



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
STRATEGIC MONITORING PROGRAM FIELD SHEET

February 2016

Reference Lake
PAGE ____ OF ____

Data Qualified?
Yes / No

STORET Station Name: Swist Creek Pond Center

Date: 8/12/2016

STORET Station ID: 21030066

Latitude: 30.124077

WBID: 3530 RQ-2016-07-25-11 ORG ID: 21 FLA

Longitude: 82.296952

Receiving Body of Water: none

Field ID: _____

County: Union

Sampling Team Members		WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check
J. Parrish			X		X	X
N. Frederick		X		X		

Sampling Equipment		
☒ Sample Container	☐ Van Dorn	☐ Pole
☐ Carboy	☐ Syringe	
☐ Dipper	☐ Other	
Equipment ID _____		

Collection Method	
☐ Wading From	☐ Via Boat
☐ Shore	☐ Canoe/Kayak
☐ Other (note below)	☐ Electric
	☒ Motor

Water Level: Dry / Low / Normal / High / Flooded
Meter ID# Quanta Photos: Yes / No
Matrix: Fresh / Marine / DI
Tide Falling: Yes / No / NA

Time	Time	Sample Depth (m)	Total Depth (m)	DO (mg/L)	DO (%SAT)	pH	Salinity (ppt)	Secchi Disk (m)	SpCOND (umhos/cm)	Temp. (C°)
EST	1140	0.30	1.9	5.84	77.9	5.87	0.03	0.25	52	30.56
CEN	1145	1.0		0.55	3.4	6.26	6.03		52	29.20

Biological Samples Collected: None HA SCI LVS RPS LVI Other

Parameter Suite	Parameter Methods	Preservation	Acid Lot#	Expiration	pH
Preserved Nutrients	☒ W-NH3 / ☒ W-NO2NO3 / ☒ W-TKN / ☒ W-TOC / ☒ W-S-A-TP	☒ Ice ☒ H2SO4	157449	12/19/16	<2
Metals	☒ W-ICPMS ☒ W-ICP	☒ Ice ☒ HNO3			<2
Filtered Nutrients	☒ W-PO4-F ☒ Field Filtered 0.45 um Filter	☒ Ice			
Chlorophyll	☒ CHLSUITE-W	☒ Ice			
BOD	☐ BOD-UNIN	☐ Ice			
Physical/Aggregate (Kit A)	☒ Alkalinity / W-F / W-TSS / TURBIDITY / W-CHC / W-COLOR / W-SO4-IC / W-TDS	☒ Ice			
Physical/Aggregate (Kit B)	☐ Alkalinity / W-F / W-TSS / TURBIDITY	☐ Ice			
Macroinvertebrates	☐ MI-FW-QLDC	☐ Formalin			
Microbiology	☐ E Coli ☐ F Coli ☐ Enterococcus ☐ QPCR	☐ Ice			
Periphyton	☐ ALGAE-ID	☐ Ice			
Pesticides	☐ W-PSNP-TQ ☐ W-AHERB-AA ☐ W-PYR-AA-R ☐ W-PC-AA-SF ☐ W-UHERB-AA ☐ W-GLYPH	☐ Ice ☐ Other			

Phytoplankton - Diatoms

Notes: _____

Place Label Here (if Available)

Signature: Jeremy Parrish Date: 8/12/2016

Field Parameters Entered into LIMS: JP 8/15/16 Field Parameters QC in LIMS: _____

Date Migrated to STORET: _____ Field Sheets Scanned/Saved: _____

CALIBRATION AND VERIFICATION LOG (FDEP SOP FT 1000-FT 1500, FD 1000-FD 4000)

Boldly "X" this box if there is qualified data on this page.

Meter #3451 RQ- 2016-07-25-11 Project Ref. Lake

- Notes: (1) Numbers ≤ 4 , are rounded down; numbers ≥ 5 are rounded up (e.g., 5.15 becomes 5.2).
 (2) Always wait for meter to stabilize before recording any readings.
 (3) For Calibrations, record calibrated meter reading. Do not record initial meter reading before calibration.

Circle/Fill In: Lab Calibration or Calibration/Verification on Site _____

Temperature (Quarterly) FT 1400

Date of Last Temperature Verification 7/2016

DO DEP SOP FT 1500	Name	Date	Time CT-ET	Temp	D.O. Chart mg/L	Meter D.O. mg/L	% DO	Probe Charge	Probe Gain	Pass / Fail	Lab / Field
Calibr.	J. Parrish	8/2/16	717	23.9	8.55	8.43	100	—	—	P	L
ICV	J.	J	727	23.9	8.93	8.49	102.4	—	—	P	L
CCV						8.55	102.4				
CCV	N. Fredenke	8/2/16	1420	25.35	8.22	8.42	102.7	—	—	P	L

Report DO mg/L with one decimal figure and DO % saturation as a whole number with no decimals.

