RQ-2021-06-21-24
Customer: WQAP
Project ID: SMP

Collected By: Kelly McDonald, Brian Davis
Field Report Prepared By: Kelly McDonald
Sampling Agency: FDEP

Place Label Here

WIN ID/Field ID: G2NE1132

Location: Silver lake Center

Comments:

Matrix: Fresh

(Check one) ☒ GRAB ☐ COMPOSITE

Date	Time	DO (mg/L)	DO (%SAT)	Temp. (C⁰)	pH	Sample Depth (m)	Secchi Disk (m)	Total Depth (m)	Sp COND (µmhos/cm)	Salinity (PPTh)
	1025 EST	5.9	75.3	27.9	4.61	0.3	0.4 ☐ VOB (S)	5.2	79.9	0.04
7/6/2021	1027	5	63.3	27.4	4.72	2.0	Central Lab please use top row for login purposes		79.9	0.04
	1030 EST	0.52	6.2	22.3	4.75	4.7			85.6	0.04

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 ☒ H_2SO_4*	☒ <2	1	A
	Lot # SA0353110 **Exp:**	01/11/22			
Metals (P-500ML)	☐ W-ICPMS ☐ W-ICP ☐ W-HARD	☐ Ice ☐ HNO_3*	☐ <2		
	Lot # **Exp:**				
Filtered Nutrients (P125ML)	☒ W-PO4-F ☒ Field Filtered 0.45 µm Filter	☒ Ice		1	A
	Filter Lot # R0NB29490				
	Syringe Lot #				
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 ☐ Contract Lab	☐ Ice			
Molecular (QPCR-P-500ML)	☐ PCR-HF183 ☐ PCR-BacR ☐ PCR-DG3 ☐ 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 ☐ W-PCL-TQ-R ☐ W-CARB-AA (5 ml of MCAA** Buffer Solution)	☐ Ice			
Phytoplankton/Periphyton	☐ DTY-QN-C ☐ PKD-QN-BV	☐ Ice			

Name: Kelly McDonald, Brian Davis

Signature: Kelly A. McDonald

Date: 7/6/2021

*2.0 ml of Preservative used unless noted otherwise.
**MCAA: Monochloroacetic acid buffer solution

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
STRATEGIC MONITORING PROGRAM FIELD SHEET

January 2020

Meter Passed End of Day CCV Yes / No

WIN Station Name: Silver lake Center **Date:** 7/6/2021

WIN/Field ID: G2NE1132 **WBID:** 2623 **ENR:** - **Latitude:** 29.445

County: PUTNAM **Org ID:** 21FLA **Longitude:** -81.57

Receiving Body of Water: Lower St. Johns **RQ-** 2021-06-21-24

Sampling Team Members	WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check
[x] Kelly McDonald		x		x	x
[x] Brian Davis	x		x		
[ ]					
[ ]					

Sampling Equipment

- [x] Sample Container
- [ ] Dipper
- [ ] Syringe
- [ ] Carboy
- [ ] Van Dorn
- [ ] Pole

Depth measured with: Meter

Secchi Equipment ID:

Collection Method

- [ ] Wading
- [ ] From Shore
- [ ] Other _____
- [ ] Canoe/Kayak
- [x] Electric Motor
- [ ] Gasoline Motor

Water Level: [x] Normal [ ] Low [ ] High [ ] Dry [ ] Pooled [ ] Flooded

Meter ID# STITCH

Photos: NO **Flow:** NA **Tide:**

Tide Times: High: Low:

Biological Samples Collected: [x] None [ ] HA [ ] SCI [ ] RPS [ ] Algae ID [ ] LVS [ ] LVI Other:

SBIO ID Numbers:

Notes:

STORMS IN AREA. CLOUDY AND WINDY

Duplicate Sample

Time Zone: EST **Time:** **Field ID:** N/A (WIN ID_DUP)

WIN DMT Activity ID:

Blank

Time Zone: **Time:** **Field ID:** (Blank Type_DDMMYYYY)

