



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION STRATEGIC MONITORING PLAN FIELD SHEET

January 2020

Meter Passed End

of Day CCV

Yes / No

WIN Station Name: Ruth Lake @ Center

Date: 9/15/2021

WIN/Field ID: G3CE0021

WBID: 2964C

ENR: -

Latitude: 28.6077

County: BREVARD

Org ID: 21FLCEN

Longitude: -80.95

Receiving Body of Water: Upper St. Johns

RQ- 2021-08-02-09

Sampling Team Members		WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check
☒	Leif Boman		x		x	x
☒	Katie March	x		x		
☐						
☐						

Sampling Equipment	
☒ Sample Container	☐ Carboy
☐ Dipper	☐ Van Dorn
☒ Syringe	☐ Pole
Depth measured with: Secchi	
Secchi Equipment ID: Knothead	
Collection Method	
☐ Wading	☐ Canoe/Kayak
☐ From Shore	☐ Electric Motor
☒ Other Airboat	☐ Gasoline Motor

Water Level: ☒ Normal ☐ Low ☐ High ☐ Dry ☐ Pooled ☐ Flooded						Meter ID# CRAW DADDY	
Photos: YES		Flow: NA		Tide:		Tide Times: High: Low:	
Biological Samples Collected:		☒ None	☐ HA	☐ SCI	☐ RPS	☐ Algae ID	☐ LVS ☐ LVI Other:
SBIO ID Numbers: VISIT ID: 83194 MACROPHYTE ID: 11962						LIMS: 2276352	
Notes:							

Duplicate Sample

Time Zone: EST	Time:	Field ID:	(WIN ID_DUP)
WIN DMT Activity ID:			

Blank

Time Zone:	Time:	Field ID:	(Blank Type_DDDMMYYY)
DI Source:	Location:		
DI Type:	Equipment ID:		
DI Container (Name/ID):		DI Container Type:	

LIMS EVENT ID: CEN-DIST-2021-09-17-01

WIN Import ID: 29599

Enter Field Parameters, Verify Station ID In LIMS DMT: EB 9/27/21

(Initials/Date)

QC Station ID, Field Parameters In LIMS DMT: VLS 10/13/21

(Initials/Date)

Scan/Save Field Sheets KWM 11/12/21

(Initials/Date)

Migrate Data to WIN: KWM 11/12/21

(Initials/Date)

Verify Data In WIN:

(Initials/Date)



RQ-2021-08-02-09

Customer: WQAP

Project ID: SMP

Collected By: Leif Boman, Katie March

Field Report Prepared By: Leif Boman

Sampling Agency: FDEP

Place Label Here

WIN ID/Field ID:



G3CE0021

Location: Ruth Lake @ Center

Comments:

Matrix: Fresh

(Check one)

☒ GRAB☐ COMPOSITE

Date	Time	DO (mg/L)	DO (%SAT)	Temp. (C°)	pH	Sample Depth (m)	Secchi Disk (m)	Total Depth (m)	Sp COND (µmhos/cm)	Salinity (PPT)		
	935 EST	2.17	28	28.3	6.63	0.3	1.4 ☐ VOB (S)	1.6	1007	0.49		
9/15/2021												
	940 EST	2.4	30.9	28.1	6.63	1.1			1023	0.5		
Parameter Suite		Parameter Methods				Preservation		pH Check	# Bottles sent to Lab	Bottle Group		
Preserved Nutrients (P-500ML)		☒ W-NH3 / W-NO2NO3 / W-TKN / W-TOC / W-S-A-TP				☒ Ice ☐ H2SO4*		☒ <2	1	A		
		Lot #	SA1105060		Exp:	4/30/2022						
Metals (P-500ML)		☐ W-ICPMS ☐ W-ICP ☐ W-HARD				☐ Ice ☐ HNO3*		☐ <2				
		Lot #			Exp:							
Filtered Nutrients (P125ML)		☒ W-PO4-F ☒ Field Filtered 0.45 µm Filter				☒ Ice			1	A		
		Filter Lot #	17135566									
		Syringe Lot #	1091364									
Chlorophyll (BP-1L)		☒ CHLSUITE-W				☒ Ice			1	A		
Physical/Aggregate (Fresh) (P-1L)		☒ Alkalinity / W-F / W-TSS / TURBIDITY / W-CL-IC / W-COLOR / W-SO4-IC / W-TDS				☒ Ice			1	A		
Physical/Aggregate (Marine) (P-1L)		☐ Alkalinity / W-BR-IC / W-F / W-TSS / TURBIDITY				☐ Ice						
Macroinvertebrates (PJ-2L)		☐ MI-FW-QLDC	Formalin Lot #			☐ Formalin						
Periphyton (PT-50ML)		☐ ALGAE-ID				☐ Ice						
Microbiology (Contract Lab Bottle)		☐ E Coli ☐ F Coli ☐ Enterococci				☐ Ice						
Molecular (QPCR-P-500ML)		☐ PCR-HF183 ☐ PCR-BacR ☐ PCR-DG3				☐ Ice						
		☐ PCR-GULL2 ☐ PCR-GFD ☐				☐ Ice						
Tracers (BG-500ML)		☐ W-E8321-DI ☐ W-E8321-MS				☐ Ice						
Pesticides (BG-500ML) (BG-1L)		W-E8321-DI	WE8321-MS	W-PSNP-TQ	W-CT-CL-R	☐ Ice						
Phytoplankton/Periphyton		W-PCL-TQ-R	W-CARB-AA (5 ml of MCAA** Buffer Solution)			☐ Ice						
				DTY-QN-C		☐ Ice						
				PKD-QN-BV								
Name: Leif Boman Katie March					Signature:				Date: 09/15/2021			

