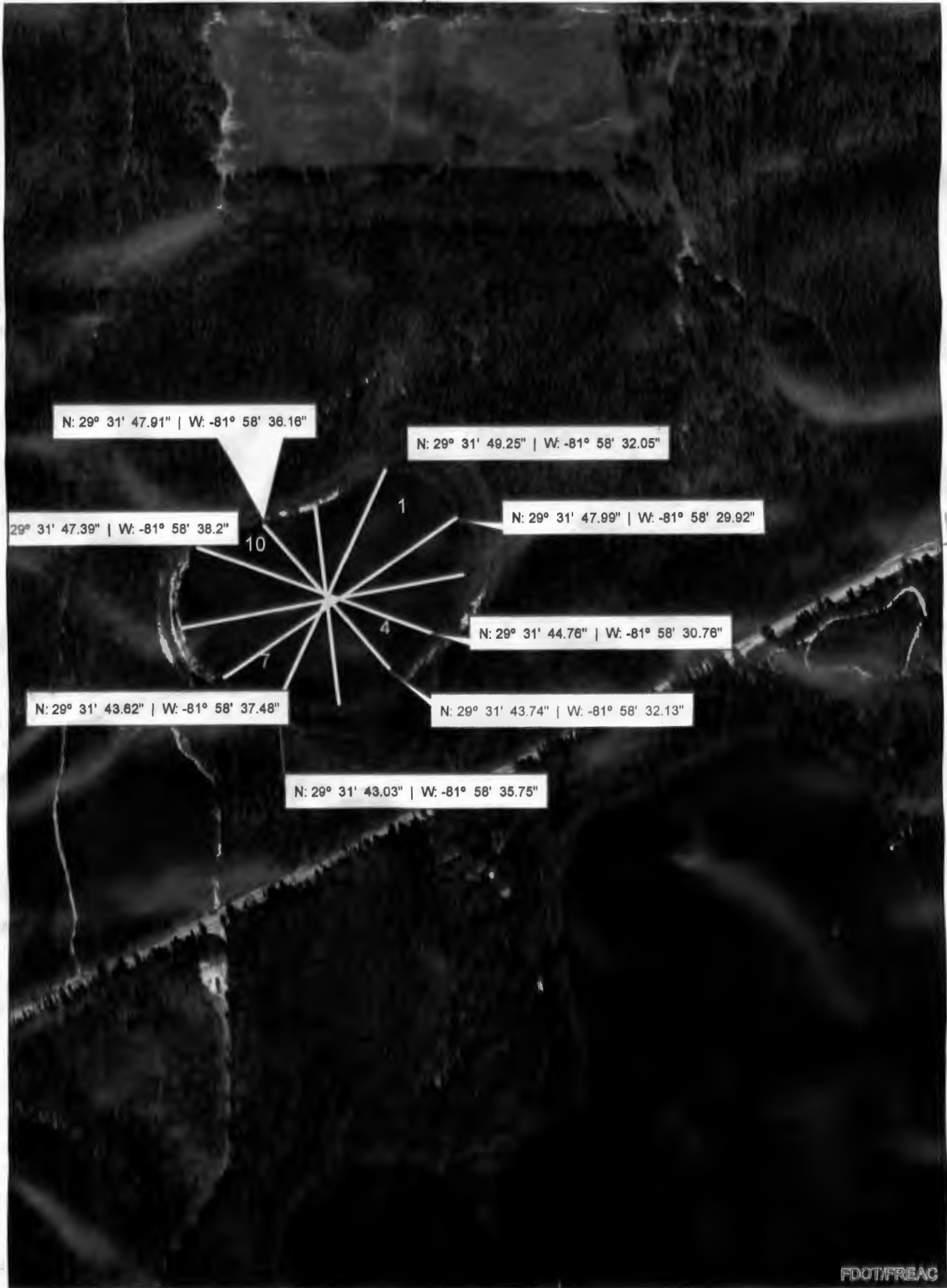


29 31 46.7

81 58 38.2

Ray pond



21 Hwy

Lake Susan Rd.

