

CALIBRATION AND VERIFICATION LOG (FDEP SOP FT 1000-FT 1500, FD 1000-FD 4000)

Boldly "X" this box if there is qualified data on

Meter ID:

YST#3

Project:

LVI

- Notes:** (1) Numbers ≤ 4 , are rounded down; numbers ≥ 5 are rounded up (e.g., 5.15 becomes 5.2).
 (2) Always wait for meter to stabilize before recording any readings.
 (3) For Calibrations, record calibrated meter reading. Do not record initial meter reading before calibration.

Circle/Fill In: Lab Calibration or Calibration/Verification on Site

L-6

Temperature (Quarterly) FT 1400

Date of Last Temperature Verification

6/17

DO DEP SOP FT 1500	Name	Date	Time CT-ET	Temp	D.O. Chart mg/L	Meter D.O. mg/L	% DO	Probe Charge	Probe Gain	Pass / Fail	Lab / Field
Calibr.	B-V	9/7/17	804	23.2	8.54	8.55	100	59.4	0.93	P	L
ICV			807	23.2	8.54	8.50	99.5	59.4	0.93	P	L
CCV			1355	23.7	8.46	9.04	106.7	60.4	0.93	F	L
CCV											

Report DO mg/L with one decimal figure and DO % saturation as a whole number with no decimals.

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; DO charge N/A.

Steady-state & Galvanic Sensors: DO Gain & Charge N/A.

Spec. Cond. FT 1200	Name	Date	Time CT-ET	Lot #	Explr. Date	Standard μ mhos/cm	Meter Reading μ mhos/cm	Pass / Fail	Lab / Field
Calibr.	B-V	9/7/17	809	170720A	8/18	1000	1000	P	L
ICV			811	170720B	8/18	100	101	P	L
CCV			1356	81472017	5/18	147	148	P	L
CCV									

Report specific conductance as a whole number with no decimal figure.

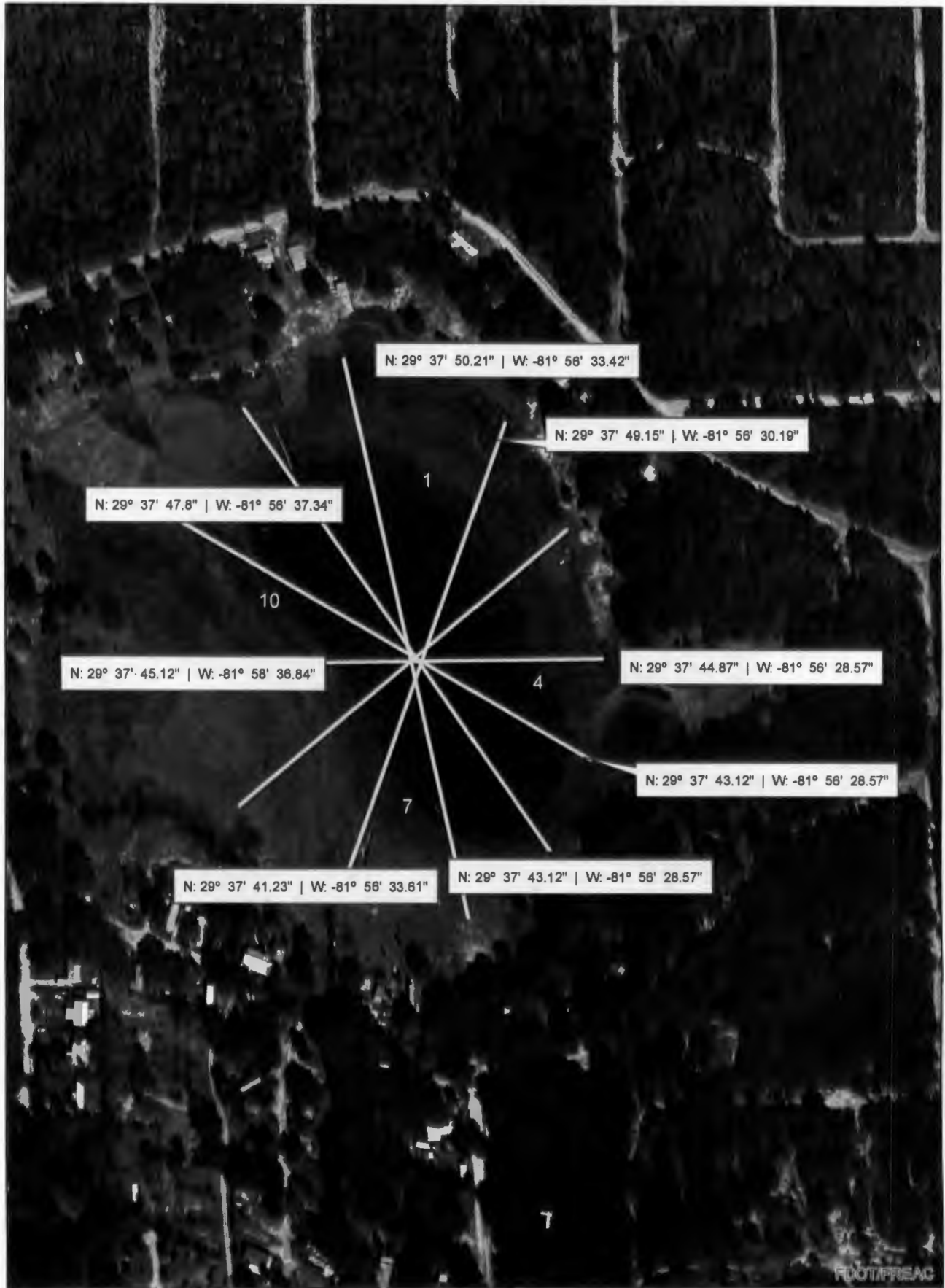
Conductivity Acceptance criteria $\pm 5\%$

