

RQ-2016-07-25-06

8/10/2016
WBID 1938HLake Annie @
Center

FD 9000-31: LAKE OBSERVATION FIELD SHEET

PHYTE ID: _____

LATITUDE: _____

LONGITUDE: _____

DATE: _____ TIME: _____

SAMPLING AGENCY: FDEP SAOC

SITE NAME: _____

WBID: 1938H

FIELD ID/NAME: _____

LAKE SIZE: _____ RQ: _____

WATERSHED / LAKESIDE FEATURES

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category – from GIS) : <u>Railway</u> Forest/Natural <u>95</u> Silviculture _____ Field/Pasture _____ Agricultural _____ Residential _____ Commercial _____ Industrial _____ Other (Specify) <u>5</u>						LANDSCAPE DEVELOPMENT INTENSITY (100 m buffer) LDI: _____	
Local Watershed Erosion (select one) : ☒ None ☐ Slight ☐ Moderate ☐ Heavy Local Watershed NPS Pollution : ☐ No evidence ☒ Slight ☐ Moderate ☐ Heavy						Artificially Impounded ☐ Yes ☒ No Land Use Source & Year: _____	
STORMWATER INPUTS <u>19</u>	Stormwater enters system via sheet flow over non-cultivated and/or natural vegetation 20 <u>19</u> 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>18</u>	Very few man-made structures, roads, or other disturbance adjacent to lake (<10% lakeside affected) 20 19 <u>18</u> 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>17</u>	Expected native vegetation between uplands and littoral zone, greater than 90% of shore with >18 m buffer 20 19 18 <u>17</u> 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 ☐ No 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>28.9</u> <u>6.5</u> <u>7.2</u> <u>94</u> <u>42</u> <u>-</u> Mid-Depth: <u>1.2</u> <u>28.6</u> <u>5.8</u> <u>7.0</u> <u>89</u> <u>41</u> <u>-</u> Bottom: _____ _____ _____ _____ _____ _____ _____ Meter ID: <u>YS15</u>						Water Surface Oils: ☒ None ☐ Sheen/Slick ☐ Glob ☐ Other _____ Clarity: ☒ Clear ☐ Opaque ☐ Turbid ☐ Slightly Turbid Color: ☒ Clear ☐ Tannic ☐ Green SECCHI (M) <u>2.8</u> Total Station Depth (M) <u>20</u> VOB ☒ <u>NA</u>	
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>Water level high.</u> <u>Station VOB 76909</u> <u>HA: 14044</u>	
Weather Conditions: <u>Bright bright Sunshiny day</u>							
SAMPLING TEAM: <u>Ben Paswater, Corey Anderson</u>				SIGNATURE: <u>[Signature]</u>		DATE: <u>8/10/2016</u>	

Sim File generated
4/12/17 CA

RQ-2016-07-25-06

8/10/2016
WBID 1938HLake Annie @
Center

G4SD081016

STORET
*26011159

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

STORET STATION NUMBER:	DATE (M/D/Y)	LAKE NAME <i>Annie</i>		FIELD ID / NAME:
ECO-REGION:	COUNTY: <i>Highlands</i>	SAMPLING LOCATION/DESCRIPTION: <i>Lake Annie</i>		LAKE SIZE: <i>Mid</i>
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 <i>18</i>	Secchi > 3 m Or VOB 20 19 <i>18</i> 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 <i>16</i>	Diverse, expected native vegetation (emergent or submersed), less than 5% nuisance taxa 20 19 18 17 <i>16</i>	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 <i>19</i>	Stormwater enters system via sheet flow over non-cultivated and/or natural vegetation 20 <i>19</i> 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 <i>20</i>	Diverse mixture of sand, detritus, with small amounts of CPOM/mud/muck. SAV may be present 20 <i>19</i> 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 <i>18</i>	Very few man-made structures, roads, or other disturbance adjacent to lake (<10%) 20 19 <i>18</i> 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 <i>17</i>	Expected native vegetation between uplands and littoral zone, greater than 90% of shore with >18 m buffer 20 19 18 <i>17</i> 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 <i>19</i>	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 <i>19</i> 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1			
TOTAL SCORE <i>127</i>	COMMENTS:			

ANALYSIS DATE: *8/10/2016*ANALYST: *Corey Anderson, Ben Paswater*SIGNATURE: *Corey Anderson* *Ben Paswater*