DI Source: **Location:**

DI Type: **Equipment ID:**

DI Container (Name/ID): **DI Container Type:**

LIMS EVENT ID: **WIN Import ID:**

Enter Field Parameters, Verify Station ID In LIMS DMT: (Initials/Date) **QC Station ID, Field Parameters In LIMS DMT:** BD 07/12/2021 (Initials/Date)

Scan/Save Field Sheets (Initials/Date) **Migrate Data to WIN:** (Initials/Date) **Verify Data In WIN:** (Initials/Date)

DEP FORM FD 9000-27 LAKE VEGETATION INDEX FIELD SHEET

Waterbody: Silver Lake | County: Putnam | Date: 7/6/2021

Analyst: B. Davis + K. McDonald | Signature: Kelly McDonald | STORET: 62NE1132

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 | 2, 5, 8, 11 | 3, 6, 9, 12 km

SPECIES km	2 1	5 4	8 7	11 10	Collected? (√)
Acer rubrum	X	X	X		
Alternanthera philoxeroides	X	X	X	X	
Andropogon sp.					
Azolla filiculoides (A. caroliniana)					
Baccharis sp.					
Bacopa caroliniana					
Bacopa monnieri					
Bidens laevis					
Bidens mitis					
Blechnum serrulatum					
Boehmeria cylindrica					
Brasenia schreberi					
Cabomba caroliniana					
Casuarina equisitifolia					
Centella asiatica					
Cephalanthus occidentalis	X	X	X	X	
Ceratophyllum demersum					
Chara sp.					
Cladium jamaicense sawgrass		X		X	
Cliftonia monophylla					
Colocasia esculenta					
*Commelina _____					
Crinum americanum					
***Cyperus alternifolius** (C. involucratus)					
Cyperus articulatus					
Cyperus haspan					
*Cyperus lecontei					
*Cyperus polystachyos					
*Cyperus odoratus					
*Cyperus surinamensis					
Cyrilla racemiflora					
Decodon verticillatus					
Diodia virginiana					
*Echinochloa crus-galli					
*Echinochloa muricatum					
Echinochloa walteri					
Eclipta prostrata (E. alba)					
Egeria densa					
Eichhornia crassipes					
*Eleocharis baldwinii					
*Eleocharis _____					
Eleocharis cellulosa					
Eleocharis equisetoides					
Eleocharis interstincta					
*Eriocaulon compressum					
*Eriocaulon decangulare					
Eupatorium capillifolium	X		X		
*Fuirena _____					
Fuirena scirpoidea					
Gordonia lasianthus	X	X		~~X~~ not present km	

SPECIES km	2 1	5 4	8 7	11 10	Collected? (√)
Habenaria repens					
Hydrilla verticillata					
Hydrocotyle sp.	X	X	X	X	
Hygrophila polysperma					
*Hypericum fasciculatum					
*Hypericum hypericoides					
*Hypericum myrtifolium					
Ilex cassine					
Ipomoea aquatica					
Ipomoea sagittata					
Itea virginica					
Juncus effusus					
*Juncus marginatus			X		
*Juncus megacephalus			X		
Juncus repens					
*Juncus scirpoides					
Lachnanthes caroliniana					
Leersia hexandra					
Landoltia punctata (Spirodela punctata)					
Lemna sp.					
Leucothoe racemosa (Eubotrys racemosa)					
Limnobium spongia					
Limnophila sessiliflora					
Liquidamber styraciflua					
*Ludwigia arcuata					
*Ludwigia leptocarpa					
*Ludwigia linearis					
*Ludwigia octovalvis					
***Ludwigia peruviana**	X	X	C	C	
*Ludwigia repens					
*Ludwigia _____					
Luziola fluitans (Hydrochloa carolinensis)					
Lyonia lucida					
Magnolia virginiana	X	X	X	X	
Mayaca fluviatilis					
Melaleuca quinquenervia					
Micranthemum glomeratum					
Micranthemum umbrosum					
Mikania scandens					
Mimosa pigra					
Myrica cerifera	X	X	X		