pH DEP SOP FT 1100	Name	Date	Time CT-ET	Lot #	Explr. Date	pH Buffer SU	Meter reading SU	mV	Pass / Fail	Lab / Field
Calibr.	B-V	9/7/17	818	1607A12	6/18	7.0	7.00	-22.6	P	L
Calibr.			822	2707722	6/19	4.0	4.00	145.3	P	L
Calibr.			826	2611998	5/18	10.0	9.98	-183.4	P	L
ICV			828	1607A12	6/18	7.0	7.04	-22.4	P	L
CCV			1358	2707722	6/19	4.0	4.1	138.6	P	L
CCV										

Report pH with one decimal place; 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 ; Slope from 7 to 10 and 4 to 7 must be between 165 and 180 mV

cooper pond



20 A ~~Garrett~~ West Interlaken

FORM FD 9000-27: LAKE VEGETATION INDEX FIELD SHEET

Site: <u>Crop 02 Pond 23-5L-11024</u>		Date: <u>9/7/17</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	
Paspalidium 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 elliotii	✓	*Utricularia purpurea	✓
Pistia stratioides	✓	*Utricularia cornuta	✓
Pluchea sp.	✓	*Utricularia radiata	✓
*Polygonum glabrum (densiflorum)	✓	Vallisneria americana	✓
*Polygonum hydropiperoides	✓	*Websteria confervoides	✓
*Polygonum punctatum	✓	Wedelia trilobata (Sphagnetocola trilobata)	✓
*Polygonum	✓	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	✓		
Sagittaria sp.	✓		
Rhynchospora Microcephala	✓		

DEP FORM FD 9000-27 LAKE VEGETATION INDEX FIELD SHEET

(AK)

