

**FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION**

STRATEGIC MONITORING PLAN Field Sheet

July 2022

Meter
Passed End
of Day CCVYes ☒ No ☐

WIN Station Name:		COLEMAN LAKE				Sample Date:		6/14/2023	
WIN / Field ID:		G3NW0216		ORG ID:		21FLPNS		ENR: -	
County:		OKALOOSA		WBID:		906B		LAKE	
Receiving Body of Water:		Joels Bayou				RQ-		2023-06-12-63	
Latitude:		30.40236							
Longitude:		-86.48002							

Sampling Team Members	WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check
Frank Butera	x	x	x		
Hannah Henning		x		x	x

Sampling Equipment			
x	Sample Container		Carboy
	Dipper		Van Dorn
x	Syringe		Pole
Syringe Lot# 1363514		Filter Lot# 17460495	
Secchi Equipment ID:		Secchi - 2	
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:	Trend YSI
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 (PPT)
CEN	1230	1.5	0.3	10.24	136.6	29.6	9.44	0.3	196.8	0.09
	1246		1	1.88	24.1	28.4	7.16		192.8	0.09

Biological Samples Collected:		HA LVI	
SBIO Visit ID: 87386		HA ID: 18564	RPS ID: N/A
Macrophyte ID: 12501		LIMS Sample ID Entered Into The Macrophyte Module: 2417555	

Parameter Suite	Parameter Methods (LIMS Test Codes)	Preservation							
		Type	Lot#	Expiration Date	pH Check				
Microbiology									
Chlorophyll	CHLSUITE-W	ICE							
Physical/Aggregate	ALKALINITY, TURBIDITY, W-F, W-TSS	ICE							
Nutrients	W-CL-IC, W-COLOR, W-SO4-IC, W-TDS	ICE							
Filtered Nutrients	W-PO4-F	Field Filtered 0.45 µm Filter	ICE	Syringe Lot#:1363514; Filter Lot#:17460495					
Acid Preserved Nutrients	W-NH3 / W-NO2NO3 / W-TKN / W-TOC / W-S-A-TP	ICE	H2SO4*	SA2299040	11/24/2023				
Metals	W-ICPMS	W-ICP	W-HARD	ICE	HNO3**	NA2230040	09/01/2023	H2SO4 pH<2	HNO3 pH<2
Organics (LC)	W-E8321-DI	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				SyringeLot#		FilterLot#			
Other(s)									
Field Comments:	Algae Bloom! Hot								
Comments on COC:									
Relinquish Date:	06/14/2023	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 Coleman Lake

Date: 06/14/2023

WIN-ID G3NW0216

Field ID G3NW0216

Project: SMP/TMDL Studies

Visit ID 87386

RQ: 2023-06-12-63

Macro ID 12501

LIMS ID: 2417555

HA ID 18564

WBID: 906B

☒ LVI

☒ Sample Site Created in SBIO

☒ Phys/Chem in SBIO Initial FB

☒ Date and Initial QA: 8/1/23 BO

☒ HA entered in SBIO Initial FB

☒ Date and Initial QA: 8/1/23 BO HA Score 24

☒ LVI entered in SBIO Initial FB

☒ Date and Initial QA: 8/1/23 BO

☒ Plants getting verified

☒ Date submitted: 6/14/23

☒ Plants verified

☒ Date returned: 6/15/23

☒ Macro ID authorized in SBIO

☒ Date and Initial: 8/15/23 FB

☒ Macro ID score: 5

☒ If SMP, scanned into database

Notes:

DEP FORM FD 9000-31: LAKE OBSERVATION FIELD SHEET

SAMPLE ID: 87386 MACROPHYTE ID: 12501 LATITUDE: N 30-30710 30.40236
 COUNTY: Walton (Santa Rosa Beach) STORET #: G3NW0008 G3NW0216 LONGITUDE: W 86-0908 86.48003
 DATE: 6/14/2023 TIME: 12:30 (noon) SAMPLING AGENCY: FL DEP - NWROC
 SITE NAME: Tresca Lake Coleman Lake WBID: 1040C 906B/2023-06-12-63
 FIELD ID/NAME: G3NW0008 G3NW0216 LAKE SIZE: 2.9 acres RQ: 2023-05-02

