



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

STRATEGIC MONITORING PLAN Field Sheet

July 2022

Meter
Passed End
of Day CCV

Yes / No

WIN Station Name:	RUTH LAKE AT CENTER				Sample Date:	7/5/2023	
WIN / Field ID:	G3CE0021	ORG ID:	21FLCEN	ENR:	-	Latitude:	28.60766
County:	BREVARD	WBID:	2964C	LAKE		Longitude:	-80.94904
Receiving Body of Water:	-				RQ-	2023-06-12-28	

Sampling Team Members	WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check
Denver Bourassa		x		x	
Leif Boman		x			x
Jessie Atchison	x		x		

Sampling Equipment			
x	Sample Container		Carboy
	Dipper		Van Dorn
x	Syringe		Pole
Syringe Lot#	2298556	Filter Lot#	17769663
Secchi Equipment ID:	Light		
Collection Method			
	Wading		Canoe/Kayak
	From Shore		Electric Motor
		x	Gasoline Motor
Depth Measured With	Secchi		

Water Level:	Normal
Flow:	NA
Matrix:	Fresh
Tide Stage:	
High Tide:	
Low Tide:	
Photos:	Yes
Meter ID:	Shrimp Trap
Depth Gauge ID:	depth_gauge

Time Zone	Time	Total Depth (m)	Sample Depth (m)	DO (mg/L)	DO (%SAT)	Temp. (°C)	pH	Secchi Disk (m)	Sp COND (µmhos/cm)	Salinity (PPTth)
EST	1126	0.8	0.3	7.44	102.5	31.9	7.49	0.4	1986	1

Biological Samples Collected: None

SBIO Visit ID: 87717 HA ID: RPS ID: Macrophyte ID: 12541 LIMS Sample ID In The Macrophyte Module: 2421458

Parameter Suite	Parameter Methods (LIMS Test Codes)	Preservation				
		Type	Lot#	Expiration Date	pH Check	
Microbiology						
Chlorophyll	CHLSUITE-W	ICE				
Physical/Aggregate	ALKALINITY, TURBIDITY, W-F, W-TSS	ICE				
Nutrients	W-CL-IC, W-COLOR, W-SO4-IC, W-TDS	ICE				
Filtered Nutrients	W-PO4-F Field Filtered 0.45 µm Filter	ICE	Syringe Lot#:2298556; Filter Lot#:17769663			
Acid Preserved Nutrients	W-NH3 / W-NO2NO3 / W-TKN / W-TOC / W-S-A-TP	ICE	H2SO4*	SA3013020	01/25/2024	H2SO4 pH<2
Metals	W-ICPMS W-ICP W-HARD	ICE	HNO3**	NA2230040	09/01/2023	HNO3 pH<2
Organics (LC)	W-E8321-DI W-E8321-MS		MCAA***			
Macroinvertebrates						
Organics (GC)	W-PSNP-TQ W-TR-SQ-R	Ice	*2.0 ml of H2SO4 Used Unless Noted Otherwise **2.0 ml of HNO3 Used Unless Noted Otherwise			
Molecular						
Periphyton						
Phytoplankton						
BOD						
DOC						
Other(s)						
Field Comments:	90 and sunny					
Comments on COC:						
Relinquish Date:	07/05/2023	Signature:				

LIMS EVENT ID: CEN-DIST-2023-07-06-02

WIN Import ID: 42351

Enter Field Parameters, Verify Station ID in LIMS DMT: KWM 8/18/23

QC Station ID, Field Parameters in LIMS DMT: VLS 8/22/23

Save Field Sheets on Network: KWM 9/22/23 (Initials/Date)

Migrate Data to WIN: KWM 8/25/23 (Initials/Date)

DEP FORM FD 9000-31: LAKE OBSERVATION FIELD SHEET

SAMPLE ID: _____ **MACROPHYTE ID:** _____ **LATITUDE:** 28.40765714
COUNTY: Brevard **STORET #:** G3CE0021 **LONGITUDE:** -80.94903466
DATE: 7/5/23 **TIME:** 11:26 **SAMPLING AGENCY:** FDEP
SITE NAME: Ruth Lake **WBID:** 2964C
FIELD ID/NAME: Ruth Lake @ Center **LAKE SIZE:** _____ **RQ:** 2023-06-12-28

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>100%</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>20</u>		<u>20</u> 19 18 17 16			15 14 13 12 11			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>		<u>20</u> 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>		<u>20</u> 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>SA3013020</u> Exp. Date: <u>1/25/24</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>31.9</u> <u>7.49</u> <u>7.44</u> <u>102.5</u> <u>1986</u> <u>1.00</u> Mid-Depth: _____ Bottom: _____						Water Surface Oils: ☒ None ☐ Sheen/Slick ☐ Glob ☐ Other _____					
Meter ID: <u>Shrimp Trap</u>						Clarity: ☐ Clear ☒ Turbid ☐ Slightly Turbid Color: ☐ Clear ☒ Tannic ☐ Green					
Sediment Type: (may check more than one) ☒ Sandy ☐ Organic fibrous (peaty, CPOM) ☐ Sand/Silt ☐ Organic smooth (muck) Sample Taken? ☐ Yes ☒ No Vegetated ☐ 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>90° Sunny</u>						Additional Notes: <u>St. John's has a weir</u>					

SAMPLING TEAM:

Jessie Atchison, Leif Borman, &
 Denver Bowrassa

SIGNATURE:

[Signature]

DATE:

7/5/23

DEP FORM FD 9000-27 LAKE VEGETATION INDEX FIELD SHEET

Waterbody: <u>Roth Lake</u>		County: <u>Brevard</u>		Date: <u>07/05/23</u>	
Analyst: <u>LB, JAD, DB</u>		Signature: <u>[Signature]</u>		STORET: <u>G3CEN21</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		36912		Collected? (v)	
SPECIES		36912		Collected? (v)	
Acer rubrum					
Alternanthera philoxeroides					
Amaranthus australis					
Andropogon sp.					
Azolla filiculoides (A. caroliniana)					
Baccharis sp.					
Bacopa caroliniana					
Bacopa monnieri					
Bidens alba					
Bidens laevis					
Bidens mitis					
Boehmeria cylindrica					
Brasenia schreberi					
Cabomba caroliniana					
Canna sp.					
Centella asiatica					
Cephalanthus occidentalis					
Ceratophyllum demersum					
Chara sp.					
Cicuta maculata					
Cinnamomum camphora					
Cladium jamaicense					
Colocasia esculenta					
*Commelina					
Crinum americanum					
Cyperus articulatus					
Cyperus blepharoleptos (Scirpus cubensis)					
Cyperus haspan					
*Cyperus involucratus					
*Cyperus lecontei					
*Cyperus odoratus					
*Cyperus polystachyos					
*Cyperus surinamensis					
Cyrtilla racemiflora					
Decodon verticillatus					
Diodia virginiana					
*Echinochloa crus-galli					
*Echinochloa muricata					
Echinochloa walteri					
Eclipta prostrata					
Eichhornia crassipes					
*Eleocharis					
Eleocharis cellulosa					
*Eleocharis elongata					
Eleocharis equisetoides					
Eleocharis interstincta					
Eleocharis vivipara (submersed)					
*Eriocaulon compressum					
*Eriocaulon decangulare					
Eupatorium capillifolium					
Fraxinus					
Fuirena scirpoidea					
Gordonia lasianthus					
Habenaria repens					
Hibiscus coccineus					
Hibiscus grandiflorus					
Hydrilla verticillata					
Hydrocotyle sp.					
Hygrophila polysperma					
Hymenocallis sp.					
*Hypericum fasciculatum					
*Hypericum hypericoides					
*Hypericum myrtifolium					
Ilex cassine					
Ipomoea aquatica					
Ipomoea sagittata					
Itea virginica					
Juncus effusus					
*Juncus marginatus					
*Juncus megacephalus					
Juncus repens					
*Juncus scirpoides					
Lachnanthes caroliniana					
Leersia hexandra					
Landoltia punctata (Spirodela punctata)					
Lemna sp.					
Leucothoe racemosa (Eubotrys racemosa)					
Limnobia spongia					
Limnophila sessiliflora					
Liquidambar styraciflua					
*Ludwigia arcuata					
*Ludwigia grandiflora					
*Ludwigia hexapetala					
*Ludwigia leptocarpa					
Ludwigia (native)					
*Ludwigia octovalvis					
*Ludwigia peruviana					
*Ludwigia repens					
Ludwigia suffruticosa					
Luziola fluitans (Hydrochloa carolinensis)					
Magnolia virginiana					
Mayaca fluviatilis					
Melaleuca quinquenervia					
Micranthemum glomeratum					
Micranthemum umbrosum					
Mikania scandens					
Mimosa pigra					
Myrica cerifera					

FORM FD 9000-27: LAKE VEGETATION INDEX FIELD SHEET

Site: <u>Ruth Lake</u>					Date: <u>7/5/23</u>						
SPECIES	3	6	9	12	Collected? (✓)	SPECIES	3	6	9	12	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>Nitella</i> spp.											
<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 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>					
* <i>Paspalum repens</i>						<i>Typha</i> sp.					
<i>Paspalum urvillei</i>						Urochloa mutica (Brachiaria mutica)					
<i>Peltandra</i> sp.						* <i>Utricularia gibba</i> (U. <i>biflora</i>)					
<i>Persea</i> sp.						* <i>Utricularia foliosa</i>					
* <i>Persicaria glabra</i> (densiflora)						* <i>Utricularia inflata</i>					
<i>Persicaria hirsuta</i>						* <i>Utricularia purpurea</i>					
* <i>Persicaria hydropiperoides</i>						* <i>Utricularia radiata</i>					
* <i>Persicaria punctata</i>						* <i>Utricularia resupinata</i>					
* <i>Persicaria</i>						<i>Vallisneria americana</i>					
Pennisetum purpureum						<i>Vitis</i> sp.					
<i>Phragmites australis</i>						* <i>Websteria confervoides</i>					
<i>Pinus elliotii</i>						Wedelia trilobata (Sphagneticola trilobata)					
Pistia stratiotes						<i>Wolffiella</i> spp.					
<i>Pluchea</i> sp.						<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>Potamogeton pectinatus</i> (<i>Stuckenia pectinatus</i>)											
<i>Proserpinaca pectinata</i>											
* <i>Rhexia</i>											
* <i>Rhynchospora comiculata</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 isoeitifolmis</i>											
<i>Sagittaria lancifolia</i>											
<i>Sagittaria latifolia</i>											