DO Acceptance criteria from Table ± 0.3 mg/L.

Rapid-Pulse Sensors: DO Gain Range 0.7 to 1.4; DO Charge Range 25-75.

Optical: DO gain range 0.85 to 1.15; DO charge N/A.

Steady-state & Galvanic Sensors: DO Gain & Charge N/A.

Spec. Cond. FT 1200	Name	Date	Time CT-ET	Lot #	Expir. Date	Standard μ mhos/cm	Meter Reading μ mhos/cm	Pass / Fail	Lab / Field
Calibr.	J. Parrish	8/2/16		05151413	10/16	1413	1425	P	L
ICV	J. Parrish	8/2/16	734	160616A	6/17	1000	1002	P	L
CCV									
CCV									

Report specific conductance as a whole number with no decimal figure.

Conductivity Acceptance criteria $\pm 5\%$

pH DEP SOP FT 1100	Name	Date	Time CT-ET	Lot #	Expir. Date	pH Buffer	Meter reading SU	mV	Pass / Fail	Lab / Field
Calibr.	J. Parrish	8/2/16	730	2510A81	10/17	SU 7.0	7.00	—	P	L
Calibr.	J.	8/2/16	735	2602556	1/18	4.0	4.0	—	P	L
Calibr.	J. Parrish	8/2/16	740	2510A88	4/17	10.0	9.8	—	P	L
ICV										
CCV	N. Fredenke	8/2/16	1430	2510A81	10/17	7.0	6.90	—	P	L
CCV	J.	8/2/16	1435	2602556	1/18	4.0	3.95	—	P	L

Report pH with one decimal place; pH Acceptance criteria ± 0.2 SU;

mV pH7 Range 0 $\pm$ 50;

mV pH 4 Range

+180 $\pm$ 50; mV pH 10 Range -180 $\pm$ 50;

Slope from 7 to 10 and 4 to 7 must be between 165

and 180 mV

Depth (Quarterly)

Date of Last Depth Verification _____

Depth Sensor (Daily)	Name	Date	Time CT-ET	Zero the Sensor	ICV Value	Pass / Fail	Lab / Field
Pressure mode in air				0.000			

ICV acceptance criteria $\pm 5\%$ or ± 0.05 m, whichever is greater

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PHYSICAL/CHEMICAL CHARACTERIZATION ELECTRONIC FIELD SHEET

SAMPLE ID : _____	ORG ID : <u>21FLA</u>	Latitude : _____			Longitude : _____		
COUNTY : <u>Union</u>	STORET# : <u>21030066</u>	(degrees)	(minutes)	(seconds)	(degrees)	(minutes)	(seconds)
DATE : <u>8/2/16</u>	TIME : <u>1140</u>						
SITE NAME : <u>Sugar Creek Pond Center</u>		SAMPLE COMPLETE ? _____					
FIELD ID/NAME : _____		RECEIVING BODY OF WATER : _____					

RIPARIAN ZONE / STREAM FEATURES

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category) :						
Forest/Natural silviculture	Field/Pasture	Agricultural	Residential	Commercial	Industry	Other (Specify)
<u>80</u>	<u>20</u>					
Local Watershed Erosion (select one) : ☒ None ☐ Slight ☐ Moderate ☐ Heavy		Typical Width (m) Depth (m)/Velocity (m/sec) Transect				
Local Watershed NPS Pollution : ☒ No evidence ☐ Slight ☐ Moderate ☐ Heavy						
Width of Riparian Vegetation (m) on Each Buffer Side						
Left Bank : <u>218m</u> Right Bank : <u>218m</u>						
High Water Mark : _____ + _____ = _____						
(m) (above present water level) (present depth) (above bed)						
Artificially Impounded ☐ Yes ☐ No						
Artificially ☐ No ☐ Mostly recovered, more sinuous		Canopy Cover % : ☐ Open ☐ Lightly Shaded (11-45%)				
Channelized : ☐ Some recovery ☐ Recent, severe		☐ Heavily Shaded ☐ Moderate Shaded (46-80%)				