8/10/2016
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G4SD081016

STORET
*26011159

LAKE VEGETATION INDEX FIELD SHEET

Date: 8-10-16

SPECIES	3	6	9	12	Collected? (Y)	SPECIES	3	6	9	12	Collected? (Y)
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. <i>elliottii</i> (large goldenrod)					
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. <i>virginica</i> (leaves not from stem organ)						*Utricularia gibba (U. biflora)					
Persea sp.						*Utricularia floridana					
Pinus elliotii						*Utricularia foliosa					
Pistia stratioides						*Utricularia inflata					
Pluchea sp. <i>foetida</i> (small red or white flowers)				✓		*Utricularia purpurea					
*Polygonum glabrum (densiflorum)						*Utricularia cornuta					
*Polygonum hydropiperoides						*Utricularia radiata					
*Polygonum punctatum						Vallisneria americana					
*Polygonum						*Websteria confervoides	✓	✓	✓	✓	
Pontederia cordata						Wedelia trilobata (Sphagneticoia trilobata)					
*Potamogeton diversifolius						Wolffella spp.					
*Potamogeton illinoensis						Woodwardia virginica	✓		✓		
*Potamogeton pusillus						Xyris sp.					
*Potamogeton pectinatus (Stuckenia pectinatus)						Zizania aquatica					
Proserpinaca pectinata						Zizaniopsis milacea					
*Rhexia <i>cubensis</i> (meadow beauty)				✓		<i>sphagnum</i>	✓	✓	✓	✓	✓
*Rhynchospora corniculata						Panicum rigidulum (Purple flowers)					
*Rhynchospora inundata						Saccharum giganteum					
Rhynchospora tracyi						Serenoa repens	✓	✓	✓	✓	
Ricciocarpus natans						Vitis rotundifolia	✓	✓		✓	
Sabal palmetto						Utricularia #1 gibba?	✓	✓		✓	
Sacciolepis striata						Utricularia #2 floridana	✓	✓	✓	✓	
*Sagittaria filiformis						Vall?					
*Sagittaria graminea						entocaulon or Xyris?					
*Sagittaria isoetiformis						Xyris sp. n. rubroventer					
Sagittaria lancifolia											
Sagittaria latifolia											
Sagittaria sp.	✓			✓	✓						

#3 Nuphar + Eelgrass

#6 4-5 very Abundant

Confirmed
Gibba
By
N. Wetzelhof
Sphagnum
moss

RQ-2016-07-25-06

8/10/2016
WBID 1938HLake Annie @
CenterG4SD081016
Field IDSTORET
*26011159

27 LAKE VEGETATION INDEX FIELD SHEET

County: Highlands

Date: 8-10-16

Analyst: Corey Anderson

Signature: [Signature]

STORET:

Except where noted as "sp." species level identification required. *Genera that may require lab verification*

Plants in bold= FLEPPC invasive exotic.

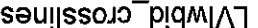
Lake units sampled
(circle one group):
1, 4, 7, 10 2, 5, 8, 11
3, 6, 9, 12

