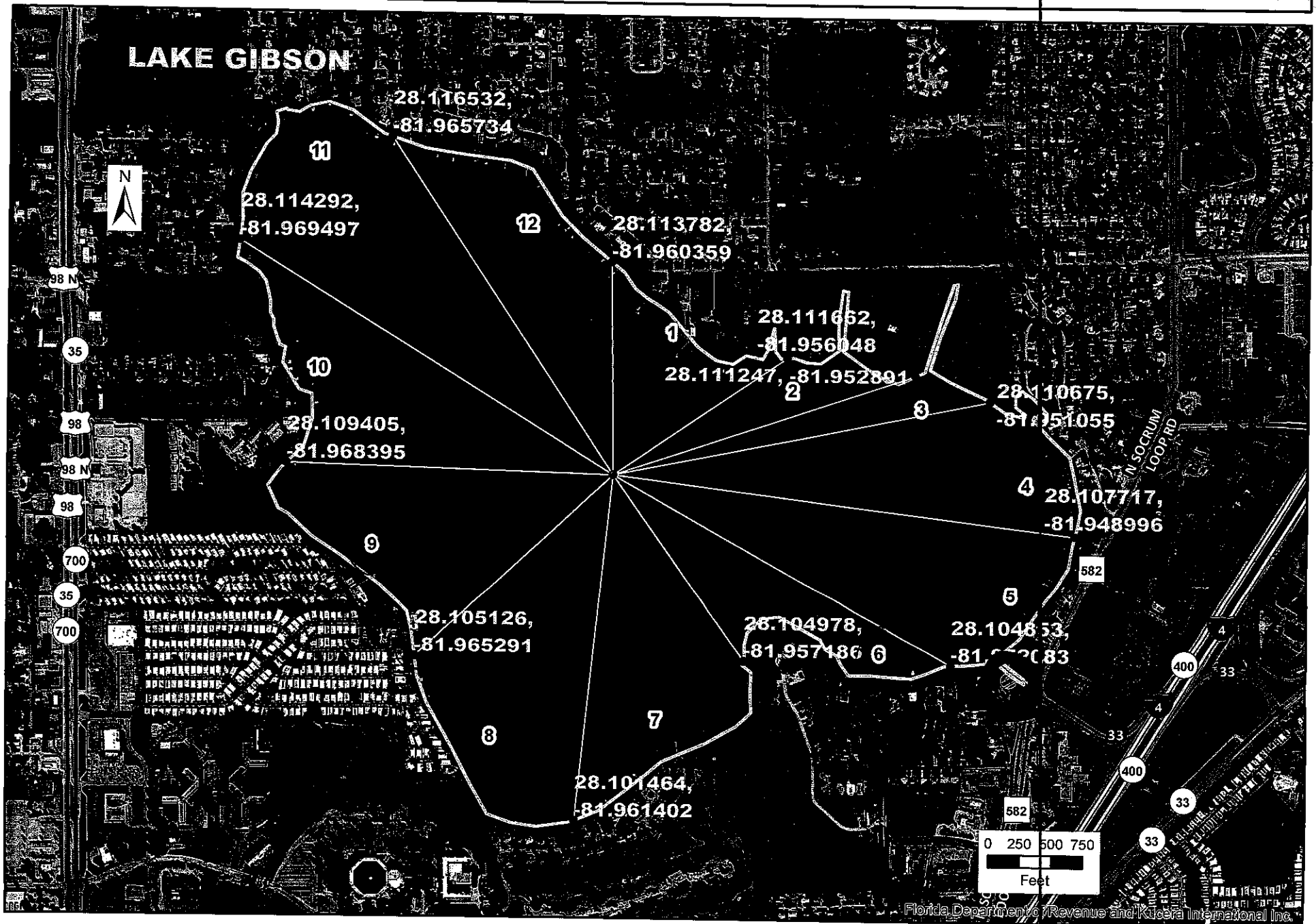


(Initials/Date)