Waterbody: <u>Cooper Pond 23-SL-11024</u>		County: <u>Putnam Co.</u>		Date: <u>9/7/17</u>							
Analyst: <u>J. Gresham / B. Davis</u>		Signature: _____		STORET: _____							
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): <u>1, 4, 7, 10</u> → 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.	✓	✓		✓		Hydrocotyle sp.					
Azolla filiculoides (A. caroliniana)						Hygrophila polysperma					
Baccharis sp.			✓			*Hypericum fasciculatum	✓	✓	✓	✓	
Bacopa caroliniana						*Hypericum hypericoides					
Bacopa monnieri		✓				*Hypericum myrtifolium					
Bidens laevis						Ilex cassine		✓			
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	✓	✓	✓	✓	
Ceratophyllum demersum						Lachnanthes caroliniana	✓	✓	✓	✓	
Chara sp.						Leersia hexandra	✓	✓	✓	✓	
Cladium jamaicense						Landoltia punctata (Spirodela punctata)					
Cliftonia monophylla						Lemna sp.					
Colocasia esculenta						Leucothoe racemosa (Eubotrys racemosa)					
*Commelina						Limnium spongia					
Crinum americanum						Limnophila sessiliflora					
* Cyperus alternifolius (C. involucratus)						Liquidambar styraciflua					
Cyperus articulatus						*Ludwigia arcuata					
Cyperus haspan						*Ludwigia leptocarpa					
*Cyperus lecontei		✓	✓			*Ludwigia linearis					
*Cyperus polystachyos						*Ludwigia octovalvis					
*Cyperus odoratus						* Ludwigia peruviana					
*Cyperus surinamensis						*Ludwigia repens	✓			✓	
Cyrilla racemiflora						*Ludwigia suffruticosa					
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				✓	✓
Eleocharis cellulosa						Bahia Grass	✓			✓	
Eleocharis equisetoides											
Eleocharis interstincta											
*Eriocaulon compressum											
*Eriocaulon decangulare		✓	✓	✓							
Eupatorium capillifolium		✓	✓	✓							
*Fuirena		✓	✓	✓							
Fuirena scirpoidea		✓	✓	✓							
Gordonia lasianthus											

#78175

Jr 1/22/18

DEP FORM FD 9000-31: LAKE OBSERVATION FIELD SHEET

SAMPLE ID: _____
 COUNTY: Putnam
 DATE: 9/7/17
 SITE NAME: Cooper Pond
 FIELD ID/NAME: _____

MACROPHYTE ID: _____
 STORET #: 51920
 TIME: 1:20

LATITUDE: 29 37 45.6
 LONGITUDE: 81 56 22
 SAMPLING AGENCY: _____
 WBID: _____
 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>10</u>				<u>90</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 <u>19</u>	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
LAKESIDE ALTERATIONS <u>14</u>	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)												
	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2
BUFFER ZONE <u>18</u>	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

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 _____				
Meter Readings: Depth (M) Temp. (°C) pH (SU) D.O. (MG/L) D.O. Sat. (%) Cond. (UMHO/CM) Salinity (PPT) Top: <u>0.3</u> <u>28.67</u> <u>7.1</u> <u>2.1</u> <u>26</u> <u>29</u> <u>0.01</u> Mid-Depth: _____ Bottom: <u>2.6</u> _____					Water Surface Oils: ☒ None ☐ Sheen/Slick ☐ Glob ☐ Other _____				
Clarity: ☒ Clear ☐ Opaque ☒ Turbid ☐ Slightly Turbid Color: ☐ Clear ☒ Tannic ☐ Green					SECCHI (M) <u>0.9</u> Total Station Depth (M) <u>2.6</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 ☐ 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 : _____									
SAMPLING TEAM: <u>Jeremy Lane / Boban 3</u>					SIGNATURE: <u>Jeremy Lane</u>		DATE: <u>9/7/17</u>		

#78125 (AK)

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

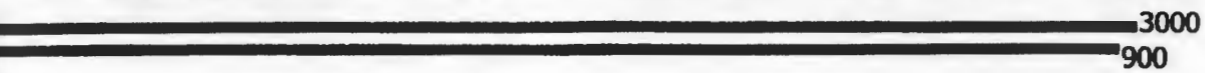
STORET STATION NUMBER:	DATE (M/D/Y): 9/13/17	LAKE NAME: Cooper Pond		FIELD ID / NAME:
ECO-REGION:	COUNTY: Putnam	SAMPLING LOCATION/DESCRIPTION: Z3-SL-11024		LAKE SIZE: 5m x 11
PARAMETER	No surface inflow or outflow present, very long water residence time, groundwater seepage dominates ☒		Surface water 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	Marginal	Poor
Secchi 9 ☒	Secchi >3 m Secchi(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 19 ☒	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 (duckweed, hyacinth, etc.) or algal mats, or few plants present at all (e.g., plants removed)
Stormwater Inputs 19 ☒	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
Bottom Substrate Quality 14 ☒	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
Lakeside Adverse Human Alterations 15 ☒	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)
Upland Buffer Zone 18 ☒	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
Adverse Watershed Land Use 14 ☒	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			
TOTAL SCORE 107 ☒	COMMENTS:			

