



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

STRATEGIC MONITORING PLAN Field Sheet

July 2022

Meter
Passed End
of Day CCV

Yes ☒ No ☐

WIN Station Name:		LAKE DEFUNIAK				Sample Date:		6/12/2023	
WIN / Field ID:	G3NW0222	ORG ID:	21FLPNS	ENR:		Latitude:	30.7171		
County:	WALTON	WBID:	343A	LAKE	3F	Longitude:	-86.1129		
Receiving Body of Water:		Bruce Creek				RQ-	2023-06-12-62		

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 -1	
Collection Method			
	Wading	x	Canoe/Kayak
	From Shore		Electric Motor
			Gasoline Motor
Depth Measured With		Meter	

Water Level:	Low
Flow:	NA
Matrix:	Fresh
Tide Stage:	
High Tide:	
Low Tide:	
Photos:	Yes
Meter ID:	154179 (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	1130	10.5	0.3	7.8	101.4	29	6.73	2	16.9	0.01
	1145		2	7.96	102.5	28.3	6.8		16.9	0.01
	1150		10	0.05	0.5	13.7	5.35		28.2	0.01

Biological Samples Collected:

HA LVI

SBIO Visit ID:

HA ID:

RPS ID:

Macrophyte ID:

LIMS Sample ID Entered
Into The Macrophyte Module:

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*	SA2299040	11/04/2023	H2SO4 pH<2
Metals	W-ICPMS	W-ICP	W-HARD	ICE	HNO3**	NA2230040	09/01/2023	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								
Other(s)					SyringLot#		FilterLot#	
Field Comments:	Hot, Sunny. Entire shoreline mowed to waters edge.							
Comments on COC:								
Relinquish Date:	06/12/2023	Signature:						

LIMS EVENT ID: _____ WIN Import ID: _____

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

(Initials/Date)

QC Station ID, Field Parameters In LIMS DMT: _____

(Initials/Date)

Save Field Sheets on Network: _____

(Initials/Date)

Migrate Data to WIN: _____

(Initials/Date)

Site Name Lake Defuniak

Date: 06/12/2023

WIN-ID G3NW0222

Field ID G3NW0222

Project: SMP / TMDL Studies

Visit ID 86987

RQ: 2023-06-12-62

Macro ID 12450

LIMS ID: 2417109

HA ID 18503

WBID: 343A

☒ LVI

☒ Sample Site Created in SBIO

☒ Phys/Chem entered in SBIO FB, 6/13/2023

☒ HA entered in SBIO Initial FB, 6/13/2023

☒ Date and Initial QA: 8/1/23 BO HA Score 48

☒ LVI entered in SBIO Initial FB, 6/13/2023

☒ Date and Initial QA: 8/1/23 BO

☒ Plants getting verified

☒ Date submitted: 6/12/23 DEP AEQAS

☒ Plants verified

☒ Date returned: 6/13/2023

☒ Macro ID authorized in SBIO

☒ Date and Initial: 8/15/23 PB

☒ Macro ID score: 27

☒ If SMP, scanned into database

Notes:

DEP FORM FD 9000-31: LAKE OBSERVATION FIELD SHEET

SAMPLE ID: 86987 MACROPHYTE ID: 12450 LATITUDE: N 30.7171
COUNTY: Walton (Defuniak Lake) STORET #: G3NW0222 LONGITUDE: W 86.1129
DATE: 6/12/2023 TIME: 11:30 SAMPLING AGENCY: FL DEP - NWROC
SITE NAME: Lake Defuniak WBID: 343A
FIELD ID/NAME: G3NW0222 LAKE SIZE: 40 RQ: 2023-06-12-62