WATERSHED / LAKESIDE FEATURES Project: SMP / TMDL Studies

LIMS: 2417555

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)
☐	☐	☐	☐	☒	☒	☒	☒
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>4</u>	20	19	18	17	16	15	14
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>2</u>	20	19	18	17	16	15	14
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>7</u>	20	19	18	17	16	15	14

WATER / SUBSTRATE / BIOLOGICAL: SAMPLES AND OBSERVATIONS

Water: Nutrient Sample Taken? ☒ Yes ☐ No Preserved? ☒ Yes ☐ No pH < 2 ☐ No Color Sample Taken? ☐ Yes ☐ No Lot # <u>58229040</u> Exp. Date: <u>1/04/23</u> 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>29.6</u> <u>9.44</u> <u>10.24</u> <u>136.6</u> <u>196.8</u> <u>0.09</u> Mid-Depth: _____ Bottom: <u>1.0</u> <u>23.4</u> <u>7.16</u> <u>1.88</u> <u>24.1</u> <u>192.8</u> <u>0.09</u> Meter ID: <u>TROND</u>				Clarity: ☐ Clear ☒ Opaque ☐ Turbid ☐ Slightly Turbid Color: ☐ Clear ☐ Tannic ☒ Green SECCHI (M) <u>0.3</u> Total Station Depth (M) <u>1.5</u> VOB ☐			
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: <u>Sunny. HOT. Overcast end. New construction</u> <u>Vegetative Mgmt has been suspended.</u>				Additional Notes: <u>Okaloosa County</u> <u>Destin, FL</u> <u>New Home 1/2</u> <u>Major Algae Bloom.</u>			
SAMPLING TEAM: <u>Frank Butera</u> <u>Hannah Henning</u>				SIGNATURE: <u>Frank Butera</u> DATE: <u>6/14/23</u>			

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

STORET STATION NUMBER: G3NW0008	DATE (M/D/Y) 6/14/23	LAKE NAME Fresca Lake - Clemen Lake	FIELD ID / NAME G3NW0008 G3NW0008
WBID: 10406 90613	COUNTY: Walton Okaloosa	SAMPLING LOCATION/DESCRIPTION: Coastal Dune Lake in Santa Rosa Beach.	
PARAMETER HYDROLOGY	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 ☐
Color	Very clear, uncolored water (benthic sampling appropriate) ☐	Water somewhat tannin stained (benthic sampling appropriate) ☒	Dark, discolored water (water color 20 PCU or higher) ☐
	Optimal	Suboptimal	Marginal
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
Vegetation Quality	Diverse, expected native vegetation (emergent or submersed), less than 5% nuisance taxa ☐	Mostly expected native plants, but moderate growths (6%-20% of lake) of nuisance macrophytes, or more than 50% of lake covered with plants ☐	Large masses (21%-40%) of nuisance macrophytes (e.g., Hydrilla, hyacinth, cattail, etc.) or algal mats ☐
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 ☐
Bottom Substrate Quality	Diverse mixture of sand, detritus, with small amounts of CPOM/mud/muck. SAV may be present ☐	Mixture of sand or clay and detritus with higher % CPOM/mud/muck content. SAV may be present ☐	Moderate layer of CPOM/mud/muck, or hardpacked sand only, or moderate algal growth (mats or Chara) on bottom ☐
Lakeside Adverse Human Alternations	Very few man-made structures, roads, or other disturbance adjacent to lake (<10%) ☐	Moderate disturbance visible (structures, roads or other), 10%-49% lakeside affected ☐	Many structures, roads or other human disturbance visible (50%-70%) lakeside affected ☐
Upland 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 ☐
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 ☐		
TOTAL SCORE	24		
COMMENTS:			

