



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
STRATEGIC MONITORING PROGRAM FIELD SHEET

February 2016

PAGE ____ OF ____

Data Qualified?
Yes / No

STORET Station Name: Blue cypress lake

Date: 10/17/16
(mm/dd/yyyy)

STORET Station ID: 20010099

Latitude: 27.72806
(Decimal Degrees)

WBID: 2893U RQ: 2016-10-17-19

ORG ID: G21FWPB Longitude: -80.75333
(Decimal Degrees)

Receiving Body of Water:

Field ID:

County: Indian River

Sampling Team Members		WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check	Duplicate Collection	Blank Collection
Hurley		X	X					
Sewell			X	X	X			

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

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

Water Level: Dry / Low / <u>Normal</u> / High / Flooded	Matrix: <u>Fresh</u> Marine / DI
Meter ID# <u>L10US</u> Photos: <u>Yes</u> / No	Tide Falling: Yes / No / <u>NA</u>

Field Sample										
Time Zone	Time	Sample Depth (m)	Total Depth (m)	DO (mg/L)	DO (%SAT)	pH	Salinity (ppt)	Secchi Disk (m)	Sp COND (µmhos/cm)	Temp. (C°)
EST	1300	0.3	2.5	7.4	91	7.2	0.1	0.2	122	25.6
CEN	1302	2.0		7.4	91	7.2	0.1		122	25.6

Biological Samples Collected:	None	HA	SCI	LVS	RPS	<u>LVI</u>	Other
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Parameter Suite	Parameter Methods	Preservation	Acid Lot#	Expiration	pH Check
Preserved Nutrients	☒ W-NH3 / W-NO2NO3 / W-TKN / W-TOC / W-S-A-TP	☒ Ice ☒ H2SO4	6209120	7/17	☒ <2
Metals	☒ W-ICPMS ☒ W-ICP	☒ Ice ☒ HNO3			☒ <2
Filtered Nutrients	☒ W-PO4-F ☒ Field Filtered 0.45 µm Filter	☒ Ice	Place Preservative Sticker(s) Here (if available)		
Chlorophyll	☒ CHLSUITE-W	☒ Ice			
BOD	☐ BOD-UNIN	☐ 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	☐ 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			
windy, choppy, cloudy					

Entered in LIMS 11/15 80's

DEP FORM FD 9000-27 LAKE VEGETATION INDEX FIELD SHEET

Waterbody: <u>Blue Cypress Lake</u>		County: _____		Date: <u>10/17/16</u>							
Analyst: _____		Signature: _____		STORET: _____							
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	X	X	X	X		Habenaria repens					
Alternanthera philoxeroides	X	X	X	X		Hydrilla verticillata					
Andropogon sp.	X					Hydrocotyle sp.	X		X	X	
Azolla filiculoides (A. caroliniana)						Hygrophila polysperma					
Baccharis sp.	X			X		*Hypericum fasciculatum					
Bacopa caroliniana						*Hypericum hypericoides					
Bacopa monnieri						*Hypericum myrtifolium					
Bidens laevis						Ilex cassine					
Bidens mitis						Ipomoea aquatica					
Blechnum serrulatum		X	X		X	Ipomoea sagittata	X			X	
Boehmeria cylindrica		X				Itea virginica					
Brasenia schreberi						Juncus effusus					
Cabomba caroliniana						*Juncus marginatus					
Casuarina equisetifolia						*Juncus megacephalus					
Centella asiatica						Juncus repens					
Cephalanthus occidentalis	X	X	X	X		*Juncus scirpoides					
Ceratophyllum demersum	X		X	X		Lachnanthes caroliniana					
Chara sp.						Leersia hexandra					
Cladium jamaicense		X				Landoltia punctata (Spirodela punctata)					
Cliftonia monophylla						Lemna sp.	X	X	X	X	
Colocasia esculenta	X	X	X	X		Leucothoe racemosa (Eubotrys racemosa)					
*Commelina						Limnium spongia	X		X	X	
Crinum americanum						Limnophila sessiliflora					
* Cyperus alternifolius (C. involucratus)						Liquidambar styraciflua					
Cyperus articulatus						*Ludwigia arcuata					
Cyperus haspan						*Ludwigia leptocarpa	X	X	X	X	
*Cyperus lecontei						*Ludwigia linearis	X	X	X	X	
*Cyperus polystachyos						*Ludwigia octovalvis	X	X	X	X	
*Cyperus odoratus						*Ludwigia peruviana	X	X	X	X	
*Cyperus surinamensis						*Ludwigia repens					
Cyrilla racemiflora						*Ludwigia					
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	X		X	X		Mikania scandens					
*Eleocharis baldwinii						Mimosa pigra	X	X	X	X	
*Eleocharis						Myrica cerifera	X	X	X	X	
Eleocharis cellulosa						<u>Vigna luteola</u>	X			X	
Eleocharis equisetoides						<u>Vitis</u>	X	X	X	X	
Eleocharis interstincta						<u>Plant 2 - Cow Pea 2</u>	X			X	X
*Eriocaulon compressum						<u>heart shaped vine</u>	X			X	
*Eriocaulon decangulare						<u>Swamp fern</u>	X	X	X		
Eupatorium capillifolium	X	X	X	X		<u>fern 1</u>	X	X			X
*Fuirena											
Fuirena scirpoidea											
Gordonia lasianthus											