WATERSHED / LAKESIDE FEATURES

LIMS ID: 2417109

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category – from GIS) : Forest/Natural ☐ Silviculture ☐ Field/Pasture ☐ Agricultural ☐ Residential ☒ Commercial ☒ Industrial ☐ Other (Specify) <u>2 City Park</u>						LANDSCAPE DEVELOPMENT INTENSITY (100 m buffer) LDI: <u>N/A</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 <u>4</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 <u>4</u> 3 2 1	
LAKESIDE ALTERATIONS <u>3</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) 5 4 <u>3</u> 2 1	
BUFFER ZONE <u>3</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 <u>3</u> 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 # <u>SA2299040</u> Exp. Date: <u>11/04/2023</u> 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>29.4</u> <u>6.73</u> <u>7.80</u> <u>101.4</u> <u>16.9</u> <u>0.01</u> Mid-Depth: <u>2.0</u> <u>28.3</u> <u>6.8</u> <u>7.96</u> <u>102.5</u> <u>16.9</u> <u>0.01</u> Bottom: <u>10.0</u> <u>13.7</u> <u>5.35</u> <u>0.05</u> <u>0.5</u> <u>28.2</u> <u>0.01</u>						Water Surface Oils: ☒ None ☐ Sheen/Slick ☐ Glob ☐ Other _____					
Sediment Type: (may check more than one) ☐ Sandy ☐ Organic fibrous (peaty, CPOM) ☐ Vegetated ☒ Sand/Silt ☐ Organic smooth (muck) ☐ Other (Specify): _____						Clarity: ☐ Clear ☐ Opaque ☐ Turbid ☒ Slightly Turbid Color: ☐ Clear ☐ Tannic ☒ Green					
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 ☒ ☐ ☐ ☐					
Sediment Odors: ☒ Normal ☐ Other (Specify): _____ ☐ Anaerobic						Additional Notes: <u>Lake moved to water edge, paved side walk surrounds entire lake</u>					
Weather Conditions: <u>Sunny, P.C., HOT! 10:54 →</u>											
SAMPLING TEAM: Frank Butera, Hannah Henning						SIGNATURE: <u>[Signature]</u>			DATE: <u>6/12/2023</u>		

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

STORET STATION NUMBER: G3NW0222	DATE (M/D/Y) 6/12/2023	LAKE NAME Lake Defuniak		FIELD ID / NAME G3NW0222
WBID: 343A	COUNTY: Walton	SAMPLING LOCATION/DESCRIPTION:		LAKE SIZE: 44 acres
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	Secchi > 3 m Or VOB	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
	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
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	Lake choked (>40%) with nuisance macrophytes (duckweed, hyacinth, etc.) or algal mats, or few plants present at all (e.g., plants removed)
	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
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
	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
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	Thick deposits of CPOM, or fine detritus and anaerobic muck/mud/silt, or algal growth or nuisance plants (Hydrilla) cover bottom
	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
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	Highly developed or disturbed (>70% of lakeside affected)
	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	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 ☒	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
	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	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	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
TOTAL SCORE	48			
COMMENTS:				

ANALYSIS DATE: 6/12/23 ANALYST: Frank Butera SIGNATURE: 

SBIO Sample ID: 86987 HA ID: 18503 QC✓: _____

DEP FORM FD 9000-27 LAKE VEGETATION INDEX FIELD SHEET

Waterbody: Lake Defuniak					County: Walton (Defuniak Springs)					Date: 4/12/2023				
Analyst: F. Butera					Signature: <i>[Signature]</i>					STORET: G3NW0222				
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 <u>B6987</u>	3	6	9	12	Collect ed? (✓)	Macro ID <u>12450</u>	3	6	9	12	Collect ed? (✓)			
SPECIES						SPECIES								
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 (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						*Ludwigia arcuata								
Cyperus haspan						*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 (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						Myrica cerifera								
Eleocharis cellulosa														
Eleocharis equisetoides														
Eleocharis interstincta <i>linearis</i>														
*Eriocaulon compressum <i>flavescens</i>														
*Eriocaulon decangulare														
Eupatorium capillifolium														
*Fuirena														
Fuirena scirpoidea														
Gordonia lasianthus														
LIMS ID: 2417109														

[illegible]