ANALYSIS DATE: 6/14/23

ANALYST: Frank Butera

SIGNATURE: [Signature]

SBIO Sample ID: 87386

HA ID: 18564

QC: _____

Date 6/14/23

Waterbody: Lake Fresca Coleman Lake		County: Walton		Date: 6/14/23	
Analyst: F. Butera		Signature: [Signature]		STORET: G3NW0008	
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.					
SBIO ID: 87386	2	8	8	19	Collect ed? (✓)
SPECIES					
Acer rubrum	1				
Alternanthera philoxeroides	1	D	D	C	
Andropogon sp. - Andropogon sp.					
Azolla filiculoides (A. caroliniana)					
Baccharis sp.					
Bacopa caroliniana					
Bacopa monnieri					
Bidens laevis					
Bidens mitis					
Blechnum serrulatum					
Boehmeria cylindrica	1	1	1		
Brasenia schreberi					
Cabomba caroliniana					
Casuarina equisetifolia					
Centella asiatica					
Cephalanthus occidentalis					
Ceratophyllum demersum					
Chara sp.					
Cladium jamaicense					
Cliftonia monophylla					
Colocasia esculenta	2	1	1	E	
*Commelina					
Crinum americanum					
*Cyperus alternifolius (C. involucratus)					
Cyperus articulatus					
Cyperus haspan					
*Cyperus lecontei					
*Cyperus polystachyos					
*Cyperus odoratus					
*Cyperus surinamensis					
Cyrtilla 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					
LIMS ID: 2417555					

Macro ID: 12501	2	5	8	11	Collect ed? (✓)
SPECIES					
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 (Spiro. punctata)	1	1			
Lemna sp.					
Leucothoe racemosa (E. racemosa)					
Limnobia spongia					
Limnophila sessiliflora					
Liquidambar styraciflua					
*Ludwigia arcuata					
*Ludwigia leptocarpa					
*Ludwigia linearis					
*Ludwigia octovalvis					
*Ludwigia peruviana					
*Ludwigia repens					
*Ludwigia					
Luziola fluitans (H. carolinensis)					
Lyonia lucida					
Magnolia virginiana					
Mayaca fluviatilis					
Melaleuca quinquenervia					
Micranthemum glomeratum					
Micranthemum umbrosum					
Mikania scandens	1	1			
Mimosa pigra					
Myrica cerifera	1	1	1		
Mexican water hyacinth					
Ruellia simplex					

FORM FD 9000-27: LAKE VEGETATION INDEX FIELD SHEET

SPECIES					1	4	7	10	Collect ed? (✓)	SPECIES					1	4	7	10	Collect ed? (✓)
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									
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 polyrrhiza									
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 (Sphag. trilobata)									
*Polygonum										Wolffia spp.									
Pontederia cordata										Woodwardia virginica									
*Potamogeton diversifolius																			

Station: Coleman Lake
GPS Dec. 30.40236 x -86.48003
Storet: G3NW0216 WBID 906B
Sample ID: 87386 Vascular ID: 12501
RQ-2023-06-12-63

Sampled : 06/14/2023
Sampled By: F.Butera, H. Henning
Location: Destin, Okaloosa County
Receiving Waters: Joe's Bayou
LIMS ID: 2417555