FORM FD 9000-27: LAKE VEGETATION INDEX FIELD SHEET

Site:						Date:					
SPECIES	3	6	9	12	Collected? (✓)	SPECIES	3	6	9	12	Collected? (✓)
Myriophyllum aquaticum						Salix caroliniana		X	X	X	
*Myriophyllum heterophyllum						Salvinia minima	X	X	X	X	
*Myriophyllum laxum						Sambucus canadensis					
*Myriophyllum pinnatum						Sapium sebiferum					
Myriophyllum spicatum						Saururus cernuus					
*Najas filifolia						Schinus terebinthifolius			X	X	
*Najas guadalupensis						*Schoenoplectus californicus Sp.		X	X		
*Najas minor						*Schoenoplectus pungens					
Nelumbo lutea						*Schoenoplectus tabernaemontani (Scirpus validus)					
Nitella spp.						Scirpus cubensis (Oxycaryon cubense)		X			
Nuphar sp.		X	X	X		Scirpus cyperinus					
Nymphaea odorata		X	X			*Sesbania					
Nymphoides aquatica						Solidago sp.					
Nyssa sylvatica var. biflora						Sparganium americanum					
Orontium aquaticum						Spartina bakeri					
Osmunda cinnamomea						Spirodela polyrhiza					
Osmunda regalis						Taxodium sp.	X	X	X	X	
Panicum hemitomon	X	X	X	X		Thalia geniculata	X	X	X	X	
Panicum repens	X	X	X	X		Thelypteris palustris					
Paspalidium geminatum						Triadenum virginicum					
*Paspalum repens						Typha sp.			X	X	
Paspalum urvillei						Urochloa mutica (Brachiaria mutica)					
Peltandra sp.						*Utricularia gibba (U. biflora)					
Persea sp.						*Utricularia floridana					
Pennisetum purpureum						*Utricularia foliosa					
Phragmites australis			X			*Utricularia inflata					
Pinus elliotii						*Utricularia purpurea					
Pistia stratioides	X	X	X	X		*Utricularia cornuta					
Pluchea sp.						*Utricularia radiata					
*Polygonum glabrum (densiflorum)	X	X	X	X		Vallisneria americana					
*Polygonum hydropiperoides	X	X	X	X		*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	X				
*Potamogeton pectinatus (Stuckenia pectinatus)						Annona Glabra	X	X	X	X	
Proserpinaca pectinata						Plant (vine purple/yellow)	X		X	X	X
*Rhexia						Pop ASL	X	X	X	X	
*Rhynchospora corniculata						hupelo 2 white/red Black	X		X	X	
*Rhynchospora inundata						Water tree					
Rhynchospora tracyi						Nyssa sylvatica					
Ricciocarpus natans											
Sabal palmetto			X	X							
Sacciolepis striata		X	X								
*Sagittaria filiformis											
*Sagittaria graminea											
*Sagittaria isoetiformis											
Sagittaria lancifolia											
Sagittaria latifolia											

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

STORET STATION NUMBER:	DATE (M/D/Y) <i>10/17/16</i>	LAKE NAME <i>Blue Cypress Lake</i>		FIELD ID / NAME:
ECO-REGION:	COUNTY: <i>Indian River</i>	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 ☐	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 <i>2</i>	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 <i>17</i>	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 <i>11</i>	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 <i>15</i>	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 Alternations <i>20</i>	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 <i>20</i>	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 <i>16</i>	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			

