



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
STRATEGIC MONITORING PROGRAM FIELD SHEET

PAGE 1 OF 1

RQ-2016-05-16-13

5/16/2016
1730D

Lake Adelaide
Center South



SD051616-4

Field ID: STORET
26010325*



February 2016

ORG ID: 21FLFTM

Date: (mm/dd/yyyy)

Data Qualified?
Yes No

Latitude: (Decimal Degrees)

Longitude: (Decimal Degrees)

Receiving Body of Water: Field ID: County: Highlands

Sampling Team Members					WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check
Corey Anderson									
Kaitlin DeAeth									
Ben Paswater									

Sampling Equipment		
☒ Sample Container	☐ Van Dorn	☐ Pole
☐ Carboy	☒ Syringe	
☐ Dipper	☐ Other	
Equipment ID		
Collection Method		
☐ Wading	Via Boat	
☐ From Shore	☐ Canoe/Kayak	
☐ Other (note below)	☐ Electric Motor	
	☒ Gasoline Motor	

Water Level: Dry / Low / Normal / High / Flooded Matrix: Fresh / Marine / DI
Meter ID# YSI 7 Photos: Yes / No Tide Falling: Yes / No / NA

Time Zone	Time	Sample Depth (m)	Total Depth (m)	DO (mg/L)	DO (%SAT)	pH	Salinity (ppt)	Secchi Disk (m)	Sp COND (µmhos/cm)	Temp. (C°)
EST	1055	0.3	5.5	8.7	108	6.9	0.06	2.0	132	27.7
CEN	1100	50		6.4	74	6.2			132	24.7

Biological Samples Collected: None HA SCI LVS RPS LVI Other

Parameter Suite	Parameter Methods	Preservation	Acid Lot#	Expiration	pH Check
Preserved Nutrients	☒ W-NH3 / W-NO2NO3 / W-TKN / W-TOC / W-S-A-TP	☒ Ice ☒ H2SO4	Contains 1:1 Sulfuric Acid SA-5259020 EXP: 09/16/16 Warning! See MSMS		☒ <2
Metals	☐ W-ICPMS ☐ W-ICP	☐ Ice ☐ HNO3			☐ <2
Filtered Nutrients	☒ W-PO4-F ☒ Field Filtered 0.45 µm Filter	☐ Ice			
Chlorophyll	☒ CHLSUITE-W	☐ Ice			
Physical/Aggregate (Kit A/C)	☒ Alkalinity / W-F / W-TSS / TURBIDITY / W-CHC / W-COLOR / W-SO4-IC / W-TDS	☐ Ice			
Physical/Aggregate (Kit B/D)	☐ Alkalinity / W-F / W-TSS / TURBIDITY	☐ Ice			
Macroinvertebrates	☐ MI-FW-QLDC	☐ Formalin			
Microbiology	☐ E Coli ☐ F Coli ☐ Enteroc ☐ QPCR	☐ Ice			
Periphyton	☐ ALGAE-ID	☐ Ice			
Pesticides	☐ W-PSNP-TQ ☐ W-AHERB-AA ☐ W-PYR-AA-R ☐ W-PC-AA-SF ☐ W-UHERB-AA ☐ W-GLYPH	☐ Ice ☐ Other			

Notes: Place Label Here (If Available)

Signature: Date: 5/16/16

Field Parameters Entered into LIMS: (Initials/Date) Field Parameters QC in LIMS: (Initials/Date)

Date Migrated to STORET: (Initials/Date) Field Sheets Scanned/Saved: (Initials/Date)

DEP FORM FD 9000-31: LAKE OBSERVATION FI

5/16/2016

1730D

Lake Adelaide

Center South

SD051616-4

Field ID

STORET

26010325*

SAMPLE ID: _____ MACROPHYTE ID: _____
 COUNTY: _____ STORET #: _____
 DATE: _____ TIME: _____
 SITE NAME: _____
 FIELD ID/NAME: _____

LATITUDE: _____
 LONGITUDE: _____
 SAMPLING AGENCY: _____
 WBID: _____
 LAKE SIZE: _____ RQ: _____

WATERSHED / LAKESIDE FEATURES

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category – from GIS) : Forest/Natural <u>5</u> Silviculture <u> </u> Field/Pasture <u> </u> Agricultural <u>35</u> Residential <u>60</u> Commercial <u> </u> Industrial <u> </u> Other (Specify) <u> </u>					LANDSCAPE DEVELOPMENT INTENSITY (100 m buffer) LDI: <u> </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>7</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 <u>7</u> 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>5</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) <u>5</u> 4 3 2 1	
BUFFER ZONE <u>6</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 <u>6</u>		<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 _____				
Meter Readings: Depth (M) Temp. (°C) pH (SU) D.O. (MG/L) D.O. Sat. (%) Cond. (UMHO/CM) Salinity (PPT) Top: <u> </u> <u> </u> <u> </u> <u> </u> <u> </u> <u> </u> <u> </u> Mid-Depth: <u> </u> <u> </u> <u> </u> <u> </u> <u> </u> <u> </u> <u> </u> Bottom: <u> </u> <u> </u> <u> </u> <u> </u> <u> </u> <u> </u> <u> </u>					Water Surface Oils: ☒ None ☐ Sheen/Slick ☐ Glob ☐ Other _____				
Meter ID: <u> </u>					Clarity: ☒ Clear ☐ Opaque ☐ Turbid ☐ Slightly Turbid				
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 ☐ ☐ ☒ ☐				
Weather Conditions :					Additional Notes:				
SAMPLING TEAM: Anderson, Paswater, De'Aeth					SIGNATURE: <u> </u>				
					DATE: 5/16/16				

