



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

STRATEGIC MONITORING PLAN Field Sheet

July 2022

Meter
Passed End
of Day CCV

Yes ☒ No ☐

WIN Station Name:		LITTLE DEER LAKE				Sample Date:		6/7/2023	
WIN / Field ID:	G3NW0220	ORG ID:	21FLPNS	ENR:	-	Latitude:	30.30514		
County:	WALTON	WBID:	1040B	LAKE		Longitude:	-86.08633		
Receiving Body of Water:		Deer Lake				RQ-	2023-06-05-62		

Sampling Team Members	WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check
Frank Butera	x	x	x		
Lauren McNally		x		x	x

Sampling Equipment			
x	Sample Container		Carboy
	Dipper		Van Dorn
	Syringe		Pole
Syringe Lot# 1363514		Filter Lot# 17460495	
Secchi Equipment ID:		Secchi -1	
Collection Method			
	Wading	x	Canoe/Kayak
	From Shore		Electric Motor
			Gasoline Motor
Depth Measured With		Meter	

Water Level:	Normal
Flow:	NA
Matrix:	Fresh
Tide Stage:	
High Tide:	
Low Tide:	
Photos:	Yes
Meter ID:	155077 (ProDSS)
Depth Gauge ID:	depth_gauge

Time Zone	Time	Total Depth (m)	Sample Depth (m)	DO (mg/L)	DO (%SAT)	Temp. (°C)	pH	Secchi Disk (m)	Sp COND (µmhos/cm)	Salinity (PPTth)
CEN	1132	1.6	0.3	5.99	77.5	28.6	6.65	1.6	164	0.08
	1137		1.1	4.1	52.2	27.5	6.51	VOB (s)	163.3	0.08

Biological Samples Collected:		HA LVI	
SBIO Visit ID: 86951	HA ID: 18498	RPS ID: N/A	Macrophyte ID: 12448
LIMS Sample ID Entered Into The Macrophyte Module:		2416171	

Parameter Suite	Parameter Methods (LIMS Test Codes)	Preservation				
		Type	Lot#	Expiration Date	pH Check	
Microbiology						
Chlorophyll	CHLSUITE-W	ICE				
Physical/Aggregate Nutrients	ALKALINITY, TURBIDITY, W-F, W-TSS W-CL-IC, W-COLOR, W-SO4-IC, W-TDS	ICE				
Filtered Nutrients	W-PO4-F Field Filtered 0.45 µm Filter	ICE	Syring Lot#:1363514; Filter Lot#:17460495			
Acid Preserved Nutrients	W-NH3 / W-NO2NO3 / W-TKN / W-TOC / W-S-A-TP	ICE	H2SO4*	SA3013020	01/25/2024	H2SO4 pH<2
Metals	W-ICPMS W-ICP W-HARD	ICE	HNO3**	NA2230040	09/01/2023	HNO3 pH<2
Organics (LC)	W-E8321-MS					
Macroinvertebrates						
Organics (GC)	W-PSNP-TQ W-TR-SQ-R	Ice	*2.0 ml of H2SO4 Used Unless Noted Otherwise **2.0 ml of HNO3 Used Unless Noted Otherwise			
Molecular						
Periphyton						
Phytoplankton						
BOD						
DOC						
Other(s)		SyringLot#		FilterLot#		
Field Comments:						
Comments on COC:						
Relinquish Date:	06/07/2023	Signature:				

LIMS EVENT ID: WIN Import ID:

Enter Field Parameters, Verify Station ID In LIMS DMT: QC Station ID, Field Parameters In LIMS DMT:

(Initials/Date)

(Initials/Date)

Save Field Sheets on Network: Migrate Data to WIN:

(Initials/Date)

(Initials/Date)

Site Name Little Deer Lake

Date: 06/07/2023

WIN-ID G3NW0220

Field ID G3NW0220

Project: SMP / TMDL Studies

Visit ID 86951

RQ: 2023-06-05-62

Macro ID 12448

LIMS ID: 2416171

HA ID 18498

WBID: 1040B

☒ LVI

☒ Sample Site Created in SBIO

☒ Phys/Chem entered in SBIO

☒ HA entered in SBIO Initial FB, 6/8/23

☒ Date and Initial QA: 8/1/23 FB HA Score 115

☒ LVI entered in SBIO Initial FB, 6/8/23

☒ Date and Initial QA: 8/1/23 BO

☒ Plants getting verified

☐ Date submitted: 06/07/2023 (Fed Ex)