*2.0 ml of Preservative used unless noted otherwise.

**MCAA: Monochloroacetic acid buffer solution

DEP FORM FD 9000-31: LAKE OBSERVATION FIELD SHEET

SAMPLE ID: _____ **MACROPHYTE ID:** _____ **LATITUDE:** _____
COUNTY: Bryan **STORET #:** G3CE0021 **LONGITUDE:** _____
DATE: 9/15/21 **TIME:** _____ **SAMPLING AGENCY:** _____
SITE NAME: Ruth Lake **WBID:** _____
FIELD ID/NAME: _____ **LAKE SIZE:** _____ **RQ:** _____

WATERSHED / LAKESIDE FEATURES

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category – from GIS) : Forest/Natural <u>100</u> Silviculture _____ Field/Pasture _____ Agricultural _____ Residential _____ Commercial _____ Industrial _____ Other (Specify) _____				LANDSCAPE DEVELOPMENT INTENSITY (100 m buffer) LDI: _____ 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 <u>20</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	
LAKESIDE ALTERATIONS <u>20</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	
BUFFER ZONE <u>20</u>		Expected native vegetation between uplands and littoral zone, greater than 90% of shore with >18 m buffer 20 19 18 17 16		Many structures, roads or other human disturbance visible (50%-70% lakeside affected) 10 9 8 7 6	
		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	
				Much direct input of stormwater (ditches, pipes, cultivated vegetation > 51%) and no or ineffective BMPs in place 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: <u>0.3</u> <u>28.3</u> <u>6.63</u> <u>2.17</u> <u>28</u> <u>1007</u> <u>0.49</u> Mid-Depth: _____ Bottom: <u>1.1</u> <u>28.1</u> <u>6.63</u> <u>2.4</u> <u>30.9</u> <u>1023</u> <u>0.5</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): _____				Clarity: ☒ Clear ☐ Opaque ☐ Turbid ☐ Slightly Turbid Color: ☒ Tannic ☐ Clear ☐ Green			
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 : _____				Sediment Odors: ☐ Normal ☐ Other (Specify): _____ ☐ Anaerobic			
SAMPLING TEAM: <u>Leif Boman, Katie March</u>				SIGNATURE: <u>KMarch</u>		DATE: <u>9/15/21</u>	