SEDIMENT / SUBSTRATE

Sediment Oils		Sediment Odors		Sediment Deposition	
☒ Absent ☐ Slight ☐ Moderate ☐ Profuse		☒ Normal ☐ Sewage ☐ Petroleum ☐ Chemical ☐ Anaerobic ☐ Other (Specify) :		☐ Sludge ☐ Sand Smothering : None Slight Moderate Severe ☐ Silt Smothering : None Slight Moderate Severe ☐ Other (Specify) :	
SUBSTRATE TYPE		WATER QUALITY			
Assessment Tool : ☐ SCI ☐ BioRecon ☐ LCI ☒ LVI		Depth (M) Temp. (°C) pH (SU) D.O. (MG/L) Cond. (UMHO/CM) Salinity (PPT) SECCHI (M)			
Woody Debris (Snags) _____		Top : <u>0.3</u> <u>30.56</u> <u>5.87</u> <u>5.8</u> <u>52</u> <u>0.03</u> <u>0.25</u>			
Undercut Banks / Roots _____		Mid-Depth : <u>4</u> _____		☐ VOB	
Leaf Packs or Mat _____		Bottom : <u>1.9</u> _____		<u>77.9%</u>	
Aquatic Vegetation _____		Water Surface Oils : ☒ None ☐ Sheen ☐ Globbs ☐ Slick			
Rock or Shell Rubble.. _____		Water Odors : ☒ Normal ☐ Sewage ☐ Petroleum ☐ Chemical ☐ Other (Specify) :			
Sand..... _____		Water Sample Taken ? ☒ Yes ☐ No		SYSTEM TYPE ☐ Stream ☒ Lake ☐ Wetland ☐ Estuary ☐ Other (Specify) :	
Mud / Muck / Silt _____		Algae Sample Taken ? ☐ Yes ☐ No			
Other _____		Clarity ☐ Clear ☐ Slightly Turbid ☒ Turbid ☐ Opaque		Color ☒ Tannic ☐ Green (Algae) ☐ Clear ☐ Other (Specify) :	
Other _____					
WEATHER CONDITIONS / NOTES :				ABUNDANCE	
<u>Normal to low water levels</u>				Absent Rare Common Abundant	
☐ The antecedent hydrologic conditions have been met to my best knowledge.				Periphyton : ☐ ☒ ☐ ☐	
Water samples preserved ? ☐ Yes ☐ pH<2 ☐ No Algae samples preserved ? ☐ Yes ☐ No				Fish : ☐ ☒ ☐ ☐	
				Aquatic Macrophytes : ☐ ☐ ☐ ☒	
				Iron/Sulfur Bacteria : ☐ ☒ ☐ ☐	
SAMPLING TEAM : <u>Jim / A. Fredson</u>		SIGNATURE : <u>Jim</u>		DATE : <u>8/2/16</u>	

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STATE OF FLORIDA, DEPARTMENT OF ENVIRONMENTAL PROTECTION
Lake Habitat Assessment Field Sheet

STORET STATION NUMBER: 21030066	DATE (M/D/Y) 8/2/16	LAKE NAME Swift Creek Pond Center		FIELD ID / NAME:		
ECO-REGION:	COUNTY: Union	SAMPLING LOCATION/DESCRIPTION:		LAKE SIZE:		
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		
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		
Secchi	Secchi > 3 m Secchi(m)	3	2.6	2.2	1.8	1.4
	Or VOB	20	19	18	17	16
		15	14	13	12	11
		10	9	8	7	6
		5	4	3	2	1
Vegetation Quality	Diverse, expected native vegetation (emergent or submersed), less than 5% nuisance taxa	Mostly expected native plants, but moderate growths (6%-20% of lake) of nuisance macrophytes, or more than 50% of lake covered with plants		Large masses (21%-40%) of nuisance macrophytes (e.g., Hydrilla, hyacinth, cattail, etc.) or algal mats		
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		
Bottom Substrate Quality	Diverse mixture of sand, detritus, with small amounts of CPOM/mud/muck. SAV may be present	Mixture of sand or clay and detritus with higher % CPOM/mud/muck content. SAV may be present		Moderate layer of CPOM/mud/muck, or hardpacked sand only, or moderate algal growth (mats or Chara) on bottom		
Lakeside Adverse Human Alterations	Very few man-made structures, roads, or other disturbance adjacent to lake (<10%)	Moderate disturbance visible (structures, roads or other), 10%-49% lakeside affected		Many structures, roads or other human disturbance visible (50%-70%) lakeside affected		
Upland 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		
Adverse Watershed Land Use	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					
TOTAL SCORE	115	COMMENTS:				