☐ Plants verified

☐ Date returned: _____

☒ Macro ID authorized in SBIO

☒ Date and Initial: 8/15/23 FB

☒ Macro ID score: 75

☒ If SMP, scanned into database

Notes:

SAMPLE ID: <u>B6951</u>		MACROPHYTE ID: <u>12448</u>		LATITUDE: <u>N 30.30514</u>	
COUNTY: <u>Santa Rosa Beach, Walton</u>		STORET #: <u>G3NW0220</u>		LONGITUDE: <u>W -86.08633</u>	
DATE: <u>06/07/2023</u>		TIME: <u>11:32</u>		SAMPLING AGENCY: <u>FL DEP - NWROC</u>	
SITE NAME: <u>LittleDeer Lake</u>				WBID: <u>1040B</u>	
FIELD ID/NAME: <u>G3NW0220</u>				LAKE SIZE: <u>11.1</u> RQ: <u>2023-06-05-62</u>	
WATERSHED / LAKESIDE FEATURES Project: SMP / TMDL Studies				LIMS ID: <u>2416171</u>	

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
☐	☐	☐	☐	☐	☐
				LDI: <u>4.0</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: SBIO Storet <u>29664. 2006</u>	
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	
<u>17</u>		20 19 18 <u>17</u> 16		15 14 13 12 11	
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)	
<u>13</u>		20 19 18 17 16		15 14 <u>13</u> 12 11	
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	
<u>16</u>		20 19 18 17 <u>16</u>		15 14 13 12 11	
				10 9 8 7 6	
				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 _____ Water Surface Oils: ☐ None ☒ Sheen/Slick ☐ Glob ☐ 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>28.6</u> <u>6.05</u> <u>5.99</u> <u>77.5</u> <u>164</u> <u>0.8</u> Mid-Depth: _____ Bottom: <u>1.1</u> <u>27.5</u> <u>6.01</u> <u>4.1</u> <u>52.2</u> <u>1633</u> <u>0.8</u> Meter ID: <u>1055 1550 77</u>				Clarity: ☒ Clear ☐ Opaque ☐ Turbid ☐ Slightly Turbid Color: ☐ Clear ☒ Tannic ☐ Green SECCHI (M) <u>1.6</u> Total Station Depth (M) <u>1.6</u> VOB ☒			
Sediment Type: (may check more than one) ☐ Sandy ☒ Organic fibrous (peaty, CPOM) ☒ Sand/Silt ☐ Organic smooth (muck)				Sediment Odors: ☒ Normal ☐ Anaerobic ☐ Other (Specify): _____ Sample Taken? ☐ Yes ☒ No Vegetated ☒ Other (Specify): <u>Fe Sulfur</u>			
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: <u>Sunny HOT</u>				Additional Notes: <u>Very Shallow Not able to access Eastern edge of lake</u>			
SAMPLING TEAM: Frank Butera, <u>Lauren McNally</u>				SIGNATURE: <u>Frank Butera</u> DATE: <u>6/07/2023</u>			

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

STORET STATION NUMBER: G3NW0220	DATE (M/D/Y) 6/7/23	LAKE NAME Little Deer Lake		FIELD ID / NAME G3NW0220	
WBID: 1040B	COUNTY: Walton (Santa Rosa Beach)	SAMPLING LOCATION/DESCRIPTION: Access at Lakeside Drive (Private Property)		LAKE SIZE: 11.1 acres	
PARAMETER HYDROLOGY	No surface inflow or outflow present, very long water residence time, groundwater seepage dominates ☒ (18)	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	
Secchi	Secchi > 3 m Or VOB 20 19 18 17 16	3 2.6 2.2 1.8 1.4	1.0 0.9 0.8 0.7 0.6	0.5 0.4 0.3 0.2 0.1	
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				
TOTAL SCORE		115			
COMMENTS:					

ANALYSIS DATE: 6/7/2023	ANALYST: Frank Butera	SIGNATURE: 
--------------------------------	------------------------------	--