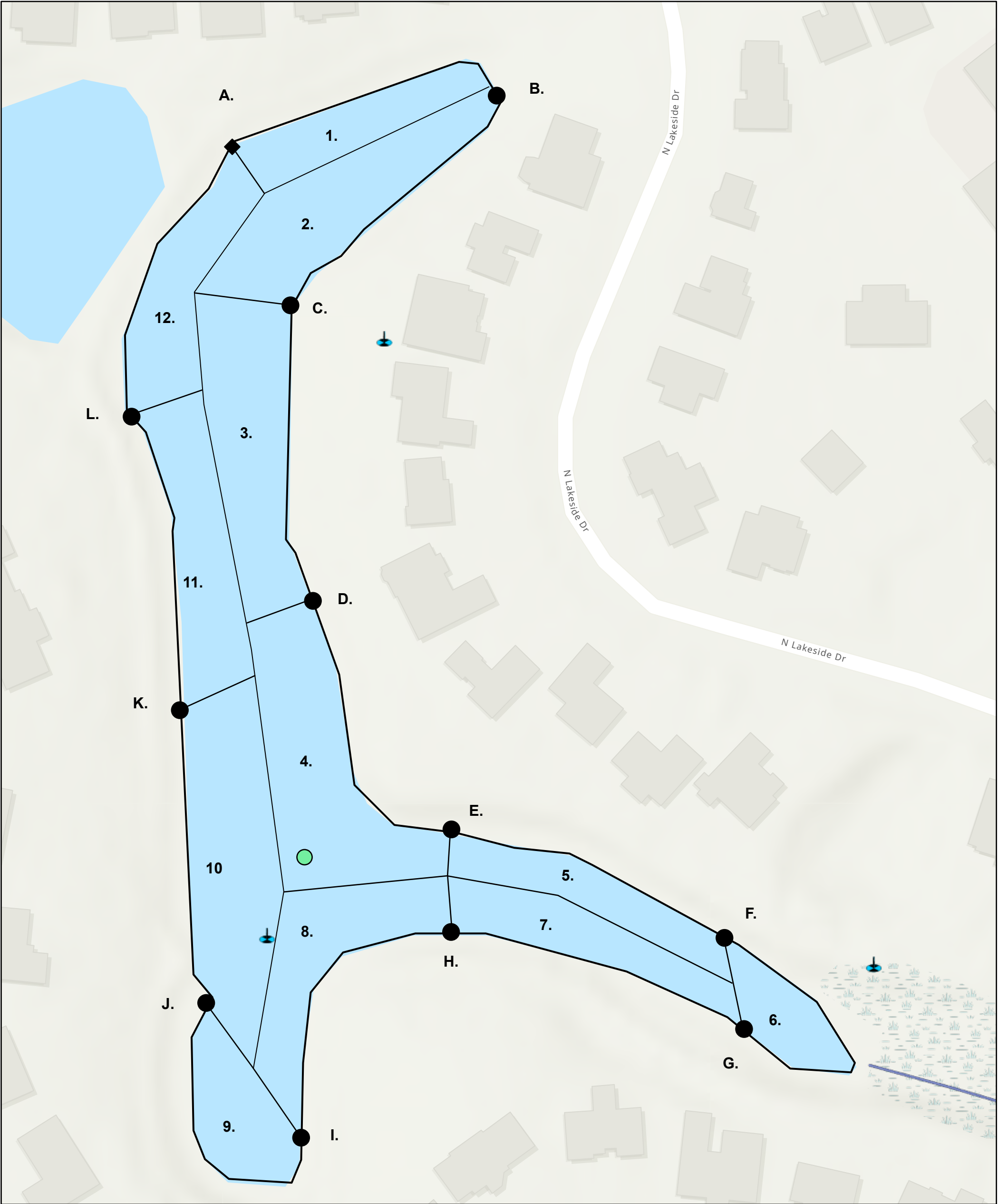
	Taxa	2	5	8	11	Coll.	Verified
1	<i>Acer rubrum</i>	1		1			
2	<i>Alternanthera philoxeroides</i>	1	D	D	C		
3	<i>Arundinaria gigantea</i>			1			
4	<i>Boehmeria cylindrica</i>	1	1	1			
5	<i>Colocasia esculenta</i>	D	1	1	C	Y	A O'Neal
6	<i>Landoltia punctata</i>		1	1			
7	<i>Ludwigia peruviana</i>		1				
8	<i>Mikania scandens</i>	1	1				
9	<i>Myrica cerifera</i>	1	1	1			
10	<i>Osmunda cinnamomoea</i>	1		1			
11	<i>Panicum repens</i>	1	1				
12	<i>Paspalum urvillei</i>	1					
13	<i>Ruellia simplex</i>			1			
14	<i>Vitis</i> sp.			1			
15	<i>Woodwardia areolata</i>	1		1			
	Taxa per section	9	8	10	2	Herb. Taxa	11
	Exotic Present	4	5	4	2	Woody Taxa	2
	Avg. taxa per section	8				Ferns	2
	sections with exotics	4				Macro Algae	0
	Exotic Taxa	7	Exotics per Section: 3.8			Total Taxa	15