5/16/2016
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Lake Adelaide
Center South

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

STORET STATION NUMBER:	DATE (M/D/Y)	LAKE NAME		FIELD ID / NAME:
ECO-REGION:	COUNTY: <u>Highlands</u>	SAMPLING LOCATION/DESCRIPTION: <u>Segments 1, 4, 7, 10</u>		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 ☒	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 <u>13</u>	Secchi >3 m Or VOB 20 19 18 17 16	3 2.6 2.2 1.8 1.4 15 14 <u>13</u> 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 <u>6</u>	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 <u>8</u> 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 <u>7</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 <u>7</u> 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 <u>20</u>	Diverse mixture of sand, detritus, with small amounts of CPOM/mud/muck. SAV may be present <u>20</u> 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 <u>5</u>	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) <u>5</u> 4 3 2 1
Upland Buffer Zone <u>6</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 <u>6</u>	< 29% of shoreline with >18m buffer 5 4 3 2 1
Adverse Watershed Land Use <u>14</u>	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 <u>14</u> 13 12 11 10 9 8 7 6 5 4 3 2 1			

TOTAL SCORE	<u>73</u>	COMMENTS:
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ANALYSIS DATE: <u>5/16/16</u>	ANALYST: <u>Corey Anderson, Ben Paswater</u>	SIGNATURE: <u>[Signature]</u>
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5/16/2016
1730DLake Adelaide
Center South

SD051616-4

Field ID

STORET
26010325*

100-27 LAKE VEGETATION INDEX FIELD SHEET

County:

Highlands

Date:

5/16/16

Signature:

C. Anderson

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):

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.	✓	✓				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					
Cyrtilla racemiflora						*Ludwigia					
Decodon verticillatus						Luziola fluitans (Hydrochloa carolinensis)					
Diodia virginiana						Lyonia lucida					
*Echinochloa crus-galli						Magnolia virginiana			✓	✓	
*Echinochloa muricatum						Mayaca fluviatilis	0	✓	✓	✓	
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											
Eleocharis equisetoides		✓				Cyperus sp. 1			✓	✓	
Eleocharis interstincta						Cyperus sp. 2			✓	✓	
*Eriocaulon compressum						Mar. P. 1			✓	✓	
*Eriocaulon decangulare											
Eupatorium capillifolium											
*Fuirena											
Fuirena scirpoidea	✓		✓	✓							
Gordonia lasianthus			✓								