SBIO Sample ID: **86951**

HA ID: **181998**

QC✓: _____

DEP FORM FD 9000-27 LAKE VEGETATION INDEX FIELD SHEET

Waterbody: Little Deer Lake					County: Walton (Santa Rosa Beach)					Date: 4/7/2013				
Analyst: F. Butera, L					Signature: [Signature]					STORET: G3NW0220				
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				
SBIO ID: 86951	1	4	7	10	Collect ed? (✓)	Macro ID: 12448	1	4	7	10	Collect ed? (✓)			
SPECIES						SPECIES								
Acer rubrum						Habenaria repens								
Alternanthera philoxeroides						Hydrilla verticillata								
Andropogon sp.						Hydrocotyle sp.			1	1				
Azolla filiculoides (A. caroliniana)						Hygrophila polysperma								
Baccharis sp.						*Hypericum fasciculatum								
Bacopa caroliniana						*Hypericum hypericoides								
Bacopa monnieri						*Hypericum myrtifolium								
Bidens laevis						Ilex cassine								
Bidens mitis			1	1		Ipomoea aquatica								
Blechnum serrulatum						Ipomoea sagittata								
Boehmeria cylindrica						Itea virginica								
Brasenia schreberi						Juncus effusus								
Cabomba caroliniana						*Juncus marginatus								
Casuarina equisetifolia						*Juncus megacephalus								
Centella asiatica			1	1		Juncus repens								
Cephalanthus occidentalis						*Juncus scirpoides								
Ceratophyllum demersum						Lachnanthes caroliniana			1					
Chara sp.						Leersia hexandra								
Cladium jamaicense				1		Landoltia punctata (Spiro. punctata)								
Cliftonia monophylla						Lemna sp.								
Colocasia esculenta						Leucothoe racemosa (E. racemosa)								
*Commelina						Limnium spongia								
Crinum americanum						Limnophila sessiliflora								
*Cyperus alternifolius (C. involucratus)						Liquidambar styraciflua								
Cyperus articulatus SB			1			*Ludwigia arcuata								
Cyperus haspan						*Ludwigia leptocarpa								
*Cyperus lecontei						*Ludwigia linearis								
*Cyperus polystachyos						*Ludwigia octovalvis								
*Cyperus odoratus						*Ludwigia peruviana								
*Cyperus surinamensis						*Ludwigia repens								
Cyrilla racemiflora		1	1	1		*Ludwigia								
Decodon verticillatus						Luziola fluitans (H. 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 elongata			1	1		Myrica cerifera			1	1				
Eleocharis cellulosa						Hyper. brach								
Eleocharis equisetoides						Hymenocallis								
Eleocharis interstincta														
*Eriocaulon compressum			1	1										
*Eriocaulon decangulare														
Eupatorium capillifolium														
*Fuirena														
Fuirena scirpoidea		1	1	1										
Gordonia lasianthus														
LIMS ID: 241671														

FORM FD 9000-27: LAKE VEGETATION INDEX FIELD SHEET

[illegible]

Station: Little Deer Lake
 GPS Dec. 30.30514 x -86.08633
 Storet: G4NW0220 WBID 1040B
 Sample ID: 86951 Vascular ID: 12448
 RQ-2023-06-05-62

Sampled : 06/07/2023
 Sampled By: F.Butera, L. McNally
 Location: Santa Rosa Beach, Walton County
 Receiving Waters: Deer Lake; Gulf of Mexico
 LIMS ID: 2416171