DEP FORM FD 9000-27 LAKE VEGETATION INDEX FIELD SHEET

Waterbody: <i>Ruth Lake</i>	County:	Date: <i>9/15/21</i>
Analyst: <i>Leif Bowman, Kate March</i>	Signature: <i>K March</i>	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 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	Collected? (✓)	SPECIES
<i>Acer rubrum</i>		<i>Fuirena scirpoides</i>
<i>Alternanthera philoxeroides</i>	✓	<i>Gordonia lasianthus</i>
<i>Amaranthus australis</i>	✓	<i>Habenaria repens</i>
<i>Andropogon</i> sp.		<i>Hibiscus coccineus</i>
<i>Azolla filiculoides</i> (A. caroliniana)	✓	<i>Hibiscus grandiflora</i>
<i>Baccharis</i> sp.		<i>Hydrilla verticillata</i>
<i>Bacopa caroliniana</i>		<i>Hydrocotyle</i> sp.
<i>Bacopa monnieri</i>		<i>Hygrophila polysperma</i>
<i>Bidens alba</i>		<i>Hymenocallis</i> sp.
<i>Bidens laevis</i>		* <i>Hypericum fasciculatum</i>
<i>Bidens mitis</i>		* <i>Hypericum hypericoides</i>
<i>Blechnum serrulatum</i>		* <i>Hypericum myrtifolium</i>
<i>Boehmeria cylindrica</i>		<i>Ilex cassine</i>
<i>Brasenia schreberi</i>		<i>Ipomoea aquatica</i>
<i>Cabomba caroliniana</i>		<i>Ipomoea sagittata</i>
<i>Canna</i>		<i>Itea virginica</i>
<i>Centella asiatica</i>		<i>Juncus effusus</i>
<i>Cephalanthus occidentalis</i>		* <i>Juncus marginatus</i>
<i>Ceratophyllum demersum</i>		* <i>Juncus megacephalus</i>
<i>Chara</i> sp.		<i>Juncus repens</i>
<i>Cladium jamaicense</i>		* <i>Juncus scirpoides</i>
<i>Colocasia esculenta</i>		<i>Lachnanthes caroliniana</i>
* <i>Commelina</i>		<i>Leersia hexandra</i>
<i>Crinum americanum</i>		<i>Landoltia punctata</i> (Spirodela punctata)
*<i>Cyperus alternifolius</i> (C. involucratus)	✓	<i>Lemna</i> sp.
<i>Cyperus articulatus</i>	✓	<i>Leucothoe racemosa</i> (<i>Eubotrys racemosa</i>)
<i>Cyperus haspan</i>		<i>Limnobium spongia</i>
* <i>Cyperus lecontei</i>		<i>Limnophila sessiliflora</i>
* <i>Cyperus polystachyos</i>		<i>Liquidambar styraciflua</i>
* <i>Cyperus odoratus</i>		* <i>Ludwigia arcuata</i>
* <i>Cyperus surinamensis</i>		* <i>Ludwigia grandiflora</i>
<i>Cyrilla racemiflora</i>		* <i>Ludwigia hexapetala</i>
<i>Decodon verticillatus</i>		* <i>Ludwigia leptocarpa</i>
<i>Diodia virginiana</i>		<i>Ludwigia</i> (native)
* <i>Echinochloa crus-galli</i>		* <i>Ludwigia octovalvis</i>
* <i>Echinochloa muricatum</i>		*<i>Ludwigia peruviana</i>
<i>Echinochloa walteri</i>	✓	* <i>Ludwigia repens</i>
<i>Eclipta prostrata</i> (E. alba)	✓	<i>Ludwigia suffruticosa</i>
<i>Eichhornia crassipes</i>	✓	<i>Luziola fluitans</i> (<i>Hydrochloa carolinensis</i>)
* <i>Eleocharis</i>	✓	<i>Magnolia virginiana</i>
<i>Eleocharis cellulosa</i>		<i>Mayaca fluviatilis</i>
* <i>Eleocharis elongata</i>		<i>Melaleuca quinquenervia</i>
<i>Eleocharis equisetoides</i>		<i>Micranthemum glomeratum</i>
<i>Eleocharis interstincta</i>		<i>Micranthemum umbrosum</i>
<i>Eleocharis submersed viviparous</i>		<i>Mikania scandens</i>
* <i>Eriocaulon compressum</i>		<i>Mimosa pigra</i>
* <i>Eriocaulon decangulare</i>		<i>Myrica cerifera</i>
<i>Eupatorium capillifolium</i>		
<i>Fraxinus</i>		

FORM FD 9000-27: LAKE VEGETATION INDEX FIELD SHEET

Site:					Date:				
SPECIES	2	5	8	11	Collected? (✓)	SPECIES			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 foliosa			
Persea sp.						*Utricularia gibba (U. biflora)			
Pennisetum purpureum						*Utricularia inflata			
Phragmites australis						*Utricularia purpurea			
Pinus elliotii						*Utricularia radiata			
Pistia stratioides						*Utricularia resupinata			
Pluchea sp.						Vallisneria americana			
*Polygonum glabrum (densiflorum)						Vigna luteola			
Polygonum hirsutum						Vitis sp.			
*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)						<i>Paspalum eglum?</i>			
Proserpinaca pectinata						<i>Paspalum glaberrimum</i>			
*Rhexia						<i>red sprangletop</i>			
*Rhynchospora corniculata									
*Rhynchospora inundata									
Rhynchospora nitens									
Ricciocarpus natans									
Sabal palmetto									
Sacciolepis striata									
*Sagittaria filiformis									
*Sagittaria graminea									
*Sagittaria isoetiformis									
Sagittaria lancifolia									
Sagittaria latifolia									

