

LVI

Site Name Lake Theresa Sample Date 5/28/19
 WBID 3168^{y7}~~*3~~ WIN ID G4CE0151 RQ 2019-05-27-22

	Initial/Date	QC Initial/Date
Water chemistry data to LIMS	LMD 6/3/19	MKL 6/3/19
Create SBIO station visit 79763	LMD 6/3/19	n/a
Vascular Entry (add LIMS ID)	LMD 6/3/19	MKL 6/3/19
Lake Observation Sheet Entry	LMD 6/3/19	MKL 6/3/19
Authorize SBIO data	MKL 6/3/19	n/a
Scan all sheets to 21FLCEN folder		n/a
LIMS/WIN migration		n/a
File in cabinet		n/a

Comments/notes:

* Packet also includes WQ for G4CE0147 & G4CE0153



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION STRATEGIC MONITORING PROGRAM FIELD SHEET

January 2019

Data Qualified?

Yes / No

WIN Station Name: Lake Theresa @ Center

Date: 05/28/2019

WIN/ Field ID: G4CE0151

WBID: 3168Y7

Latitude: 28.56069527

(mm/dd/yyyy)

County: Orange

ORG ID: 21FLCEN

Longitude: -81.33919915

(Decimal Degrees)

Receiving Body of Water: _____

RQ-2019- 05-27-22

(Decimal Degrees)

Sampling Team Members				WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check	Sampling Equipment			
Mike Linger				☒	☒	☒	☒	☒	☒ Sample Container	☐ Van Dorn	☐ Pole	
Mike Drennan				☒	☒	☒	☒	☒	☐ Carboy	☒ Syringe		
									☐ Dipper	☐ Other		
									Depth Measured with <u>Secchi-Disk Line / Meter</u>			
									Equipment ID <u>Leadfoot / Knochthead / Crusty/Bucket / Trap</u>			
									Collection Method			
									☐ Wading	☒ Canoe/Kayak		
									☐ From Shore	☒ Electric Motor		
									☐ Other	☐ Gasoline Motor		
Water Level: <u>Dry</u> / Pooled / Low / <u>Normal</u> / High / Flooded				Motor ID# <u>Shrimp Trap</u>				Matrix: <u>Fresh</u> / Marine / DI				
Photos: Yes / <u>No</u>				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 (umhos/cm)	Temp. (C°)		
<u>EST</u>	<u>933</u>	<u>1.8</u>	<u>0.3</u>	<u>1.2</u>	<u>6.25</u>	<u>83.0</u>	<u>7.64</u>	<u>0.06</u>	<u>124.5</u>	<u>30.2</u>		
<u>CEN</u>			<u>1.3</u>		<u>6.23</u>	<u>82.9</u>	<u>7.57</u>	<u>0.06</u>	<u>124.6</u>	<u>30.2</u>		
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>79763</u> HA-ID: <u>16016</u> RPS-ID: _____ Macrophyte-ID: <u>11344</u> LIMS#: <u>2089429</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 um Filter				☒ Ice	<u>13615055</u>						
Chlorophyll	☒ CHLSUITE-W				☒ Ice							
Physical/Aggregate (Fresh)	☒ Alkalinity / W-F / W-TSS / TURBIDITY / W-CI-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-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:

WIN ID / Field ID →

Lake Theresa @ Center



G4CE0151

Signature: [Signature]

Date: 5/28/19

LIMS EVENT ID: CEN-DIST-2019-05-29-01

Enter Field Parameters, Verify Station ID in LIMS DMT: LMD 6/3/19

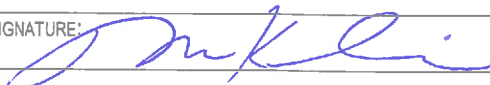
QC Station ID, Field Parameters in LIMS DMT: MKL 6/3/19

Scan/Save Field Sheets _____
(Initials/Date)

Migrate Data to WIN: _____
(Initials/Date)

Verify Data in WIN: _____
(Initials/Date)

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

STORET STATION NUMBER: G4CE0151	DATE (M/D/Y) 05/28/2019	LAKE NAME Lake Theresa		FIELD ID / NAME: G4CE0151
ECO-REGION:	COUNTY: Orange	SAMPLING LOCATION/DESCRIPTION: @ center		LAKE SIZE: small
PARAMETER				
HYDROLOGY	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 ☐
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 10	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 3	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 4	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 2	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 2	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 2	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 5	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 28	COMMENTS:			
ANALYSIS DATE: 5/28/19 Mike Linger	ANALYST: Mike Linger		SIGNATURE: 	

DEP FORM FD 9000-31: LAKE OBSERVATION FIELD SHEET

SAMPLE ID: 79763 MACROPHYTE ID: 11344 LATITUDE: 28.56069
 COUNTY: Orange STORET #: 64CE0151 LONGITUDE: -81.33919
 DATE: 5/28/19 TIME: 933 SAMPLING AGENCY: FDEP CE-Roc
 SITE NAME: Lake Theresa WBID: Small 316847
 FIELD ID/NAME: 64 CE 0151 LAKE SIZE: Small RQ: 2019-05-27-22

