



St. Johns River Water Management District

Ann B. Shortelle, Ph.D., Executive Director

4049 Reid Street • P.O. Box 1429 • Palatka, FL 32178-1429 • 386-329-4500

On the internet at www.sjrwmd.com.

AMBIENT MONITORING SITE INFORMATION AND PERMISSION TO SAMPLE FORM

LONG LAKE

SITE NAME: 23-5C-12024 STATION ID NUMBER: 23-5C-12024

SITE COORDINATES: LATITUDE: N. 29° 47' 11.17" LONGITUDE: W 81° 56' 14.03"

COUNTY: CLAY LOCATION DESCRIPTION: SMALL LAKE JUST WEST
OF CR 214 & EAST OF CR 315 IN CLAY COUNTY

ACCESS PROPERTY OWNER NAME: EDWIN WARREN

ACCESS PROPERTY ADDRESS: 7390 BILLS WAY
KEYSTONE HEIGHT, FL 32656

OWNER MAILING ADDRESS: _____
(IF DIFFERENT FROM
ACCESS PROPERTY ADDRESS)

OWNER TELEPHONE NUMBER(S): 386-972-3747

HOURS OWNER MAY BE CONTACTED: _____

I HEREBY GIVE THE ST. JOHNS RIVER WATER MANAGEMENT DISTRICT OR ITS
AGENT PERMISSION TO ACCESS THE ABOVE WATER BODY LOCATED ON OR
ADJACENT TO MY PROPERTY TO COLLECT A WATER QUALITY SAMPLE AND
PERFORM A HABITAT ASSESSMENT (sediment sample also if water body is Small Lake).

PRINTED NAME OF LANDOWNER

I would like the results sent to the address above.
☒ YES ☐ NO

SIGNATURE OF LANDOWNER

DATE

GOVERNING BOARD

John A. Miklos, CHAIRMAN
ORLANDO

Douglas C. Boumique
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COCOA

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Untitled Map

Write a description for your map.

Legend

- Polygon Measure
- Z3-SL-12013

Z3-SL-12024

Google Earth

1000 ft



**DEP TIER 1
STATUS NETWORK SITE CHARACTERIZATION**

Stream/Water Body Name: **Long Lake**

Site ID	Latitude	Longitude	Type of Recon	Date of Recon
Z3-SL-12024			Site Visit	

Return Recon #1 _____

Return Recon #2 _____

Return Recon #3 _____

Resource Type	Secondary Resource Type
Small Lake	No 2nd Type
Desk Recon: 4/4/2018 By: Nate Gargas	Letter Sent:
Recon Team:	

Site Location Address & Contact Information	Property Owner's Address
	Edwin Warden
	7390 Bills Way
	Keystone Heights, FL 32656
	386-972-3747
Data Requested: YES	County: Clay

Tidal Info: _____

Access and Permission
YES-VERBAL PERMISSION

Reason for Exclusion

Recon Result
For Site:

Z3-SL-12024

INCLUDE

ADDITIONAL NOTES

CALL BEFORE SAMPLING 48 hrs. notice
Edwin Warden 386 972-3747
Additional Items: Jon Boat w/Trolling Motor

DIRECTIONS:

From the district turn left onto FL-100 W go ~14.5 miles, turn right onto CR 315 N go ~6.1 miles, Continue onto CR 214/Christian Camp Rd go ~2.3 miles, Turn left onto Bundy Lake Rd go ~0.4 miles, Slight left onto Painted Pony Ave go ~0.3 miles, turn left onto Charlotte Rd go ~0.2 miles, Continue onto Bills Way destination will be on left. drive back behind white double wide with green skirt launch john boat

If you want to use Nav App address of launch property is 7390 Bills Way Keystone Heights Fl 32656

FILES GENERATED:
(i.e., digital photos, GPS, etc.)