Station: Lake Defuniak
 GPS Dec. 30.71710 x -86.11290
 Storet: G3NW0222 WBID 343A
 Sample ID: 86987 Macro ID: 12450
 RQ-2022-07-25-42

Sampled : 06/12/2023
 Sampled By: F.Butera, H. Henning
 Location: Defuniak Springs, Walton
 Receiving Waters: Choctawhatchee River
 LIMS ID: 2417109

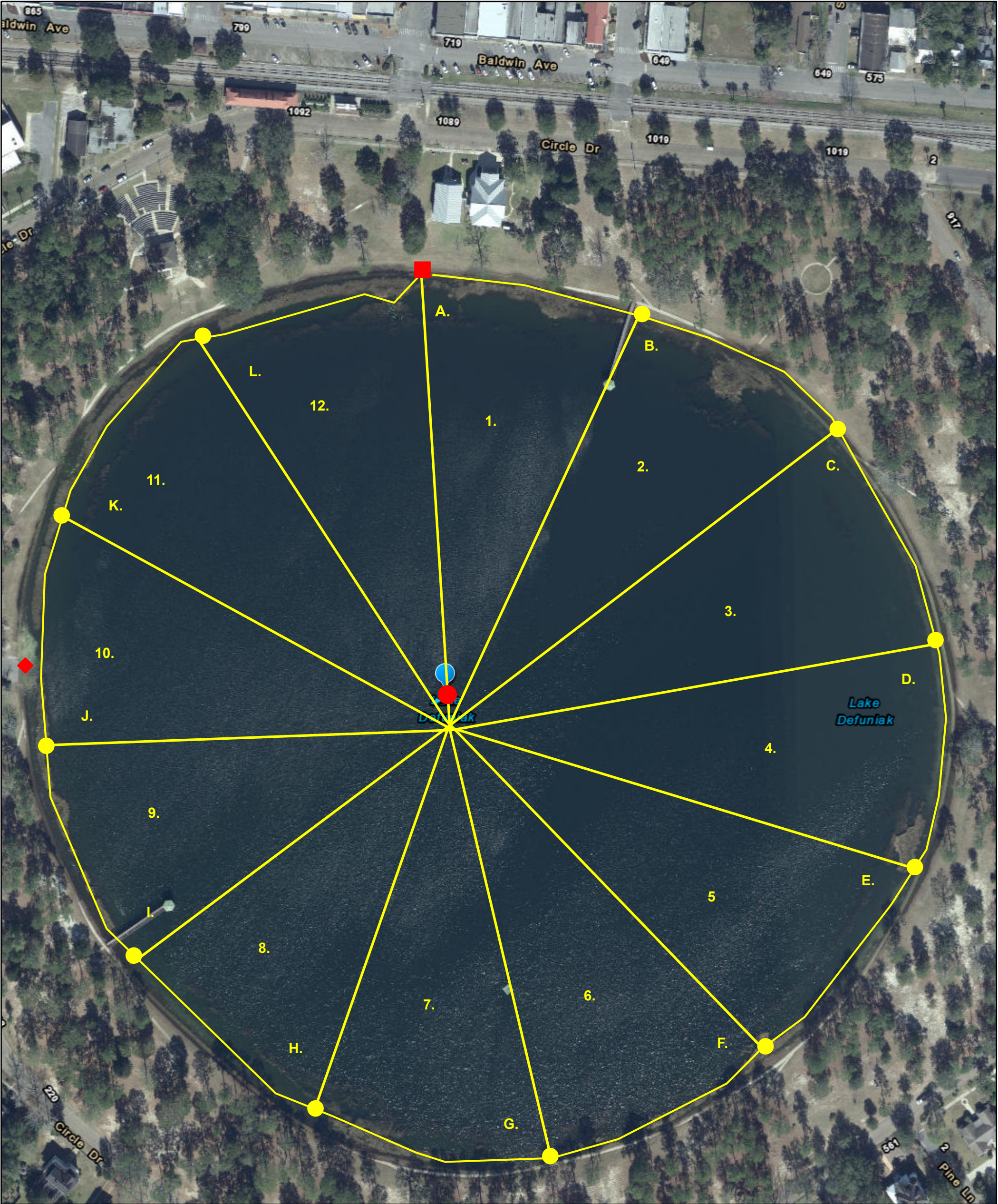
	Taxa	3	6	9	12	Coll.	Verified
1	<i>Elecocharis baldwini</i>		1				
2	<i>Eriocaulon linerae</i>	1				Y	AO
3	<i>Nuphar</i> sp.	1					
4	<i>Panicum hemitomom</i>	1	C	D	C		
5	<i>Panicum repens</i>	1	C		C		
	Taxa per section	4	3	1	2	Herb. Taxa	5
	Exotic Present	1	1	0	1	Woody Taxa	0
	Avg. taxa per section	3				Ferns	0
	sections with exotics	3				Macro Algae	0
	Exotic Taxa	1	Exotics per Section: 0.75			Total Taxa	5