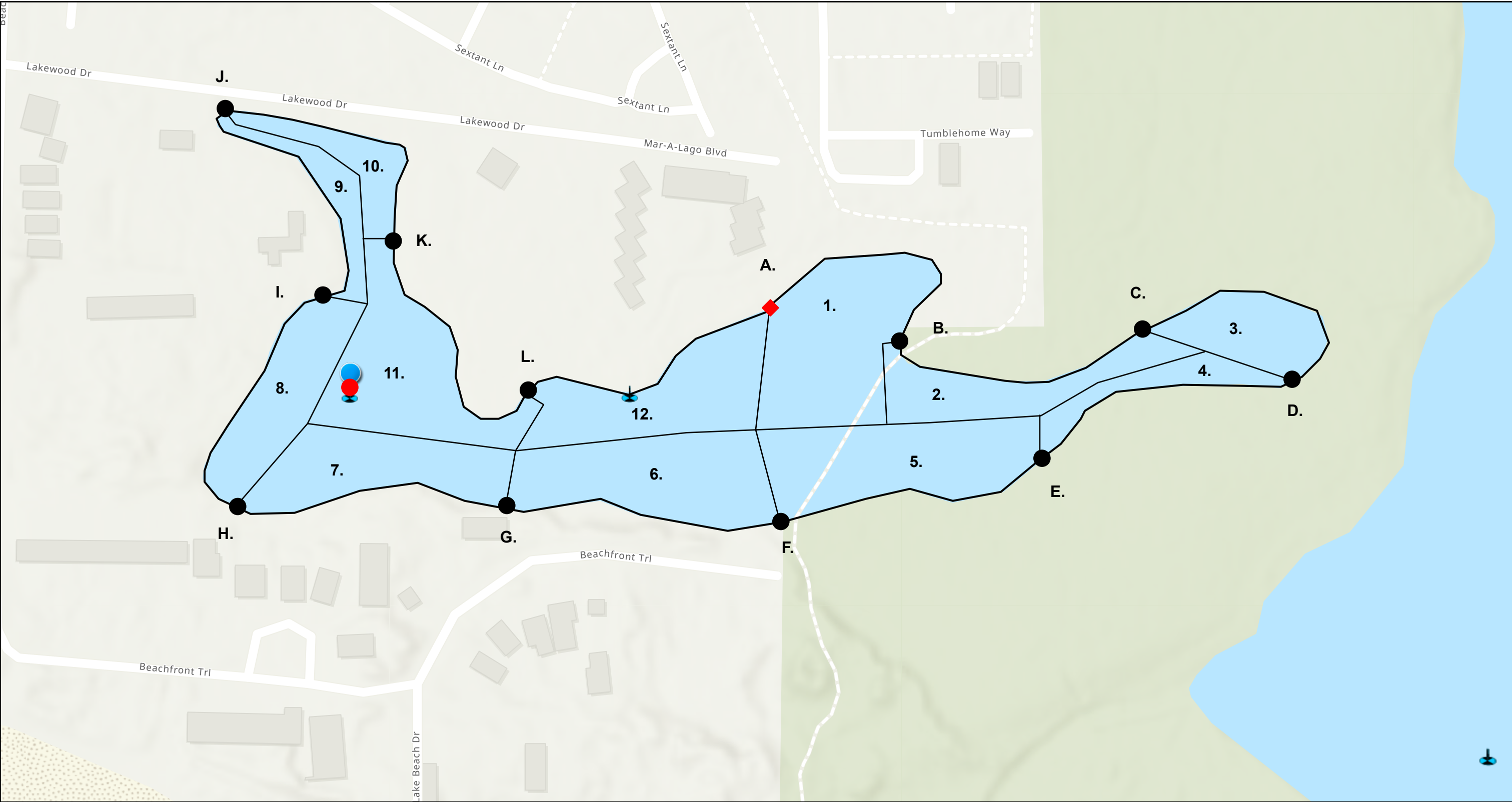
	Taxa	1	4	7	10	Coll.	Verified
1	<i>Bidens mitis</i>		1		1		
2	<i>Centella asiatica</i>			1	1		
3	<i>Cladium jamaicense</i>				1		
4	<i>Cyperus</i> sp.		1				
5	<i>Cyrilla racemiflora</i>	1	1	1	1		
6	<i>Eleocharis baldwinii</i>	1	1	1	1		
7	<i>Eleocharis elongata</i>	C	C	C	1	Y	AO
8	<i>Eleocharis equisetoides</i>				1		
9	<i>Eriocaulon compressum</i>		1		1		
10	<i>Fuirena scirpoidea</i>	1	1	1	1		
11	<i>Hydrocotyle</i> sp.			1	1		
12	<i>Hymenocallis</i> sp.			1		Y	FB
13	<i>Hypericum brachyphyllum</i>	1		1	1		
14	<i>Lachnanthes caroliana</i>		1				
15	<i>Myrica cerifera</i>			1			
16	<i>Nymphaea odorata</i>	1	1	1	C	Y	FB
17	<i>Nymphoides aquatica</i>	1	1				
18	<i>Panicum hemitomon</i>	1	1	1	1		
19	<i>Panicum repens</i>			1	1		
20	<i>Pinus elliotii</i> (Slash)		1				
21	<i>Utricularia floridana</i>	C	C	C	C		
22	<i>Utricularia resupinata</i>	1	1	1			
23	<i>Xyris</i> sp.			1	1		
	Taxa per section	9	13	15	14	Herb. Taxa	20
	Exotic Present	8	14	15	15	Woody Taxa	3
	Avg. taxa per section	13				Ferns	0
	sections with exotics	2				Macro Algae	0
	Exotic Taxa	1	Exotics per Section: 0.5			Total Taxa	23