Ocean side

FORM FD 9000-27: LAKE VEGETATION INDEX FIELD SHEET

Site:						Date:					
SPECIES	10	1	4	7	Collected? (✓)	SPECIES	10	1	4	7	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 (Sphagnetica 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	✓					Vallisneria spiralis Panicum					
*Rhexia	✓										
*Rhynchospora corniculata											
*Rhynchospora inundata											
Rhynchospora tracyi											
Rissoicarpus natans											
Sabal palmetto											
Sacciolepis striata											
*Sagittaria filiformis											
*Sagittaria graminea											
*Sagittaria isoetiformis											
Sagittaria lancifolia											
Sagittaria latifolia											

5110 78180

AK

9/14/17

Waterbody: <u>Key Pond</u>	County:	Date: <u>9/14/17</u>
Analyst:	Signature: <u>[Signature]</u>	STORET: <u>51916</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 only group): <u>1, 4, 7, 10</u> <u>2, 5, 8, 11</u> <u>3, 6, 9, 12</u>

SPECIES	10	1	4	7	Collected? (✓)	SPECIES	10	1	4	7	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						Limnobia 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 <u>suffrutescens</u>					✓
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						<u>DIDL AND DIV USE Flora</u>	✓	✓	✓	✓	
Eleocharis equisetoides											
Eleocharis interstincta											
*Eriocaulon compressum											
*Eriocaulon decangulare	✓	✓	✓	✓							
Eupatorium capillifolium											
*Fuirena	✓	✓									
Fuirena scirpoidea											
Gordonia lasianthus											

DEP FORM FD 9000-31: LAKE OBSERVATION FIELD SHEET

SAMPLE ID: 74140 **MACROPHYTE ID:** _____ **LATITUDE:** _____
COUNTY: Potomac **STORET #:** _____ **LONGITUDE:** _____
DATE: 9/14/17 **TIME:** 1055 **SAMPLING AGENCY:** _____
SITE NAME: Key Pond **WBID:** _____
FIELD ID/NAME: _____ **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>22</u>	<u>80</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>	<u>19</u>	<u>18</u>	<u>17</u>	<u>16</u>	<u>15</u>	<u>14</u>	<u>13</u>	<u>12</u>	<u>11</u>	<u>10</u>	<u>9</u>	<u>8</u>	<u>7</u>	<u>6</u>	<u>5</u>	<u>4</u>	<u>3</u>	<u>2</u>	<u>1</u>
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>	<u>19</u>	<u>18</u>	<u>17</u>	<u>16</u>	<u>15</u>	<u>14</u>	<u>13</u>	<u>12</u>	<u>11</u>	<u>10</u>	<u>9</u>	<u>8</u>	<u>7</u>	<u>6</u>	<u>5</u>	<u>4</u>	<u>3</u>	<u>2</u>	<u>1</u>
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>	<u>19</u>	<u>18</u>	<u>17</u>	<u>16</u>	<u>15</u>	<u>14</u>	<u>13</u>	<u>12</u>	<u>11</u>	<u>10</u>	<u>9</u>	<u>8</u>	<u>7</u>	<u>6</u>	<u>5</u>	<u>4</u>	<u>3</u>	<u>2</u>	<u>1</u>

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>28.2</u> <u>6.4</u> <u>7.8</u> <u>99.8</u> <u>49</u> <u>0.02</u> Mid-Depth: <u>2.2</u> <u>27.1</u> <u>6.1</u> <u>5.4</u> <u>68.0</u> <u>50</u> <u>0.02</u> Bottom: <u>2.5</u> _____ _____ _____ _____ _____ _____ Meter ID: _____								Clarity: ☒ Clear ☐ Opaque ☐ Turbid ☐ Slightly Turbid Color: ☒ Clear ☐ Tannic ☐ Green SECCHI (M) <u>2.5</u> VOB <u>2.5</u> VOB <u>2.5</u> Total Station Depth (M) <u>2.5</u>							
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 ☐ Don't Know Active Vegetation Mgmt? ☐ Yes ☒ No								Abundance: Absent Rare Common Abundant Periphyton ☐ ☐ ☒ ☐ Nuisance Plants ☒ ☐ ☐ ☐ Submersed Plants ☐ ☐ ☒ ☒ Exotic Apple Snails ☒ ☐ ☐ ☐							
Weather Conditions : _____															
SAMPLING TEAM: <u>J. Parrish P. P. Connor</u>								SIGNATURE: _____				DATE: <u>09-14-17</u>			