LVI Map for , WBID 1497D



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

STORET STATION NUMBER: SEE STICKER UPPER RIGHT	LAKE SIZE: <u>Big</u>	LAKE NAME: <u>Lake Gibson</u>		FIELD ID / NAME: PUT STICKER ^
ECO-REGION:	COUNTY: <u>Dolk</u>	SAMPLING LOCATION/DESCRIPTION:		
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 ☐
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>4</u>	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 <u>8</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 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 <u>8</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
Bottom Substrate Quality <u>16</u>	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 <u>12</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) 5 4 3 2 1
Upland Buffer Zone <u>5</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
Adverse Watershed Land Use <u>12</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 14 13 12 11 10 9 8 7 6 5 4 3 2 1			

TOTAL
SCORE6559

COMMENTS:

ANALYSIS DATE:

5/4/19

ANALYST:

Ben Paswater

SIGNATURE:

Ben Paswater

DEP FORM FD 9000-31: LAKE OBSERVATION FIELD SHEET

Field ID/WIN

G3SW0046

SAMPLE ID: see sticker in upper right MACROPHYTE ID: 11379
 COUNTY: Polk WBID: 1497D
 LAKE SIZE: _____ TIME: 1300
 SAMPLING AGENCY: FLDEP SW ROC

Site Name: Lake Gibson @ Center

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> </u>	<u> </u>	<u>20</u>	<u>20</u>	<u>60</u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>													
Local Watershed Erosion (select one): ☐ None ☒ Slight ☐ Moderate ☐ Heavy										Artificially Impounded: ☐ Yes ☒ No											
Local Watershed NPS Pollution: ☐ No evidence ☒ Slight ☐ Moderate ☐ Heavy										Land Use Source & Year: _____											
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>8</u>		20	19	18	17	16	15	14	13	12	11	10	9	<u>8</u>	7	6	5	4	3	2	1
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>12</u>		20	19	18	17	16	15	14	13	<u>12</u>	11	10	9	8	7	6	5	4	3	2	1
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>5</u>		20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	<u>5</u>	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: Top: <u>0.3</u> <u>27.3</u> <u>8.85</u> <u>7.44</u> <u>93.9</u> <u>203.1</u> <u>0.09</u> Mid-Depth: _____ Bottom: <u>1.8</u> <u>27.1</u> <u>8.63</u> <u>6.84</u> <u>86.1</u> <u>204.2</u> <u>0.10</u>							Water Surface Oils: ☒ None ☐ Sheen/Slick ☐ Glob ☐ Other _____						
Meter ID: <u>Snork</u>							Clarity: ☐ Clear ☒ Slightly Turbid ☐ Opaque ☐ Turbid						
Sediment Type: (may check more than one) ☐ Sandy ☒ Organic fibrous (peaty, CPOM) ☐ Vegetated ☒ Sand/Silt ☐ Organic smooth (muck) ☐ Other (Specify): _____							Color: ☒ Clear ☐ Tannic ☒ Green SECCHI (M) <u>0.4</u> Total Station Depth (M) <u>2.3</u> VOB ☐						
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							Sediment Odors: ☒ Normal ☐ Anaerobic ☐ Other (Specify): _____						
Abundance: Absent Rare Common Abundant Periphyton ☐ ☒ ☐ ☐ Nuisance Plants ☐ ☐ ☐ ☒ Submersed Plants ☐ ☒ ☐ ☐ Exotic Apple Snails ☐ ☒ ☐ ☐							Additional Notes:						
Weather Conditions:													
SAMPLING TEAM: <u>Ben Paswater Sara Myer</u> <u>John Barrington</u>							SIGNATURE: <u>Ben Paswater</u>						
DATE: <u>5/14/19</u>													



Lake Vegetation Index Data Sheet (06-21-11)

Site Name: Lake Gibson @ Center

County:

folk

Date: _____

5/14/19

Signature:

Aspen

STORET:

required. *Genera that may require lab verification*

Lake units sampled
(circle one group):

1, 4, 7, 10	2, 5, 8, 11
-------------	-------------

3, 6, 9, 12

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.