Seen but not counted (Not approp. For LVI or Not in surveyed segment)

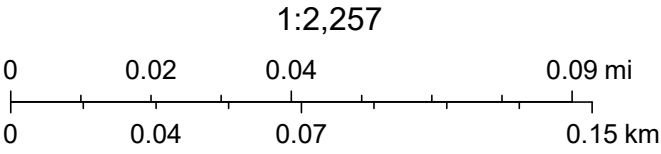
Taxon	Section	Section	Section	Section	Exclusion
<i>Cliftonia monophylla</i>			9		Unsurveyed section
<i>Quercus nigra</i>		6			Unsurveyed section

Metric	Rep. 1	Rep. 2	Rep. 3	Rep. 4	LVI Average
LVI 2012	80	73	67	81	75
Native Percentage	100	92.86	93.33	93.75	94.99
FLEPPC Pct (Exotic)	0	0	6.67	6.25	3.23
Total Taxa	10	14	15	16	23
C of C over 7.0	10	7.14	6.67	25	12.20
Dominant Taxa	U. floridana, E. elongata	U. floridana, E. elongata	U. floridana, E. elongata	U. floridana, N. odorata	U. floridana, E. elongata, N. odorata
C of C Dominant	6.655	6.655	6.655	5.67	6.41

G3NW0220. Little Deer Lake



June 2, 2022
STORET Stations
 Lake



FDEP, DEAR, Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user community, Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Little Deer Lake

WIN ID G3NW0220
Receiving Water Little Deer Lake
Basin / WBID St. Andrews Bay / 1040B
City, County Santa Rosa Beach, Walton
Lake Acreage 11.1 acres / 4.49 Hectares
Circumference (M) 1712
Seg. Length (M) 143

Section	Location	Dec. Latt.	Dec. Long.
11	Storet	30.30514	-86.08633
1	A	30.30511	-86.08408
	B	30.30536	-86.08338
	C	30.30541	-86.08208
4	D	30.30518	-86.08128
	E	30.30481	-86.08262
	F	30.30452	-86.08402
7	G	30.30460	-86.08549
	H	30.30459	-86.08693
	I	30.30557	-86.08648
10	J	30.30643	-86.08700
	K	30.30582	-86.08610
	L	30.30513	-86.08538
	A	30.30551	-86.08408

Dune Lakes LVI		WBID	Kit	Qty	Bottle Group	Bottles
Little Deer Lake	G3NW0220	1040B	Nutrients w/ PO4	1	A	3
			Ortho-Phosphate			1
			Metals			1
			Pesticides: E8321-MS/DI			1
			PNSP-TQ-R, TR-SQ-R			4
			HA	1	B	-
			LVI	1		-
Lake Tresca G3NW0008	1040 C	Nutrients w/ PO4	1	A	3	
		Ortho-Phosphate			1	
		Metals			1	
		Pesticides: E8321-MS/DI			1	
		PNSP-TQ-R, TR-SQ-R			2	
		HA	1	B	-	
		LVI	1		-	
RQ-2023-06-05-62						
NEED PICS						

Field ID	WBID	WIN Description	County	Lat Long
G3NW0220	1040B	Little Deer Lake	Walton	30.30514, -86.08633
G3NW0008	1040C	Lake Tresca	Walton	30.3071, -86.0908

Test	Lot #	Expiration date:
E. coli bottle	L21347*...350	1/13/2025
Sulfuric Acid	SA3013020	1/25/2024
Nitric Acid	NA2230040	9/1/2023
Syringe	1363514	-
PO4 Filter	17460495	-

Dune Lakes LVI	
Notes (access, boat ramp, etc.)	
G3NW0220	Needs Pics
G3NW0008	Needs Pics. Access from Lakeside Dr.? Unable to perform LVI, no access for canoe.

Field ID	TIME	Conductivity	pH	DO mg-L / Temp.
G3NW0220				
G3NW0008				
RQ-2023-06-05-62		NEED PICS		