PHOTOS

GWIS Generalized Water Information System
Database Utilities

Recon Tracking

Existing Station

New SW Station

New GW Station

PK RANDOM SAMPLE LOCATION = Z3-SL-12024

County	CLAY	Quarter Quad	
WMD	ST. JOHNS RIVER WMD	HUC	LOWER ST. JOHNS
Random Latitude	29° 47m 11.169289588928s	Random Longitude	81° 56m 14.030940055847s

Is Z3-SL-12024 sampleable?

☐ Yes ☐ No ☒ N/A

Exclusion Category:

Exclusion Criteria:(definitions):

Was Z3-SL-12024 sampled?

☐ YesMonth Day Year

Comments:

Save

Reset

☒ Aerial Photo ☐ Quad Map ☐ No Image

Show Map

Long lake
Smith lake

FORM FD 9000-27: LAKE VEGETATION INDEX FIELD SHEET

Site: <u>Long Lake</u>					Date: <u>9/4/18</u>				
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 odorata					*Sesbania				
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				
Paspalum 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 elliottii					*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 <u>hystrix</u>					Wolffiella spp.				
Pontederia cordata					Woodwardia virginica				
*Potamogeton diversifolius					Xyris sp.				
*Potamogeton illinoensis					Zizania aquatica				
*Potamogeton pusillus					Zizaniopsis milacea				
*Potamogeton pectinatus (Stuckenia pectinatus)									
Proserpinaca pectinata									
*Rhexia									
*Rhynchospora corniculata									
*Rhynchospora inundata									
Rhynchospora tracyi									
Ricciocarpus natans									
Sabal palmetto									
Sacciolepis striata									
*Sagittaria filiformis									
*Sagittaria graminea									
*Sagittaria isoetiformis									
Sagittaria lancifolia									
Sagittaria latifolia									

23-5L-12024

DEP FORM FD 9000-27 LAKE VEGETATION INDEX FIELD SHEET

79188

Waterbody: <u>Long lake</u>	County: <u>Clark Co. Ky</u>	Date: <u>9/4/18</u>									
Analyst: <u>Jeremy Carsh</u>	Signature: <u>[Signature]</u>	STORET: <u>5.7010</u>									
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									
SPECIES	1	4	7	10	Collected? (✓)	SPECIES	1	4	7	10	Collected? (✓)
Acer rubrum						Habenaria repens					
Alternanthera philoxeroides						Hydrilla verticillata					
Andropogon sp.	P	P	P	P		Hydrocotyle sp.					
Azolla filiculoides (A. caroliniana)						Hygrophila polysperma					
Baccharis sp.						*Hypericum fasciculatum	P				
Bacopa caroliniana						*Hypericum hypericoides					
Bacopa monnieri						*Hypericum myrtifolium					
Bidens laevis						Ilex cassine	P	P	P	P	
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	P	P	P		
Ceratophyllum demersum						Lachnanthes caroliniana					
Chara sp.						Leersia hexandra	P	P	P	P	
Cladium jamaicense						Landoltia punctata (Spirodela punctata)					
Cliftonia monophylla						Lemna sp.					
Colocasia esculenta						Leucothoe racemosa (Eubotrys racemosa)					
*Commelina						Limnium sp.					
Crinum americanum						Limnophila sessiliflora					
*Cyperus alternifolius (C. involucratus)						Liquidambar styraciflua					
Cyperus articulatus						*Ludwigia arcuata					
Cyperus haspan						*Ludwigia leptocarpa					
*Cyperus lecontei	P	P	P			*Ludwigia linearis					
*Cyperus polystachyos						*Ludwigia octovalvis					
*Cyperus odoratus						*Ludwigia peruviana					
*Cyperus surinamensis						*Ludwigia repens					
Cyrilla racemiflora	P	P		P		*Ludwigia <u>subfruticosa</u>	P	P	P	P	
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	P	P	P	P	
Eleocharis cellulosa						<u>old landia</u> <u>uniflora</u>	P				
Eleocharis equisetoides											
Eleocharis interstincta											
*Eriocaulon compressum											
*Eriocaulon decangulare											
Eupatorium capillifolium											
*Fuirena											
Fuirena scirpoidea	P										
Gordonia lasianthus											