TOTAL SCORE

101

COMMENTS:

ANALYSIS DATE:

10/18/16

ANALYST:

A. Hurley / M. Sewell

SIGNATURE:

[Signature]

DEP FORM FD 9000-31: LAKE OBSERVATION FIELD SHEET

SAMPLE ID: _____ MACROPHYTE ID: _____ LATITUDE: _____
 COUNTY: Indian River STORET #: _____ LONGITUDE: _____
 DATE: 10/17/16 TIME: 1200 SAMPLING AGENCY: _____
 SITE NAME: Blue Cypress Lake WBID: _____
 FIELD ID/NAME: _____ LAKE SIZE: _____ RQ: _____

WATERSHED / LAKESIDE FEATURES

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category - from GIS):										LANDSCAPE DEVELOPMENT INTENSITY (100 m buffer)											
Forest/Natural	Silviculture	Field/Pasture	Agricultural	Residential	Commercial	Industrial	Other (Specify)	LDI:													
<u>20</u>		<u>40</u>	<u>40</u>	<u>10</u>				Land Use Source & Year:													
Local Watershed Erosion (select one): ☐ None ☐ Slight ☐ Moderate ☒ Heavy								Artificially Impounded ☐ Yes ☒ No													
Local Watershed NPS Pollution: ☐ No evidence ☐ Slight ☐ Moderate ☒ Heavy																					
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			Much direct input of stormwater (ditches, pipes, cultivated vegetation > 51%) and no or ineffective BMPs in place										
<u>11</u>		20	19	18	17	16	15	14	13	12	<u>11</u>	10	9	8	7	6	5	4	3	2	1
LAKESIDE ALTERATIONS		Very few man-made structures, roads, or other disturbance adjacent to lake (<10% lakeside affected)			Moderate disturbance visible - structures, roads or other (10%-49% lakeside affected)			Many structures, roads or other human disturbance visible (50%-70% lakeside affected)			Highly developed or disturbed (>70% of lakeside affected)										
<u>20</u>		20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
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			< 29% of shoreline with >18m buffer										
<u>20</u>		20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	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>620920</u> Exp. Date: <u>2/17</u> Alkalinity Sample Taken? ☒ Yes ☐ No Water Level ☐ Low ☐ Normal ☐ High										Water Odors: ☒ Normal ☐ Sewage ☐ Petroleum ☐ Other _____																																		
Meter Readings: Top: <u>0.3</u> <u>25.6</u> <u>7.2</u> <u>7.4</u> <u>91</u> <u>02</u> <u>0.1</u> Mid-Depth: _____ Bottom: <u>2.0</u> <u>25.6</u> <u>7.2</u> <u>7.4</u> <u>91</u> <u>122</u> <u>0.1</u> Meter ID: <u>1.1 GWS</u>										Water Surface Oils: ☒ None ☐ Sheen/Slick ☐ Glob ☐ Other _____																																		
Sediment Type: (may check more than one) ☐ Sandy ☐ Organic fibrous (peaty, CPOM) ☐ Vegetated ☐ Sand/Silt ☐ Organic smooth (muck) ☐ Other (Specify): _____										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: <table border="1"> <thead> <tr> <th></th> <th>Absent</th> <th>Rare</th> <th>Common</th> <th>Abundant</th> </tr> </thead> <tbody> <tr> <td>Periphyton</td> <td>☒</td> <td>☐</td> <td>☐</td> <td>☐</td> </tr> <tr> <td>Nuisance Plants</td> <td>☐</td> <td>☒</td> <td>☐</td> <td>☐</td> </tr> <tr> <td>Submersed Plants</td> <td>☐</td> <td>☒</td> <td>☐</td> <td>☐</td> </tr> <tr> <td>Exotic Apple Snails</td> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> </tr> </tbody> </table>											Absent	Rare	Common	Abundant	Periphyton	☒	☐	☐	☐	Nuisance Plants	☐	☒	☐	☐	Submersed Plants	☐	☒	☐	☐	Exotic Apple Snails	☐	☐	☐	☐
	Absent	Rare	Common	Abundant																																								
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Exotic Apple Snails	☐	☐	☐	☐																																								
Additional Notes: 																																												

Weather Conditions:

Cloudy, windy, choppy

SAMPLING TEAM:

A. Hurley / M. Sewell

SIGNATURE:

[Signature]

DATE:

10/18/16



Google earth