ANALYSIS DATE: 8/2/16	ANALYST: J. Parish	SIGNATURE:
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Waterbody: <u>Swift Creek Pond</u>		County: <u>Union</u>		Date: <u>8/2/16</u>							
Analyst: <u>J. Parish</u>		Signature: _____		STORET: _____							
Except where noted as "sp." species level identification required. *Genera that may require lab verification* Plants in bold= FLEPPC invasive exotic. 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 <u>2, 5, 8, 11</u> 3, 6, 9, 12							
SPECIES	2	5	8	11	Collected? (✓)	SPECIES	2	5	8	11	Collected? (✓)
Acer rubrum	✓	✓	✓	✓	✓	Habenaria repens					
Alternanthera philoxeroides	✓	✓	✓	✓	✓	Hydrilla verticillata					
Andropogon sp.						Hydrocotyle sp.	✓	✓	✓		
Azolla filiculoides (A. caroliniana)						Hygrophila polysperma					
Baccharis sp.						*Hypericum fasciculatum					
Bacopa caroliniana						*Hypericum hypericoides					
Bacopa monnieri						*Hypericum myrtifolium					
Bidens laevis						Ilex cassine	✓				
Bidens mitis						Ipomoea aquatica					
Blechnum serrulatum						Ipomoea sagittata					
Boehmeria cylindrica						Itea virginica					
Brasenia schreberi						Juncus effusus					
Cabomba caroliniana						*Juncus marginatus					
Casuarina equisetifolia						*Juncus megacephalus					
Centella asiatica	✓	✓	✓	✓	✓	Juncus repens					
Cephalanthus occidentalis	✓	✓	✓	✓	✓	*Juncus scirpoides					
Ceratophyllum demersum						Lachnanthes caroliniana					
Chara sp.						Leersia hexandra				✓	✓
Cladium jamaicense		✓		✓	✓	Landoltia punctata (Spirodela punctata)					
Cliftonia monophylla						Lemna sp.					
Colocasia esculenta						Leucothoe racemosa (Eubotrys racemosa)					
*Commelina						Limnobia spongia	✓	✓	✓	✓	
Crinum americanum						Limnophila sessiliflora					
*Cyperus alternifolius (C. involucratus)						Liquidambar styraciflua					
Cyperus articulatus						*Ludwigia arcuata	✓	✓	✓	✓	
Cyperus haspan						*Ludwigia leptocarpa	✓	✓	✓	✓	
*Cyperus lecontei						*Ludwigia linearis					
*Cyperus polystachyos						*Ludwigia octovalvis					
*Cyperus odoratus						*Ludwigia peruviana					
*Cyperus surinamensis						*Ludwigia repens					
Cyrilla racemiflora	✓	✓		✓	✓	*Ludwigia <u>Alata</u>	✓	✓			
Decodon verticillatus						Luziola fluitans (Hydrochloa carolinensis)	✓				
Diodia virginiana						Lyonia lucida	✓				
*Echinochloa crus-galli						Magnolia virginiana	✓				✓
*Echinochloa muricatum						Mayaca fluviatilis					
Echinochloa walteri						Melaleuca quinquenervia					
Eclipta prostrata (E. alba)						Micranthemum glomeratum					
Egeria densa						Micranthemum umbrosum					
Eichhornia crassipes	✓	✓		✓	✓	Mikania scandens					
*Eleocharis baldwinii	✓	✓		✓	✓	Mimosa pigra					
*Eleocharis						Myrica cerifera	✓	✓	✓	✓	✓
Eleocharis cellulosa											
Eleocharis equisetoides											
Eleocharis interstincta											
*Eriocaulon compressum											
*Eriocaulon decangulare											
Eupatorium capillifolium											
*Fuirena											
Fuirena scirpoidea	✓			✓	✓						
Gordonia lasianthus	✓			✓	✓						

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FORM FD 9000-27: LAKE VEGETATION INDEX FIELD SHEET

Site:					Date:						
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 odorata						*Sesbania <u>herbacea</u>		✓			
Nymphoides aquatica	✓		✓	✓		Solidago sp.					
Nyssa sylvatica var. biflora	✓	✓	✓	✓		Sparganium americanum					
Orontium aquaticum						Spartina bakeri					
Osmunda cinnamomea						Spirodela polyrhiza		✓	✓		
Osmunda regalis	✓	✓	✓	✓		Taxodium sp.	✓	✓	✓		
Panicum hemitomon	✓	✓	✓	✓		Thalia geniculata					
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 floridana					
Pennisetum purpureum						*Utricularia foliosa					
Phragmites australis	✓	✓		✓		*Utricularia inflata					
Pinus elliotii	✓	✓		✓		*Utricularia purpurea					
Pistia stratioides						*Utricularia cornuta					
Pluchea sp.						*Utricularia radiata					
*Polygonum glabrum (densiflorum)	✓	✓	✓	✓		Vallisneria americana					
*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)						Simulax sp.	✓	✓		✓	
Proserpinaca pectinata						Vitis sp.	✓			✓	
*Rhexia											
*Rhynchospora corniculata											
*Rhynchospora inundata											
Rhynchospora tracyi											
Ricciocarpus natans											
Sabal palmetto	✓	✓	✓	✓							
Sacciolepis striata	✓	✓	✓	✓							
*Sagittaria filiformis											
*Sagittaria graminea											
*Sagittaria isoetiformis											
Sagittaria lancifolia											
Sagittaria latifolia											