FORM FD 9000-27: LAKE VEGETATION INDEX FIELD SHEET

Site:

Date:

SPECIES	km 2	5	8	11	Collected? (√)
	1	4	7	10	
Myriophyllum aquaticum					
*Myriophyllum heterophyllum					
*Myriophyllum laxum					
*Myriophyllum pinnatum					
Myriophyllum spicatum					
*Najas filifolia					
*Najas guadalupensis					
*Najas minor					
Nelumbo lutea					
Nitella spp.					
Nuphar sp.					
Nymphaea odorata			X		
Nymphoides aquatica					
Nyssa sylvatica var. biflora				X	
Orontium aquaticum					
Osmunda cinnamomea					
Osmunda regalis					
Panicum hemitomon maiden cane	D	D	C	C	A
Panicum repens torpedograss				X	
Paspalidium geminatum					
*Paspalum repens					
Paspalum urvillei					
Peltandra sp.					
Persea sp.					
Pennisetum purpureum					
Phragmites australis					
Pinus elliottii	X		X		
Pistia stratioides					
Pluchea sp.	X	X	X	X	
*Polygonum glabrum (densiflorum)					
*Polygonum hydropiperoides					
*Polygonum punctatum					
*Polygonum _____					
Pontederia cordata	X	X	X	X	
*Potamogeton diversifolius					
*Potamogeton illinoensis					
*Potamogeton pusillus					
*Potamogeton pectinatus (Stuckenia pectinatus)					
Proserpinaca pectinata					
*Rhexia 4 petal purple				X	
*Rhynchospora corniculata					
*Rhynchospora inundata					
Rhynochospora tracyi					
Ricciocarpus natans					
Sabal palmetto					
Sacciolepis striata					
*Sagittaria filiformis					
*Sagittaria graminea					
*Sagittaria isoetiformis					
Sagittaria lancifolia white flower				X	
Sagittaria latifolia					

SPECIES	km 2	5	8	11	Collected? (√)
	1	4	7	10	
Salix caroliniana					
Salvinia minima					
Sambucus canadensis					
Sapium sebiferum					
Saururus cernuus					
Schinus terebinthifolius					
*Schoenoplectus californicus					
*Schoenoplectus pungens					
*Schoenoplectus tabernaemontani (Scirpus validus)					
Scirpus cubensis (Oxycaryon cubense)					
Scirpus cyperinus					
*Sesbania _____					
Solidago sp.					
Sparganium americanum					
Spartina bakeri					
Spirodela polyrhiza					
Taxodium sp.					
Thalia geniculata					
Thelypteris palustris					
Triadenum virginicum					
Typha sp.				X	
Urochloa mutica (Brachiaria mutica)					
*Utricularia gibba (U. biflora)					
*Utricularia floridana					
*Utricularia foliosa					
*Utricularia inflata					
*Utricularia purpurea					
*Utricularia cornuta					
*Utricularia radiata					
Vallisneria americana					
*Websteria confervoides					
Wedelia trilobata (Sphagneticola trilobata)					
Wolffiella spp.					
Woodwardia virginica					
Xyris sp.					
Zizania aquatica					
Zizaniopsis milacea					

DEP FORM FD 9000-31: LAKE OBSERVATION FIELD SHEET

SAMPLE ID: _____ MACROPHYTE ID: _____ LATITUDE: 29.444963
COUNTY: Duval STORET #: 21FLA2NE1132 LONGITUDE: -81.68996
DATE: 7/6/21 TIME: 1025 SAMPLING AGENCY: NEROC
SITE NAME: Silver Lake Center WBID: 2623
FIELD ID/NAME: _____ LAKE SIZE: Medium RQ: 2021-06-21-24

WATERSHED / LAKESIDE FEATURES

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category – from GIS):

Forest/Natural	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
Local Watershed NPS Pollution: ☑ No evidence ☐ Slight ☐ Moderate ☐ Heavy
Artificially Impounded ☐ Yes ☑ No