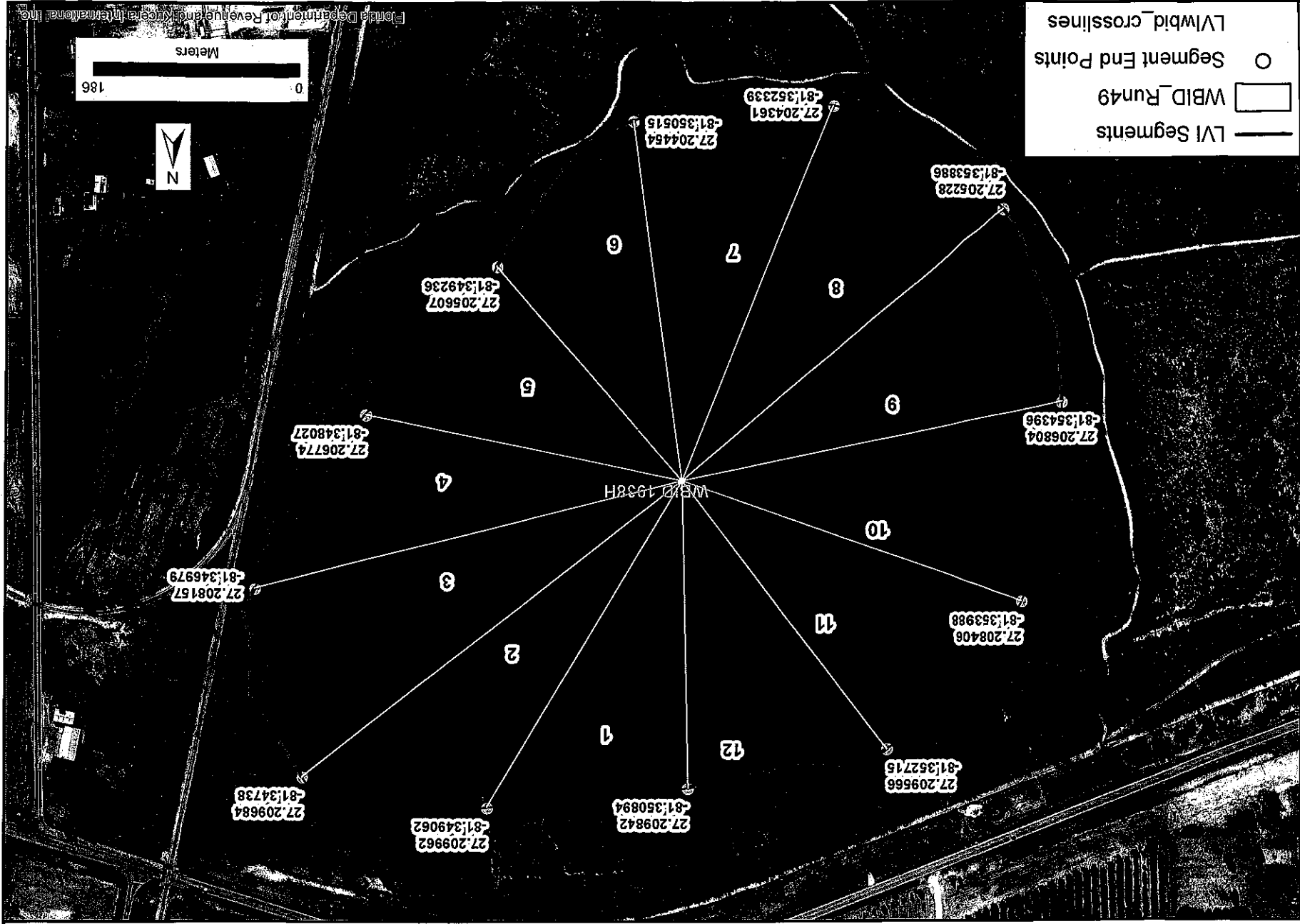
It is important to note dominant or co-dominant taxa (by areal extent) for each unit. Use "D" to denote dominant taxon, or "C" for the 2 co-dominant taxa.

SPECIES	3	6	9	12	Collected? (✓)	SPECIES	3	6	9	12	Collected? (✓)
Acer rubrum						Habenaria repens Waterspider Rainorchid					
Alternanthera philoxeroides						Hydrilla verticillata					
Andropogon sp. virginicus			✓			Hydrocotyle sp.			✓		
Azolla filiculoides (A. caroliniana)						Hygrophila polysperma					
Baccharis sp. glomerulifolia			✓			*Hypericum fasciculatum St. John's Wort		✓	✓	✓	✓
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 (3' tall)					
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 Polystachos			✓		✓	*Ludwigia leptocarpa			✓	✓	
*Cyperus lecontei						*Ludwigia linearis					
*Cyperus polystachyos						*Ludwigia octovalvis					
*Cyperus odoratus						*Ludwigia peruviana	✓		✓		
*Cyperus surinamensis						*Ludwigia repens					
Cyrilla racemiflora						*Ludwigia					
Decodon verticillatus						Luziola fluitans (Hydrochloa carolinensis)					
Diodia virginiana						Lyonia lucida (Pink dangling flowers)				✓	✓
*Echinochloa crus-galli						Magnolia virginiana				✓	✓
*Echinochloa muricatum						Mayaca fluviatilis	✓			✓	
Echinochloa walteri						Melaleuca quinquenervia					
Ediplota prostrata (E. alba)						Micranthemum glomeratum					
Egeria densa						Micranthemum umbrosum				✓	
Eichhornia crassipes						Mikania scandens					
*Eleocharis baldwinii	✓		✓	✓		Mimosa pigra					
*Eleocharis elongata	✓	✓	✓	✓		Myrica cerifera	✓	✓	✓	✓	
Eleocharis cellulosa											
Eleocharis equisetoides											
Eleocharis interstincta											
*Eriocaulon compressum											
*Eriocaulon decangulare Tenangle Pipewort				✓							
Eupatorium capillifolium											
*Fuirena			✓	✓							
Fuirena scirpoidea			✓	✓							
Gordonia lasianthus											

LVI Map for LAKE ANNIE, WBID 1938H

1932 Combo Lock

-  LVI Segments
-  WBID_Run49
-  Segment End Points
-  LVI/wbid_crosslines



Cooler Packing Worksheet for Request: RQ-2016-07-25-06

Reference Lakes Kit

Ship Cooler On: 7/11/2016

Customer/Project: SO-DIST/SMP

Requester: Corey R. Anderson

Priority: 3

239-344-5610
FLDEP South District Office
2295 Victoria Ave. Suite 364
Fort Myers, FL 33901-3381
Attn: Corey Anderson

Comments:

No preservatives needed.