5/16/2016

1730D

Lake Adelaide
Center South

SD051616-4

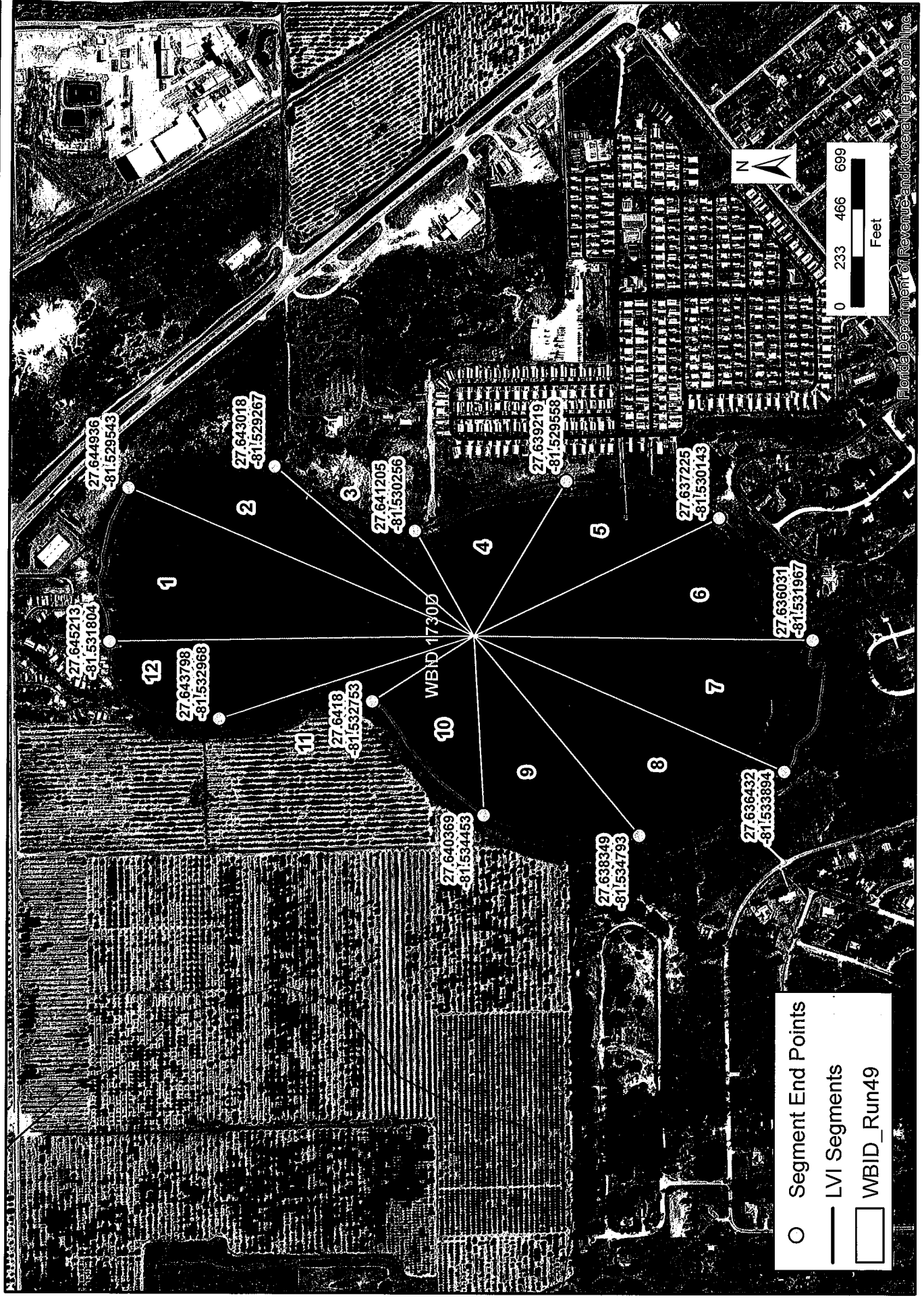
Field ID

STORET
26010325*

27: LAKE VEGETATION INDEX FIELD SHEET

Date:											
SPECIES	1	4	7	10	Collected? (✓)	SPECIES	1	4	7	10	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. <i>Rosea</i> ID B-P			✓		✓	*Utricularia radiata				✓	
*Polygonum glabrum (densiflorum)						Vallisneria americana		✓			
*Polygonum hydropiperoides						*Websteria confervoides					
*Polygonum punctatum						Wedelia trilobata (Sphagneticola 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											

LVI Map for LAKE ADELAIDE, WBID 1730D



Cooler Packing Worksheet for Request: RQ-2016-05-16-13

SMP: Highlands Adelaide & Letta

Ship Cooler On: 5/2/2016

Customer/Project: SO-DIST/SMP

Requester: Benjamin Paswater

Priority: 3

239-332-6975 SC 748-6975

FLDEP South District Office

2295 Victoria Ave. Suite 364

Fort Myers, FL 33901

Attn: Ben Paswater

Comments:

No preservatives needed.

SMP: Highlands Lakes: Adelaide LVI and Letta

Requested Analyses:

Bottle Group: A

of Sites: 2

Container ID: P-1L

Qty: 2 Preservation: ICE

Lot # 00064935

Description: Plastic Bottle 1L

Analysis

ALKALINITY

TURBIDITY

W-CL-IC

W-COLOR

W-F

W-SO4-IC

W-TDS

W-TSS

Description

Alkalinity in aqueous matrices as mg CaCO3/L

Turbidity 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

Total Dissolved Solids in aqueous matrices

Total Suspended Solids in aqueous matrices

Container ID: BP-1L

Qty: 2 Preservation: ICE

Lot # 1170333

Description: Brown Plastic Bottle 1L

Analysis

CHLSUITE-W

Description

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

Container ID: P-500ML

Qty: 2 Preservation: ICE And H2SO4

Lot # 05064521

Description: Plastic Bottle 500 mL

Affix YELLOW sulfuric acid dot to container.

Analysis

W-NH3
W-NO2NO3
W-S-A-TP
W-TKN
W-TOC

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
Nonpurgeable Organic Carbon in aqueous matrices

Container ID: P-125ML

Qty: 2 Preservation: ICE-FLTR

Lot # 05064632

Description: Plastic Bottle 125 mL

Analysis

W-PO4-F

Description

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

Cooler Packed By: FB

Date: _____

DEP Cooler ID #(s): 1

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:

ID _____	Lot # _____
ID _____	Lot # _____
ID _____	Lot # _____
ID _____	Lot # _____
ID _____	Lot # _____

PLEASE RETURN ALL COOLERS FOR RQ-2016-05-16-13