SPECIES	6	9	12	3	Collected? (✓)
Acer rubrum	✓	✓	✓	✓	
Alternanthera philoxeroides	✓	✓	✓	✓	
Andropogon sp.					
Azolla filiculoides (A. caroliniana)					
Baccharis sp.					
Bacopa caroliniana					
Bacopa monnieri					
Bidens laevis					
Bidens mitis					
Blechnum serrulatum					
Boehmeria cylindrica					
Brasenia schreberi					
Cabomba caroliniana	✓				
Casuarina equisetifolia	✓				
Centella asiatica	✓	✓		✓	
Cephalanthus occidentalis	✓	✓		✓	
Ceratophyllum demersum					
Chara sp.					
Cladium jamaicense					
Cliftonia monophylla	✓	✓	✓		
Colocasia esculenta	✓	✓	✓		
*Commelina					
Crinum americanum				✓	
*Cyperus alternifolius (C. involucratus)					
Cyperus articulatus					
Cyperus haspan					
*Cyperus lecontei					
*Cyperus polystachyos					
*Cyperus odoratus					
*Cyperus surinamensis					
Cyrilla racemiflora					
Decodon verticillatus					
Diodia virginiana					
*Echinochloa crus-galli					
*Echinochloa muricatum	✓				
Echinochloa walteri	✓				
Eclipta prostrata (E. alba)					
Egeria densa					
Eichhornia crassipes					
*Eleocharis baldwinii					
*Eleocharis					
Eleocharis cellulosa					
Eleocharis equisetoides					
Eleocharis interstincta					
*Eriocaulon compressum					
*Eriocaulon decangulare					
Eupatorium capillifolium					
*Fuirena					
Fuirena scirpoidea	✓				
Gordonia lasianthus					
Habenaria repens					
Hydrilla verticillata					
Hydrocotyle sp.					
Hygrophila polysperma					
*Hypericum fasciculatum					
*Hypericum hypericoides					
*Hypericum myrtifolium					
Ilex cassine					
Ipomoea aquatica					
Ipomoea sagittata					
Itea virginica					
Juncus effusus					
*Juncus marginatus					
*Juncus megacephalus					
Juncus repens					
*Juncus scirpoides					
Lachnanthes caroliniana					
Leersia hexandra					
Landoltia punctata (Spirodela punctata)					
Lemna sp.					
Leucothoe racemosa (Eubotrys racemosa)					
Limnobium spongia					
Limnophila sessiliflora					
Liquidambar styraciflua					
*Ludwigia arcuata					
*Ludwigia leptocarpa					
*Ludwigia linearis					
*Ludwigia octovalvis					
*Ludwigia peruviana					
*Ludwigia repens					
*Ludwigia					
Luziola fluitans (Hydrochloa carolinensis)					
Lyonia lucida					
Magnolia virginiana					
Mayaca fluviatilis					
Melaleuca quinquenervia					
Micranthemum glomeratum					
Micranthemum umbrosum					
Mikania scandens					
Mimosa pigra					
Myrica cerifera					
CAREX					

Site: Lake Gibson					Date: 05/14/2019						
SPECIES	6	9	12	3	Collected? (✓)	SPECIES	6	9	12	3	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 (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						2c Rumex				✓	✓
*Rhynchospora inundata											
Rhynchospora tracyi											
Ricciocarpus natans											
Sabal palmetto											
Sacciolepis striata	✓			✓							
*Sagittaria filiformis											
*Sagittaria graminea											
*Sagittaria isoetiformis											
Sagittaria lancifolia	✓			✓							
Sagittaria latifolia	✓			✓							

12 Co Nuphar + Typha

3 Co Nuphar

Request Number: RQ-2019-05-20-04

Florida Department of Environmental Protection

Page 1 of 2

last revised Jan 25, 2018

Central Laboratory Submittal Form

~~Lakes, Harvey, Williams, Amistead~~

Customer: SW-DIST

Requester: Benjamin Paswater

Field Report Prepared By:

Project ID: SMP

Collected By:

Sampling Agency:

Location		☐ Comp ☒ Grab	Collection (comp begin or grab) Date 5/14/19 Time 1150		Eastern Central	Composite end Date	Time	Bottle Group(s) (See pg 2)
Field ID/WIN G3SW0044		Matrix (type, e.g., Salt, Fresh, etc)		Diss. Oxygen	☒ mg/L ☐ % sat	Total Res. Chlorine (mg/L)		A
Site Name: Lake Conine @ Center		Temp (C) 27.8	pH 8.04	Sample Depth 0.3	☐ ft ☒ m	Sp. Conductance (umho/cm) 233.2		
☐ dms		☐ dd Salinity (ppt)		Comments				
Location		☐ Comp ☒ Grab	Collection (comp begin or grab) Date 5/14/19 Time 1005		Eastern Central	Composite end Date	Time	Bottle Group(s)
Field ID/WIN G3SW0048		Matrix (type, e.g., Salt, Fresh, etc)		Diss. Oxygen	☒ mg/L ☐ % sat	Total Res. Chlorine (mg/L)		A
Site Name: Lake Henry @ Center		Temp (C) 27.86	pH 7.43	Sample Depth 0.3	☐ ft ☒ m	Sp. Conductance (umho/cm) 188		
☐ dms		☐ dd Salinity (ppt)		Comments				
Location		☐ Comp ☒ Grab	Collection (comp begin or grab) Date 5/14/19 Time 1300		Eastern Central	Composite end Date	Time	Bottle Group(s)
Field ID/WIN G3SW0046		Matrix (type, e.g., Salt, Fresh, etc)		Diss. Oxygen	☒ mg/L ☐ % sat	Total Res. Chlorine (mg/L)		A
Site Name: Lake Gibson @ Center		Temp (C) 27.3	pH 8.85	Sample Depth 0.3	☐ ft ☒ m	Sp. Conductance (umho/cm) 203.1		
☐ dms		☐ dd Salinity (ppt)		Comments				
Location		☐ Comp ☒ Grab	Collection (comp begin or grab) Date		Eastern Central	Composite end Date	Time	Bottle Group(s)
Field ID		Matrix (type, e.g., Salt, Fresh, etc)		Diss. Oxygen	☐ mg/L ☐ % sat	Total Res. Chlorine (mg/L)		
WIN/STORET #		Temp (C)	pH	Sample Depth	☐ ft ☐ m	Sp. Conductance (umho/cm)		
Latitude		☐ dd ☐ dms	Longitude	☐ dd ☐ dms	Salinity (ppt)		Comments	

Relinquished By: Ben Paswater	Date/Time 5/14/19	Shipping Method Fed Ex	Number of Coolers Shipped:	Received By:	Date/Time
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Cooler Packing Worksheet for Request: RQ-2019-05-13-68

Lake Fest 19

Ship Cooler On: 5/9/2019

Customer/Project: SW-DIST/LAKESREF

Assigned To: REYNOLDS_T

Requester: Benjamin Paswater

Priority: 3

813-632-7600
FL Dept. of Environmental Protection
13051 N. Telecom Parkway
Temple Terrace, FL 33637-0926

Attn: Ben Paswater

Comments:

No preservatives needed.

Group A: Nutrients, Metals, Phytoplankton

Requested Analyses:

Bottle Group: A

of Sites: 2

Container ID: P-1L

Qty: 2 Preservation: ICE

Lot # 00073319

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 using a maximum of 250 mL of sample

Container ID: BP-1L

Qty: 2 Preservation: ICE

Lot # 1248230

Description: Brown Plastic Bottle 1L

Analysis

CHLSUITE-W

Description

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

Container ID: BP-1L

Qty: 2 Preservation: Lugols

Lot # 1748230

Description: Brown Plastic Bottle 1L

Analysis

DTY-QN-C

PKD-QN-C

Description

No. of diatom taxa of quantitative phytoplankton sample.

No. of wet taxa of quantitative phytoplankton sample.

Container ID: P-500ML

Qty: 2 Preservation: HNO3

Lot # 00073297

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: 2 Preservation: ICE And H2SO4

Lot # 00073297

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: FILTER-ICE

Lot # 00072954

Description: Plastic Bottle 125 mL

Analysis

W²PO4-F

Description

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

Cooler Packed By: Tyler R.

Number of Coolers: 1

Date: 05/08/19

Kit must also include:

- ☒ Field Sheets
- ☒ Temperature Control Bottle
- ☒ FedEx Bills, if applicable
- ☒ Plastic Bags/Zip Ties
- ☒ Acid Labels (sets of 24)

If Preservation Included:

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

PLEASE RETURN ALL COOLERS FOR RQ-2019-05-13-68