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

Taxon	Section	Section	Section	Section	Exclusion
<i>Lyngbya</i>	2	5	8	11	Algae. Not vascular
<i>Algae</i>	2	5	8	11	Algae. Not vascular
<i>Albizia julibrissin</i>	4		7		FACU Mimosa Tree
<i>Sapium sebiferum</i>			7		Unsurveyed section
<i>Taxodium</i> sp.	1		7		Unsurveyed section

Metric	Rep. 1	Rep. 2	Rep. 3	Rep. 4	LVI Average
LVI 2012	8	0	13	0	5
Native Percentage	60	42.86	70	0	43.22
FLEPPC Pct (Exotic)	20	42.86	20	50	33.22
Total Taxa	9	8	10	2	16
C of C over 7.0	0	0	0	0	0.00
Dominant Taxa	Colocasia esculenta	Alternanthera philoxeroides	Alternanthera philoxeroides	C.esculenta, A. philox.	C.esculenta, A. philoxeroides
C of C Dominant	0	0	0	0	0.00

G3NW0216 Coleman LVI Zoom



July 12, 2022

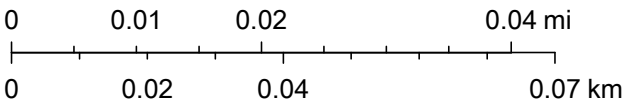
STORET Stations

 Lake

WMS Flowing Waters Resource

 Stream

1:1,128



FDEP, DEAR, FDEP, DEAR, WMS, 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,

Map created by Map Direct, powered by ESRI.

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Coleman Lake

Storet G3NW0216
 Receiving Water Joe's Bayou
 Basin, WBID Choctawhatchee Bay, 906B
 City, County Destin, Okaloosa
 Lake Acreage 3.78 acres /1.53 Hectares
 Circumference (M) 987.362
 Seg. Length (M) 82.28016667

Section	Location	Dec. Latt.	Dec. Long.
4	Storet	30.40236	-86.48003
	A	30.40409	-86.48023
2	B	30.40421	-86.47948
	C	30.40370	-86.48006
	D	30.40298	-86.48000
5	E	30.40243	-86.47961
	F	30.40216	-86.47884
	G	30.40194	-86.47879
8	H	30.40218	-86.47961
	I	30.40168	-86.48003
	J	30.40201	-86.48030
11	K	30.40272	-86.48038
	L	30.40343	-86.48051

Segments selected 2, 5, 8, 11

Twin Lakes LVI		WBID	Kit	Qty	Bottle Group	Bottles
Kell-Aire Lake 						

Field ID	WBID	WIN Description	County	Lat Long
G3NW0217	906B	Kell-Aire Lake	Okaloosa	30.40432, -86.48244
G3NW0216	906B	COLEMAN LAKE	Okaloosa	30.40236, -86.48003

Test	Lot #	Expiration date:
Sulfuric Acid	SA2299040	11/4/2023
Nitric Acid	NA2230040	9/1/2023
Syringe	1363514	-
PO4 Filter	17460495	-

Twin Lakes LVI	
Notes (access, boat ramp, etc.)	
G3NW0217	Needs Pics
G3NW0216	Needs Pics

Twin Lakes LVI				
Field ID	TIME	Conductivity	pH	DO mg-L / Temp.
G3NW0217				
G3NW0216				
RQ-2023-06-12-63		NEED PICS		