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

STRET STATION NUMBER: DATE (M/D/Y) 09-14-17 LAKE NAME Key LAKE FIELD ID / NAME:

ECO-REGION: COUNTY: Putnam SAMPLING LOCATION/DESCRIPTION: LAKE SIZE: Small

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	Impounded, hydrology of system artificially controlled
HYDROLOGY	☒	☐	☐	☐
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	Secchi > 3 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	Diverse, expected native vegetation (emergent or submersed), less than 5% nuisance taxa 20 19 18 17 16	Mostly expected native plants, but moderate growths (6%-20% of lake) of nuisance macrophytes, or more than 50% of lake covered with plants 15 14 13 12 11	Large masses (21%- 40%) of nuisance macrophytes (e.g., Hydrilla, hyacinth, cattail, etc.) or algal mats 10 9 8 7 6	Lake choked (>40%) with nuisance macrophytes (duckweed, hyacinth, etc.) or algal mats, or few plants present at all (e.g., plants removed) 5 4 3 2 1
Stormwater Inputs	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
Bottom Substrate Quality	Diverse mixture of sand, detritus, with small amounts of CPOM/mud/muck. SAV may be present 20 19 18 17 16	Mixture of sand or clay and detritus with higher % CPOM/mud/muck content. SAV may be present 15 14 13 12 11	Moderate layer of CPOM/mud/muck, or hardpacked sand only, or moderate algal growth (mats or Chara) on bottom 10 9 8 7 6	Thick deposits of CPOM, or fine detritus and anaerobic muck/mud/silt, or algal growth or nuisance plants (Hydrilla) cover bottom 5 4 3 2 1
Lakeside Adverse Human Alterations	Very few man-made structures, roads, or other disturbance adjacent to lake (<10%) 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
Upland Buffer Zone	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
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 135 COMMENTS: High Level

ANALYSIS DATE: 09-14-17 ANALYST: P O'Connell SIGNATURE: [Signature]



Google Earth

feet 4000
km 1





Google Earth



**DEP TIER 1
STATUS NETWORK SITE CHARACTERIZATION**

Stream/Water Body Name: **Key Pond**

Site ID	Latitude	Longitude	Type of Recon	Date of Recon
Z3-SL-11012			Site Visit	

Return Recon #1 _____

Return Recon #2 _____

Return Recon #3 _____

Resource Type	Secondary Resource Type
Small Lake	No 2nd Type
Desk Recon: 1/23/2017 By: Nate Gargas	Letter Sent:
Recon Team:	

Site Location Address & Contact Information	Property Owner's Address
Scott Houk	Mark Anderson
Property Manager	1936 Morningside Street
	Jacksonville, FL 32205
352-339-2042	
Data Requested: YES	County: Putnam

Tidal Info: _____

Access and Permission
YES-PERMISSION LETTER

Reason for Exclusion

Recon Result
For Site:

Z3-SL-11012

INCLUDE

ADDITIONAL NOTES

CALL BEFORE SAMPLING

Additional Items: Jon Boat w/Trolling Motor

DIRECTIONS:

From Palatka Take FL-19S, continue onto NE Hwy 315/NE Co Rd 315 go ~1.1 miles, turn right onto State Hwy 21 go ~0.4 miles, continue onto Co Rd 21 go ~1.5 miles, turn left onto Lake Susan Rd go ~1.9 miles sit will be on the right, it is a large metal cattle gate, go through gate take first right follow to lake. Scott Houk will most likely meet you at gate and let you in.

*****Call Scott Houk to access property*****

48 hrs notice (352)-339-2042

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

GWIS Generalized Water Information System Database Utilities

Record Tracking

Existing Station

New SW Station

New GW Station

PK RANDOM SAMPLE LOCATION = Z3-SL-11012

County	PUTNAM	Quarter Quad	
WMD	ST. JOHNS RIVER WMD	HUC	OKLAWAHA
Random Latitude	29° 31m 45.9022s	Random Longitude	81° 58m 33.3734s

Is Z3-SL-11012 sampleable?☐ Yes ☐ No ☒ N/A**Exclusion Category:****Exclusion Criteria:(definitions):****Was Z3-SL-11012 sampled?**☐ Yes

Month 1 ▾ Day 23 ▾ Year 2017 ▾

Comments:

Save

Reset

☒ Aerial Photo ☐ Quad Map ☐ No Image

Show Map