STORMWATER INPUTS 15	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 14	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 12	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 ☑ pH<2 ☐ No
Color Sample Taken? ☐ Yes ☑ No Lot # See SMP Exp. Date: Sheet
Alkalinity Sample Taken? ☐ Yes ☑ No
Water Level ☐ Low ☑ Normal ☐ High

Water Odors: ☑ Normal ☐ Sewage ☐ Petroleum ☐ Other _____
Water Surface Oils: ☑ None ☐ Sheen/Slick ☐ Glob ☐ Other _____

Meter Readings:

	Depth (M)	Temp. (°C)	pH (SU)	D.O. (MG/L)	D.O. Sat. (%)	Cond. (UMHO/CM)	Salinity (PPT)
Top:	0.3	27.9	4.61	5.9	75.3	79.9	0.04
Mid-Depth:	2.0	27.4	4.72	5.0	63.3	79.9	0.04
Bottom:	4.7	22.3	4.75	0.52	6.2	85.6	0.04

Meter ID: Pro DSS Stitch

Clarity: ☑ Clear ☐ Opaque ☐ Turbid ☐ Slightly Turbid
Color: ☐ Clear ☑ Tannic ☐ Green
SECCHI (M): 0.4 VOB ☐
Total Station Depth (M): 5.2

Sediment Type: (may check more than one)
☐ Sandy ☑ Organic fibrous (peaty, CPOM) ☐ Vegetated
☐ Sand/Silt ☐ Organic smooth (muck) ☐ Other (Specify): _____
Sample Taken? ☐ Yes ☑ No

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:

	Absent	Rare	Common	Abundant
Periphyton	☑	☐	☐	☐
Nuisance Plants	☐	☐	☐	☑
Submersed Plants	☑	☐	☐	☐
Exotic Apple Snails	☑	☐	☐	☐

Additional Notes:

Weather Conditions :
Cloudy with a chance of tropical storm.

SAMPLING TEAM: B Davis, K McDonald **SIGNATURE:** B. Davis **DATE:** 7/6/21

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

STORET STATION NUMBER: 62NE1132	DATE (M/D/Y) 7/6/21	LAKE NAME Silver Lake		FIELD ID / NAME:
ECO-REGION:	COUNTY: Putnam	SAMPLING LOCATION/DESCRIPTION:		LAKE SIZE: medium
PARAMETER				
HYDROLOGY	No surface inflow or outflow present, very long water residence time, groundwater seepage dominates [X]	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) [X]	Visibility extremely reduced due to high color [ ]
	Optimal	**Suboptimal**	**Marginal**	**Poor**
Secchi 4	Secchi >3 m / Or VOB: 20 19 18 17 16	Secchi(m): 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	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	Lake choked (>40%) with nuisance macrophytes (duck-weed, hyacinth, etc.) or algal mats, or few plants present at all (e.g., plants removed)
	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 (3) 2 1
Stormwater Inputs 15	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
	20 19 18 17 16	(15) 14 13 12 11	10 9 8 7 6	5 4 3 2 1
Bottom Substrate Quality 11	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	Thick deposits of CPOM, or fine detritus and anaerobic muck/mud/silt, or algal growth or nuisance plants (Hydrilla) cover bottom
	20 19 18 17 16	15 14 13 12 (11)	10 9 8 7 6	5 4 3 2 1
Lakeside Adverse Human Alternations 14	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)	Highly developed or disturbed (>70% of lakeside affected)
	20 19 18 17 16	15 (14) 13 12 11	10 9 8 7 6	5 4 3 2 1
Upland Buffer Zone 12	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
	20 19 18 17 16	15 14 13 (12) 11	10 9 8 7 6	5 4 3 2 1
Adverse Watershed Land Use 12	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 71	COMMENTS: tropical storm Elsa on its way.

ANALYSIS DATE: 7/6/2021	ANALYST: K. McDonald & B. Davis	SIGNATURE: Kelly A McDonald