79164
DEP FORM FD 9000-31: LAKE OBSERVATION FIELD SHEET

SAMPLE ID: elay co. MACROPHYTE ID: _____ LATITUDE: _____
 COUNTY: 9/4/18 STORET #: 1130 LONGITUDE: _____
 DATE: 9/4/18 TIME: 1130 SAMPLING AGENCY: _____
 SITE NAME: Long Lake WBID: _____
 FIELD ID/NAME: 23-SL-12034 LAKE SIZE: _____ RQ: _____

WATERSHED / LAKESIDE FEATURES

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category – from GIS) : Forest/Natural <u>50</u> Silviculture _____ Field/Pasture _____ Agricultural <u>20</u> Residential <u>30</u> Commercial _____ Industrial _____ Other (Specify) _____								LANDSCAPE DEVELOPMENT INTENSITY (100 m buffer) LDI: _____	
Local Watershed Erosion (select one) : ☒ None ☐ Slight ☐ Moderate ☐ Heavy						Artificially Impounded ☐ Yes ☐ No		Land Use Source & Year:	
Local Watershed NPS Pollution : ☒ No evidence ☐ Slight ☐ Moderate ☐ Heavy									
STORMWATER INPUTS <u>18</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		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 <u>15</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		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 <u>15</u>		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 # _____ Exp. Date: _____ 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: Top: <u>0.3</u> <u>27.5</u> <u>4.21</u> <u>1.6</u> <u>20.2</u> <u>26</u> <u>0.01</u> Mid-Depth: _____ Bottom: <u>2.7</u>						Clarity: ☒ Clear ☐ Opaque ☐ Turbid ☐ Slightly Turbid Color: ☒ Clear ☒ Tannic ☐ Green					
Meter ID: _____						SECCHI (M) <u>1.1</u> Total Station Depth (M) <u>2.7</u> VOB ☐					
Sediment Type: (may check more than one) ☐ Sandy ☐ Organic fibrous (peaty, CPOM) ☐ Vegetated ☐ Sand/Silt ☐ Organic smooth (muck) ☐ 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 ☒ ☐ ☐ ☐					
						Additional Notes: <u>>50% plants?</u>					

Weather Conditions :

SAMPLING TEAM: Jeremy SIGNATURE: Jeremy DATE: 9/4/18

AK 79185

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

STORET STATION NUMBER: 54010	DATE (M/D/Y): 9/4/18	LAKE NAME: Long Lake		FIELD ID / NAME:
ECO-REGION:	COUNTY: Clay County	SAMPLING LOCATION/DESCRIPTION: 23-SL-12024		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	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) ☐	Visibility extremely reduced due to high color ☐
	Optimal		Suboptimal	
Secchi	Secchi > 3 m Or VOB		Marginal	
☐	20 19 18 17 16		10 9 8 7 6	
Vegetation Quality	Diverse, expected native vegetation (emergent or submersed), less than 5% nuisance taxa ☒		Lake choked (>40%) with nuisance macrophytes (duckweed, hyacinth, etc.) or algal mats, or few plants present at all (e.g., plants removed) ☐	
☐	20 19 18 17 16		5 4 3 2 1	
Stormwater Inputs	Stormwater enters system via sheet flow over non-cultivated and/or natural vegetation ☒		Much direct input of stormwater (ditches, pipes, cultivated vegetation > 51%) and no or ineffective BMPs in place ☐	
☐	20 19 18 17 16		5 4 3 2 1	
Bottom Substrate Quality	Diverse mixture of sand, detritus, with small amounts of CPOM/mud/muck. SAV may be present ☒		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		5 4 3 2 1	
Lakeside Adverse Human Alterations	Very few man-made structures, roads, or other disturbance adjacent to lake (<10%) ☒		Highly developed or disturbed (>70% of lakeside affected) ☐	
☐	20 19 18 17 16		5 4 3 2 1	
Upland Buffer Zone	Expected native vegetation between uplands and littoral zone, greater than 90% of shore with >18 m buffer ☒		< 29% of shoreline with >18m buffer ☐	
☐	20 19 18 17 16		5 4 3 2 1	
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 ☒			
☐	20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1			
TOTAL SCORE	107			
COMMENTS:				