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

Taxon	Section	Section	Section	Section	Exclusion
N/A					

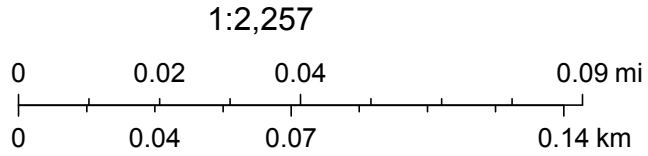
Metric	Rep. 1	Rep. 2	Rep. 3	Rep. 4	LVI Average
LVI 2012	17	12	68	9	27
Native Percentage	75	66.67	100	50	73
FLEPPC Pct (Exotic)	25	33.33	0	50	27
Total Taxa	4	3	1	2	5.00
C of C over 7.0	0	0	0	0	0
Dominant Taxa	N/A	P. hemitomom, P. repens	P. hemitomom	P. hemitomom, P. repens	P. hemitomom, P. repens
C of C Dominant	N/A	2.91	5.82	2.91	4

G3NW0222 Lake Defuniak LVI Map



August 8, 2022
STORET Stations

 Lake



FDEP, DEAR, Esri, HERE, Garmin, (c) OpenStreetMap contributors, Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community, Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

Lake Defuniak

Storet	G3NW0222
Receiving Water	None
Basin, WBID	Choctawhatchee River, 343A
City, County	Defuniak Springs, Walton
Lake Acreage	44.5 acres / 18.0 Hectares
Circumference (M)	1523.1
Seg. Length (M)	126.925

Section	Location	Dec. Latt.	Dec. Long.
1	Storet	30.71710	-86.11290
	A	30.71915	-86.11303
	B	30.71894	-86.11179
3	C	30.71838	-86.11069
	D	30.71736	-86.11013
	E	30.71626	-86.11025
6	F	30.71540	-86.11110
	G	30.71486	-86.11231
	H	30.71509	-86.11363
9	I	30.71583	-86.11465
	J	30.71685	-86.11515
	K	30.71796	-86.11506
12	L	30.71883	-86.11427
	A	30.71915	-86.11303

Segments selected 3, 6, 9, 12

Lake Defuniak LVI	WBID	Kit	Qty	Bottle Group	Bottles
LAKE DEFUNIAK G3NW0222	343A	Nutrientsw/ 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		-
RQ-2023-06-12-62					
NEED PICS					

Field ID	WBID	WIN Description	County	Lat Long
G3NW0222	343A	LAKE DEFUNIAK	Okaloosa	30.71710, -86.1129

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

Notes (access, boat ramp, etc.)	
G3NW0222	Needs Pics. Canoe with trolling motor or paddle. No Gas Motors. Planning Unit Choctawhatchee River. Boat Ramp at 30.71728, 86.11531.

Lake Defuniak LVI				
Field ID	TIME	Conductivity	pH	DO mg-L / Temp.
G3NW0222				
RQ-2023-06-12-62				