ANALYSIS DATE:	ANALYST:	SIGNATURE:
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Google Earth

feet
meters





Google Earth

miles
km





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 floridaswater.com.

AMBIENT MONITORING SITE INFORMATION AND PERMISSION TO SAMPLE FORM

SITE NAME: _____ STATION ID NUMBER: _____

SITE COORDINATES: LATITUDE: _____ LONGITUDE: _____

COUNTY: _____ LOCATION DESCRIPTION: _____

ACCESS PROPERTY OWNER NAME: _____

ACCESS PROPERTY ADDRESS: _____

OWNER MAILING ADDRESS: 1488 SR 20
(IF DIFFERENT FROM
ACCESS PROPERTY ADDRESS) INTERLACHEN, FL 32148

OWNER TELEPHONE NUMBER(S): 352 518 4141

HOURS OWNER MAY BE CONTACTED: 8 AM 8 PM

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).

KEVIN WATKINS
PRINTED NAME OF LANDOWNER

I would like the results sent to the address above.

☒ YES ☐ NO

[Signature]
SIGNATURE OF LANDOWNER

6-20-2017
DATE

GOVERNING BOARD

John A. Miklos, CHAIRMAN
ORLANDO

Fred N. Roberts Jr., VICE CHAIRMAN
OCALA

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Douglas Burnett
ST. AUGUSTINE

Susan Dolen
SANFORD

**DEP TIER 1
STATUS NETWORK SITE CHARACTERIZATION**

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

Site ID	Latitude	Longitude	Type of Recon	Date of Recon
Z3-SL-11024			Site Visit	6/22/2017

Return Recon #1 _____

Return Recon #2 _____

Return Recon #3 _____

Resource Type	Secondary Resource Type
Small Lake	No 2nd Type
Desk Recon: 2/14/2017 By: Nate Gargas	Letter Sent:
Recon Team: Nate Gargas	

Site Location Address & Contact Information	Property Owner's Address
	Yeuell Watkins
	1488 SR 20
	Interlachen, FL 32148
	3525164141
Data Requested: YES	County: Putnam

Tidal Info: _____

Access and Permission
YES-VERBAL PERMISSION

Reason for Exclusion

Recon Result
For Site:

Z3-SL-11024

INCLUDE

ADDITIONAL NOTES

CALL BEFORE SAMPLING

Yeuell Watkins 352-516-4141

Additional Items: Jon Boat w/Trolling Motor, Chest Waders

DIRECTIONS:

From the Palatka District Headquarters turn left on FL-100 W go ~1.3 miles, turn left onto CO RD 309C go ~2.4 miles, continue onto State Hwy 309C/Francis Church Rd go ~0.7 miles, turn right onto FL-20 W go ~13.9 miles, turn right onto Dumpster Rd stop in and let them know you are there at the front office, continue back on Dumpster Rd go ~0.15 miles, Bear to the right of the pump house (see Pictures) Drive back to lake, Ground can be soft be careful launch john boat. Might need to push boat out to deeper water with Waders

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-11024

County	PUTNAM	Quarter Quad	
WMD	ST. JOHNS RIVER WMD	HUC	OKLAWAHA
Random Latitude	29° 37m 45.6656s	Random Longitude	81° 56m 32.0083s

Is Z3-SL-11024 sampleable? ☐ Yes ☐ No ☒ N/A

Exclusion Category:

Exclusion Criteria:(definitions):

Was Z3-SL-11024 sampled? ☒ Yes ☐ No ☐ N/A

Month Day Year

Comments:

☒ Aerial Photo ☐ Quad Map ☐ No Image