FORM FD 9000-27: LAKE VEGETATION INDEX FIELD SHEET

Site:					Date:				
SPECIES				Collected? (✓)	SPECIES				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 foliosa				
Persea sp.					*Utricularia gibba (U. biflora)				
Pennisetum purpureum					*Utricularia inflata				
Phragmites australis	/	/	/	/	*Utricularia purpurea				
Pinus elliotii					*Utricularia radiata				
Pistia stratioides	/	/	/		*Utricularia resupinata				
Pluchea sp.	/	/	/		Vallisneria americana				
*Polygonum glabrum (densiflorum)	/	/	/		Vigna luteola				
Polygonum hirsutum					Vitis sp.				
*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)					<i>Paspalum distichum</i>	/			
Proserpinaca pectinata					<i>Penstemon didymus (L. pedicellatus)</i>	/			
*Rhexia									
*Rhynchospora corniculata									
*Rhynchospora inundata									
Rhynchospora nitens									
Ricciocarpus natans	/								
Sabal palmetto									
Sacciolepis striata				/					
*Sagittaria filiformis									
*Sagittaria graminea									
*Sagittaria isoetiformis									
Sagittaria lancifolia									
Sagittaria latifolia									

DEP FORM FD 9000-27 LAKE VEGETATION INDEX FIELD SHEET

Waterbody: <u>Rivth Lake</u>					County: _____					Date: <u>9/15/21</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 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	2	3	4	Collected? (✓)	SPECIES							Collected? (✓)	
Acer rubrum						Fuirena scirpoides								
Alternanthera philoxeroides						Gordonia lasianthus								
Amaranthus australis						Habenaria repens								
Andropogon sp.						Hibiscus coccineus								
Azolla filiculoides (A. caroliniana)						Hibiscus grandiflora								
Baccharis sp.						Hydrilla verticillata								
Bacopa caroliniana						Hydrocotyle sp.								
Bacopa monnieri						Hygrophila polysperma								
Bidens alba						Hymenocallis sp.								
Bidens laevis						*Hypericum fasciculatum								
Bidens mitis						*Hypericum hypericoides								
Blechnum serrulatum						*Hypericum myrtifolium								
Boehmeria cylindrica						Ilex cassine								
Brasenia schreberi						Ipomoea aquatica								
Cabomba caroliniana						Ipomoea sagittata								
Canna						Itea virginica								
Centella asiatica						Juncus effusus								
Cephalanthus occidentalis						*Juncus marginatus								
Ceratophyllum demersum						*Juncus megacephalus								
Chara sp.						Juncus repens								
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Colocasia esculenta						Lachnanthes caroliniana								
*Commelina						Leersia hexandra								
Crinum americanum						Landoltia punctata (Spirodela punctata)								
*Cyperus alternifolius (C. involucratus)						Lemna sp.								
Cyperus articulatus						Leucothoe racemosa (Eubotrys racemosa)								
Cyperus haspan						Limnium spongia								
*Cyperus lecontei						Limnophila sessiliflora								
*Cyperus polystachyos						Liquidambar styraciflua								
*Cyperus odoratus						*Ludwigia arcuata								
*Cyperus surinamensis						*Ludwigia grandiflora								
Cyrilla racemiflora						*Ludwigia hexapetala								
Decodon verticillatus						*Ludwigia leptocarpa								
Diodia virginiana						Ludwigia (native)								
*Echinochloa crus-galli						*Ludwigia octovalvis								
*Echinochloa muricatum						*Ludwigia peruviana								
Echinochloa walteri						*Ludwigia repens								
Eclipta prostrata (E. alba)						Ludwigia suffruticosa								
Eichhornia crassipes						Luziola fluitans (Hydrochloa carolinensis)								
*Eleocharis					✓	Magnolia virginiana								
Eleocharis cellulosa						Mayaca fluviatilis								
*Eleocharis elongata						Melaleuca quinquenervia								
Eleocharis equisetoides						Micranthemum glomeratum								
Eleocharis interstincta						Micranthemum umbrosum								
Eleocharis submersed viviparous						Mikania scandens								
*Eriocaulon compressum						Mimosa pigra								
*Eriocaulon decangulare						Myrica cerifera								
Eupatorium capillifolium														
Fraxinus														