ☐ Clear ☐ Opaque ☐ Turbid ☒ Slightly Turbid Color: ☐ Clear ☐ Tannic ☒ Green SECCHI (M) <u>0.7</u> Total Station Depth (M) <u>7.0</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 ☐ 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>High 80's, cloudy</u>						Additional Notes:					
SAMPLING TEAM: <u>Terry Riordan, Mike Dorman, Liz Bates</u>						SIGNATURE: <u>[Signature]</u>					
DATE: <u>5/25/18</u>											

FORM FD 9000-27: LAKE VEGETATION INDEX FIELD SHEET

Site: <u>Starke Lake</u>					Date: <u>5/21/18</u>						
SPECIES	3	6	9	12	Collected? (✓)	SPECIES	3	6	9	12	Collected? (✓)
Myriophyllum aquaticum						<i>Salix caroliniana</i>	/			/	
* Myriophyllum heterophyllum						Salvinia minima	/	/			
* Myriophyllum laxum						<i>Sambucus canadensis</i>					
* Myriophyllum pinnatum						Sapium sebiferum					
Myriophyllum spicatum						<i>Saururus cernuus</i>					
* Najas filifolia						Schinus terebinthifolius	/				
* Najas guadalupensis						* Schoenoplectus californicus				/	
* Najas minor						* Schoenoplectus pungens					
<i>Nelumbo lutea</i>						* Schoenoplectus tabernaemontani (<i>Scirpus validus</i>)		/		/	/
<i>Nitella</i> spp.						<i>Scirpus cubensis</i> (<i>Oxycaryon cubense</i>)					
<i>Nuphar</i> sp.						<i>Scirpus cyperinus</i>					
<i>Nymphaea mexicana</i>						* Sesbania					
<i>Nymphaea odorata</i>	/	/	/	/		<i>Solidago</i> sp.					
<i>Nymphoides aquatica</i>						<i>Sparganium americanum</i>					
<i>Nyssa sylvatica</i> var. <i>biflora</i>						<i>Spartina bakeri</i>					
<i>Orontium aquaticum</i>						<i>Spirodela polyrrhiza</i>	/	/		/	
<i>Osmunda cinnamomea</i>						<i>Taxodium</i> sp.	/	/		/	
<i>Osmunda regalis</i>						<i>Thalia geniculata</i>					
<i>Panicum hemitomon</i>						<i>Thelypteris interrupta</i>					
Panicum repens	/	/	/	/		<i>Thelypteris palustris</i>					
<i>Paspalidium geminatum</i>						<i>Triadenum virginicum</i>					
* Paspalum repens						<i>Typha</i> sp.	/	/		/	
<i>Paspalum urvillei</i>						Urochloa mutica (<i>Brachiaria mutica</i>)	/	/		/	
<i>Peltandra</i> sp.						* <i>Utricularia gibba</i> (<i>U. biflora</i>)	/	/		/	
<i>Persea</i> sp.						* <i>Utricularia foliosa</i>					
Pennisetum purpureum						* <i>Utricularia inflata</i>					
<i>Phragmites australis</i>						* <i>Utricularia purpurea</i>					
<i>Pinus elliotii</i>						* <i>Utricularia radiata</i>					
Pistia stratioides						* <i>Utricularia resupinata</i>					
<i>Pluchea</i> sp.		/	/	/		<i>Vallisneria americana</i>				/	/
* Polygonum glabrum (<i>densiflorum</i>)						<i>Vitis</i> sp.					
<i>Polygonum hirsutum</i>						* <i>Websteria confervoides</i>					
* Polygonum hydropiperoides						Wedelia trilobata (<i>Sphagneticola trilobata</i>)					
* Polygonum punctatum	/	/	/	/		<i>Wolffia</i> spp.					
* Polygonum	/	/	/	/		<i>Woodwardia virginica</i>					
<i>Pontederia cordata</i>	/	/	/	/		<i>Xyris</i> sp.					
* Potamogeton diversifolius	/	/	/	/		<i>Zizania aquatica</i>					
* Potamogeton illinoensis	/	/	/	/		<i>Zizaniopsis milacea</i>					
* Potamogeton pusillus						<i>Ptilimnium capillareum</i>	/	/		/	
* Potamogeton pectinatus (<i>Stuckenia pectinatus</i>)						<i>Phyla nodiflora</i>	/	/		/	
<i>Proserpinaca pectinata</i>						<i>Cyperus</i> <i>Juncus elliotii</i>	/	/		/	
* Rhexia						<i>Entolasium cyclocarpum</i>				/	
* Rhynchospora corniculata						<i>berry like brown inf.</i>				/	
* Rhynchospora inundata						<i>Rumex pulcher</i>				/	
<i>Rhynchospora nitens</i>											
<i>Ricciocarpus natans</i>											
<i>Sabal palmetto</i>											
<i>Sacciolepis striata</i>											
* Sagittaria filiformis											
* Sagittaria graminea											
* Sagittaria isoetiformis											
<i>Sagittaria lancifolia</i>	/	/	/	/							
<i>Sagittaria latifolia</i>											

DEP FORM FD 9000-27 LAKE VEGETATION INDEX FIELD SHEET

Waterbody: <u>Stark Lake</u>		County: <u>Orange</u>		Date: <u>5/21/18</u>							
Analyst: <u>Terry Jordan, Liz Bates, Mike Drennan</u>		Signature: <u>[Signature]</u>		STORE: <u>62CE0094</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): 1, 4, 7, 10 2, 5, 8, 11 <u>3, 6, 9, 12</u>							
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	3	6	9	12	Collected? (✓)	SPECIES	3	6	9	12	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						Limnium 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 submersed viviparous	/	/	/			Mimosa pigra					
*Eriocaulon compressum						Myrica cerifera					
*Eriocaulon decangulare											
Eupatorium capillifolium											

* No Dominants 9, 6

Starke Lake