Requested Analyses:

Bottle Group: A

of Sites: 1

Container ID: P-500ML

Qty: 1

Preservation: ICE

Lot # 00064947

Description: Plastic Bottle 500 mL

✓ Analysis

ALKALINITY

TURBIDITY

W-BR-IC

W-CL-IC

W-COLOR

W-F

W-SO4-IC

Description

Alkalinity in aqueous matrices as mg CaCO₃/L

Turbidity in aqueous matrices

Bromide in aqueous matrices

Chloride in aqueous matrices

True Color measured at 450 nm

Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)

Sulfate in aqueous matrices

Container ID: BP-1L

Qty: 1

Preservation: ICE

Lot # 1172350

Description: Brown Plastic Bottle 1L

✓ Analysis

CHLSUITE-W

Description

Phytoplankton chlorophyll-a corrected, uncorrected, phaeophytin and ratio by spectrophotometry

Container ID: BP-1L

Qty: 1

Preservation: Lugols

Lot # 1172350

Description: Brown Plastic Bottle 1L

✓ Analysis

DTY-QN-C

Description

No. of diatom taxa of quantitative phytoplankton sample.

Printed: 7/11/2016 17:13:06

Page 1 of 3

Container ID: P-500ML

Qty: 1 Preservation: HNO3

Lot # 00064957

Description: Plastic Bottle 500 mL

Affix RED nitric acid dot to container.

Analysis

W-ICP

W-ICPMS

Description

Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects

Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects

Container ID: P-500ML

Qty: 1 Preservation: ICE And H2SO4

Lot # 00064957

Description: Plastic Bottle 500 mL

Affix YELLOW sulfuric acid dot to container.

Analysis

W-NH3

W-NO2NO3

W-S-A-TP

W-TKN

Description

Ammonia in aqueous matrices as mg N/L

Nitrite/Nitrate in aqueous matrices as mg N/L

Total Phosphorus in aqueous matrices as mg P/L

Total Kjeldahl Nitrogen in aqueous matrices

Container ID: P-125ML

Qty: 1 Preservation: ICE-FLTR

Lot # 00064520

Description: Plastic Bottle 125 mL

Analysis

W-PO4-F

Description

Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L

Bottle Group: B

of Sites: 1

Container ID: PT-50ML

Qty: 1 Preservation: ICE

Lot # 430897

Description: Plastic Tube 50 mL

Analysis

ALGAL_ID

Description

Qualitative assessment of algal taxa present without counts

Container ID: PJ-2L

Qty: 2 Preservation: Formalin

Lot # Bio-Wash

Description: Plastic Jar 2 L

Analysis

MI-FW-QLDC

Description

No. Taxa of FW macroinverts, qual samp, 20 dipnets.

Cooler Packed By: <u> NJB </u>	Date: <u> 7/18/16 </u>
DEP Cooler ID #(s): <u> 1 cooler </u>	

Kit must also include: ☒ Field Sheets ☒ Temperature Control Bottle (1 per cooler) ☒ FedEx Bills, if applicable (1 per cooler) ☒ Plastic Bags ☒ Zip Ties	If Preservation Included: <table><tr><td>ID _____</td><td>Lot # _____</td></tr><tr><td>ID _____</td><td>Lot # _____</td></tr><tr><td>ID _____</td><td>Lot # _____</td></tr><tr><td>ID _____</td><td>Lot # _____</td></tr><tr><td>ID _____</td><td>Lot # _____</td></tr></table>	ID _____	Lot # _____	ID _____	Lot # _____	ID _____	Lot # _____	ID _____	Lot # _____	ID _____	Lot # _____
ID _____	Lot # _____										
ID _____	Lot # _____										
ID _____	Lot # _____										
ID _____	Lot # _____										
ID _____	Lot # _____										
<u>PLEASE RETURN ALL COOLERS FOR RQ-2016-07-25-06</u>											