WATERSHED / LAKESIDE FEATURES

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category - from GIS) : Forest/Natural ☐ Silviculture ☐ Field/Pasture ☐ Agricultural ☐ Residential <u>35</u> Commercial <u>65</u> 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>4</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 # _____ Exp. Date: _____ Alkalinity Sample Taken? ☒ Yes ☐ No Water Level ☐ Low ☒ Normal ☐ High						Water Odors: ☒ Normal ☐ Sewage ☐ Petroleum ☐ Other _____					
Meter Readings: Top: Depth (M) <u>0.3</u> Temp. (°C) <u>30.2</u> pH (SU) <u>7.64</u> D.O. (MG/L) <u>6.25</u> D.O. Sat. (%) <u>83.0</u> Cond. (UMHO/CM) <u>124.5</u> Salinity (PPT) <u>0.06</u> Mid-Depth: _____ Bottom: <u>1.3</u> <u>30.2</u> <u>7.57</u> <u>6.23</u> <u>82.9</u> <u>124.6</u> <u>0.06</u>						Water Surface Oils: ☐ None ☒ Sheen/Slick ☐ Glob ☐ Other _____					
Meter ID: <u>Shrimp Trap</u>						Clarity: ☐ Clear ☐ Opaque ☐ Turbid ☒ Slightly Turbid Color: ☐ Clear ☐ Tannic ☒ Green					
Sediment Type: (may check more than one) ☐ Sandy ☒ Organic fibrous (peaty, CPOM) ☒ Sand/Silt ☒ Organic smooth (muck)						SECCHI (M) <u>1.2 Total Station Depth (M) <u>1.8</u> VOB ☐ </u>					
Sediment Type: (may check more than one) ☐ Sandy ☒ Organic fibrous (peaty, CPOM) ☒ Sand/Silt ☒ Organic smooth (muck)						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 ☒ ☐ ☐ ☐					
Additional Notes:											
Weather Conditions : <u>90's clear</u>											
SAMPLING TEAM: <u>Mike Linger / Mike Dorman</u>						SIGNATURE: <u>[Signature]</u>			DATE: <u>5/28/19</u>		

DEP FORM FD 9000-27 LAKE VEGETATION INDEX FIELD SHEET

Waterbody: <u>Lake Theresa</u>		County: <u>Orange</u>		Date: <u>5/28/19</u>							
Analyst: <u>Mike Linger / Mike Drennan</u>		Signature: <u>[Signature]</u>		STORET: <u>64CE0151</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 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	D	/	D	C	
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 submersa viviparous	/	/	/	/		Mimosa pigra					
*Eriocaulon compressum						Myrica cerifera					
*Eriocaulon decangulare											
Eupatorium capillifolium											

FORM FD 9000-27: LAKE VEGETATION INDEX FIELD SHEET

Site: <u>Lake Theresa</u>						Date: <u>5/28/19</u>					
SPECIES	1	4	7	10	Collected? (✓)	SPECIES	1	4	7	10	Collected? (✓)
Myriophyllum aquaticum						<i>Salix caroliniana</i>					
* <i>Myriophyllum heterophyllum</i>						Salvinia minima					
* <i>Myriophyllum laxum</i>						<i>Sambucus canadensis</i>					
* <i>Myriophyllum pinnatum</i>						Sapium sebiferum					
Myriophyllum spicatum						<i>Saururus cernuus</i>					
* <i>Najas filifolia</i>						Schinus terebinthifolius					
* <i>Najas guadalupensis</i>						* <i>Schoenoplectus californicus</i>					
* <i>Najas minor</i>						* <i>Schoenoplectus pungens</i>					
<i>Nelumbo lutea</i>						* <i>Schoenoplectus tabernaemontani</i> (<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>						* <i>Sesbania</i>					
<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 polyrhiza</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>					
* <i>Paspalum repens</i> (unl)						<i>Typha</i> sp.					
<i>Paspalum urvillei</i>						Urochloa mutica (Brachiaria mutica)					
<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>					
* <i>Polygonum glabrum</i> (<i>densiflorum</i>)						<i>Vitis</i> sp.					
<i>Polygonum hirsutum</i>						* <i>Websteria confervoides</i>					
* <i>Polygonum hydropiperoides</i>						Wedelia trilobata (Sphagneticola trilobata)					
* <i>Polygonum punctatum</i>						<i>Wolffiella</i> spp.					
* <i>Polygonum</i>						<i>Woodwardia virginica</i>					
<i>Pontederia cordata</i>						<i>Xyris</i> sp.					
* <i>Potamogeton diversifolius</i>						<i>Zizania aquatica</i>					
* <i>Potamogeton illinoensis</i>						<i>Zizaniopsis milacea</i>					
* <i>Potamogeton pusillus</i>						<i>Phyla nodiflora</i>					
* <i>Potamogeton pectinatus</i> (<i>Stuckenia pectinatus</i>)						<i>Rubus</i> (unl)					
<i>Proserpinaca pectinata</i>											
* <i>Rhexia</i>											
* <i>Rhynchospora corniculata</i>											
* <i>Rhynchospora inundata</i>											
<i>Rhynchospora nitens</i>											
<i>Ricciocarpus natans</i>											
<i>Sabal palmetto</i>											
<i>Sacciolepis striata</i>											
* <i>Sagittaria filiformis</i>											
* <i>Sagittaria graminea</i>											
* <i>Sagittaria isoetiformis</i>											
<i>Sagittaria lancifolia</i>											
<i>Sagittaria latifolia</i>											