ANALYSIS DATE: 9/4/18	ANALYST: <i>[Signature]</i>	SIGNATURE: <i>[Signature]</i>
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CALIBRATION AND VERIFICATION LOG (FDEP SOP FT 1000-FT 1500, FD 1000-FD 4000)

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

Meter ID:

YSI # 3

RQ:

Na

Project:

Amb. Zone 3/24/18

Notes: (1) Always wait for meter to stabilize before recording any readings.

(2) Report all digits displayed. Do not round before reporting measurements. (See special instructions for depth).

(3) For Calibrations, record calibrated meter reading. Do not record initial meter reading before calibration.

Temperature (Quarterly) FT 1400

Date of Last Temperature Verification

DO DEP SOP FT 1500	Name	Date	Time CT-ET	Temp °C	Baro-meter mmHg	D.O. Chart mg/L	Meter D.O. mg/L	% DO	Probe Charge	Probe Gain	Pass / Fail	Lab / Field
Calibr.	B-D	9/4/18	754	24.1	760	8.40	8.42	100.2	/	/	P/F	L/F
ICV	J		756	24.1	760	8.40	8.39	100.	/	/	P/F	L/F
CCV	Kalmbacher	9/4/18	1420	24.9	760	8.27	8.30	100.4		1.0925	P/F	L/F
CCV											P/F	L/F

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 (Pro DSS 0.75 to 1.50); 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.	B-D	9/4/18	758	180711A	7/19	1000	1000	P/F	L/F
ICV	J		800	180321A	4/19	100	102	P/F	L/F
CCV	Kalmbacher	9/4/18	1422	180711A	7/19	1000	1002	P/F	L/F
CCV								P/F	L/F

Conductivity Acceptance criteria $\pm 5\%$

pH DEP SOP FT 1100	Name	Date	Time CT-ET	Lot #	Expir. Date	pH Buffer SU	Temp °C	Meter reading SU	mV	Pass / Fail	Lab / Field
Calibr.	B-D	9/4/18	805	2803E45	3/20	7.00	24.4	7.0	-18.5	P/F	L/F
Calibr.	J		815	2803Q38	3/20	4.00	24.4	4.0		P/F	L/F
Calibr.	J		819	2711527	4/19	10.00	24.4	9.98	166.7	P/F	L/F
ICV	J	9/4/18	820	2803P38	3/20	4.00	24.4	3.92	-	P/F	L/F
CCV	Kalmbacher	9-4-18	1430	2803E45	3/20	7.00	24.4	7.04	-18.2	P/F	L/F
CCV										P/F	L/F

pH Acceptance criteria ± 0.2 SU; mV pH 7 Range 0 ± 50 ;

mV pH 4 Range $+180 \pm 50$;

mV pH 10 Range -180 ± 50 ;

If mV are recorded: slope from 7 to 10 _____, slope from 4 to 7 _____ (both must be between 165 and 180 mV)

Does meter have a depth sensor that will be used to measure total depth & sample depth? YES / NO / NA (not surf. water project)

If YES, complete daily Calibr. & ICV below and list date of last quarterly depth verification: _____

If NO, what will be used? (circle one) Secchi Disk Line / Sonar Unique ID: _____; Date of last verification: _____

Depth Sensor (Daily Calibration & ICV)	Name	Date	Time CT-ET	Calibrated Value (0.00 or Offset), meters	ICV Value, meters	Pass / Fail	Lab / Field
Pressure mode in air	J	9/4/18	921	0.00	0.01	P/F	L/F

Report two decimal places. Round numbers ≤ 4 down, ≥ 5 up. ICV acceptance criteria $\pm 5\%$ or ± 0.05 m, whichever is greater.

COMMENTS: