



RQ-2022-10-24-18
Customer: NW-DIST
Project ID: STRATEGIC MONITORING PLAN

Collected By: Frank Butera, C. Stopher Slade
Field Report Prepared By: Frank Butera
Sampling Agency: FDEP

Place Label Here WIN ID/Field ID: G4NW0517 Location: Holly Lake						Comments:				
Matrix: Fresh						(Check one) ☒ GRAB ☐ COMPOSITE				
Date	Time	DO (mg/L)	DO (%SAT)	Temp. (C°)	pH	Sample Depth (m)	Secchi Disk (m)	Total Depth (m)	Sp COND (µmhos/cm)	Salinity (PPT _h)
	1230 CEN	8.19	93	21.3	5.98	0.3	2.6 ☒ VOB (S)	2.6	18.4	0.01
10/26/2022	1234	8.2	92.2	20.9	5.49	2	Central Lab please use top row for login purposes		18.4	0.01
	1240 CEN	8.18	92.3	20.9	5.45	2.1			18.4	0.01
Parameter Suite		Parameter Methods				Preservation		pH Check	# Bottles sent to Lab	Bottle Group
Preserved Nutrients (P-500ML)		☐ W-NH3 / W-NO2NO3 / W-TKN / W-TOC / W-S-A-TP				☒ Ice ☒ H2SO4*		☒ <2	1	A
		Lot #	2145160		Exp:	6/2/23				
Metals (P-500ML)		☒ W-ICPMS ☒ W-ICP ☒ W-HARD				☒ Ice ☒ HNO3*		☒ <2	1	A
		Lot #	1105100		Exp:	6/7/23				
Filtered Nutrients (P125ML)		☒ W-PO4-F ☒ Field Filtered 0.45 µm Filter				☒ Ice			1	A
		Filter Lot #	17460495		Syringe Lot#	1363514				
Biochemical Oxygen Demand (BP-1L)		BODTEST OV-BODUNIN				ICE				
Chlorophyll (BP-1L)		☒ CHLSUITE-W				☒ Ice			1	A
Physical/Aggregate (Fresh) (P-1L)		☒ Alkalinity / W-F / W-TSS / TURBIDITY / W-Cl-IC / W-COLOR / W-SO4-IC / W-TDS				☒ Ice			1	A
Physical/Aggregate (Marine) (P-1L)		☐ Alkalinity / W-F / W-TSS / TURBIDITY				☐ Ice				
Macroinvertebrates (PJ-2L)		☐ MI-FW-QLDC		Formalin Lot #		☐ Formalin				
Periphyton (PT-50ML)		☐ ALGAE-ID				☐ Ice				
Microbiology (Contract Lab Bottle)		☐ E Coli ☐ F Coli ☐ Enterococci ☐ Contract Lab				☐ Ice				
Molecular (QPCR-P-500ML)		☐ PCR-HF183 ☐ PCR-BacR ☐ PCR-DG3 ☐ PCR-GULL2 ☐ PCR-GFD				☐ Ice				
Tracers (BG-500ML)		☐ W-E8321-DI ☐ W-E8321-MS				☐ Ice		MCAA Exp. Date		
Pesticides (BG-500ML) (BG-1L)		☒ W-E8321-DI ☒ WE8321-MS		☒ W-PSNP-TQ		☐ W-CT-Cl-R		MCAA Lot#	5	A
		☐ W-PCL-TQ-R		W-CARB-AA (5 ml of MCAA** Buffer Solution)		☒ W-TR-SQ-R				
Phytoplankton/Periphyton		☐ W-PCB-TQ-R		☐ PKD-QN-BV		☐ Ice				
Name: Frank Butera C. Stopher Slade				Signature:				Date: 10/26/2022		

*2.0 ml of Preservative used unless noted otherwise.

**MCAA: Monochloroacetic acid buffer solution

Site Name Holly Lake, Center

Date: 10/26/2022

Storet G4NW0517

Field ID G4NW0517

Project: SMP/ TMDL Studies

Visit ID 85720

RQ: 2022-10-24-18

Macro ID 12299

LIMS ID: 2365729

HA ID 18000

WBID: 266B

☒ LVI

☐ Sample Site Created in SBIO

☒ Phys/Chem entered in SBIO

☒ HA entered in SBIO Initial FB, 10/31/22

☒ Date and Initial QA: 11/10/22 SS HA Score 91

☒ LVI entered in SBIO Initial FB, 11/01/2022

☒ Date and Initial QA: 11/10/22 SS

☒ Plants getting verified

☒ Date submitted: In House

☒ Plants verified

☒ Date returned: In House

☒ Macro ID authorized in SBIO

☒ Date and Initial: 11/10/22 SS

☒ Macro ID score: 66

☒ If SMP, scanned into database

Notes:

Private property. Access via Twin Lakes Resort Campground.

Kirsten O'Neill. kirstan@twinlakescampresort.com. www.twinlakescampresort.com 850 892-5914

DEP FORM FD 9000-31: LAKE OBSERVATION FIELD SHEET

SAMPLE ID: 05720 MACROPHYTE ID: 122981299 LATITUDE: N 30.7773
 COUNTY: Walton (Defuniak Springs) STORET #: G4NW0517 LONGITUDE: W 86.17570
 DATE: 10/26/2022 TIME: 10:30 CTZ SAMPLING AGENCY: FL DEP - NWROC
 SITE NAME: Holly Lake Center WBID: 266B
 FIELD ID/NAME: G4NW0517 LAKE SIZE: 229 RQ: 2022-08-08-31-202

WATERSHED / LAKESIDE FEATURES

WMS ID 2365729

2022-10-24-18

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category – from GIS) : Forest/Natural ☐ Silviculture ☐ Field/Pasture ☐ Agricultural ☐ Residential ☐ Commercial ☐ Industrial ☐ Other (Specify) ☐					LANDSCAPE DEVELOPMENT INTENSITY (100 m buffer) LD: <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>13</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		
LAKESIDE ALTERATIONS <u>13</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 3 2 1		
BUFFER ZONE <u>15</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		

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: Top: <u>0.3</u> <u>21.3</u> <u>5.98</u> <u>8.19</u> <u>93</u> <u>18.4</u> <u>0.01</u> Mid-Depth: <u>2.0</u> <u>20.9</u> <u>5.49</u> <u>8.2</u> <u>92</u> <u>18.4</u> <u>0.01</u> Bottom: <u>2.1</u> <u>20.9</u> <u>5.45</u> <u>8.18</u> <u>92.3</u> <u>18.4</u> <u>0.01</u> Meter ID: <u>154179</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): _____						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: Periphyton ☐ Absent ☐ Rare ☐ Common ☒ Abundant Nuisance Plants ☐ ☐ ☒ ☐ Submersed Plants ☐ ☐ ☐ ☒ Exotic Apple Snails ☒ ☐ ☐ ☐					
Weather Conditions: <u>Ongoing land clearing section 1.1</u>						Additional Notes: <u>Field Blank</u> <u>FB-10262022</u> <u>0</u>					
SAMPLING TEAM: Frank Butera, <u>Stefan Slade</u>						SIGNATURE: <u>[Signature]</u> DATE: <u>10/26/2022</u>					

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

STORET STATION NUMBER: G4NW0517	DATE (M/D/Y) 10/26/2022	LAKE NAME Holly Lake Center		FIELD ID / NAME G4NW0517	
WBID: 266B	COUNTY: Walton (Defuniak Springs)	SAMPLING LOCATION/DESCRIPTION: Launch at Twin Lakes Camp Resort		LAKE SIZE: 229 Acres / 93 Hectares	
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 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	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 <i>10% Eutric Taxa 6% 2021</i> 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 <i>Construction</i> 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 Alternations	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	91				
COMMENTS:	<i>Construction in section 2 has progressed. Land clearing.</i>				

ANALYSIS DATE: **10/26/22** ANALYST: **F. Butera** SIGNATURE: *[Signature]*

SBIO Sample ID: **85724** HA ID: **10000** QC: **SS 4/10/22**

DEP FORM FD 9000-27 LAKE VEGETATION INDEX FIELD SHEET

Waterbody: Holly Lake Center					County: Walton (Defuniak Springs)					Date: 14/26/22				
Analyst: F. Butera <i>S. Slade</i>					Signature: <i>[Signature]</i>					STORET: G4NW0517				
Except where noted as "sp." species level identification required. *Genera that may require lab verification* Plants in bold= FLEPPC invasive exotic.										Lake units sampled (circle one group):				
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.										1, 4, 7, 10 2, 5, 8, 11 3, 6, 9, 12				
SBIO ID 85720	3	6	9	12	Collect ed? (✓)	Macro ID 12298 12299	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 <i>P. 125A</i>								
Cyrtilla racemiflora						*Ludwigia <i>Suffrutescens</i>								
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 <i>V.V. peris</i>						Myrica cerifera								
Eleocharis cellulosa						<i>Lycopus</i>								
Eleocharis equisetoides						<i>Hypericum brachy</i>								
Eleocharis interstincta						<i>Eleocharis</i>								
*Eriocaulon compressum						<i>Ilex vomifolia</i>								
*Eriocaulon decangulare						<i>Calxin bullrose</i>								
Eupatorium capillifolium														
*Fuirena						<i>Agrostis</i>								
Fuirena scirpoidea						<i>Solidago cher</i>								
Gordonia lasianthus														
LIMS ID: 2365729						Decodon verticillatus								

FORM FD 9000-27: LAKE VEGETATION INDEX FIELD SHEET

12299

Waterbody: Holly Lake Center		Storet: G4NW0517				Date: 10/26/22	SBIO ID: 85724	Macro ID: 12298			
SPECIES	3	6	9	12	Collect ed? (✓)	SPECIES	3	6	9	12	Collect ed? (✓)
Myriophyllum aquaticum						Salix caroliniana		1			
*Myriophyllum heterophyllum			1	1		Salvinia minima					
*Myriophyllum laxum						Sambucus canadensis					
*Myriophyllum pinnatum						Sapium sebiferum		1	1		
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.	1	1		1		Scirpus cyperinus					
Nymphaea odorata	1	1	1	1		*Sesbania					
Nymphoides aquatica <i>early</i>	1	1	1	1		Solidago sp.	1	1	1	1	
Nyssa sylvatica var. biflora	1	1				Sparganium americanum					
Orontium aquaticum						Spartina bakeri					
Osmunda cinnamomea						Spirodela polyrhiza					
Osmunda regalis						Taxodium sp.		1	1		
Panicum hemitomon	1	1	1	1		Thalia geniculata					
Panicum repens	1	1	1	1		Thelypteris palustris					
Paspalidium geminatum						Triadenum virginicum	1	1	1	1	
*Paspalum repens						Typha sp.			1	1	
Paspalum urvillei		1	1			Urochloa mutica (Brachiaria mutica)					
Peltandra sp.						*Utricularia gibba (U. biflora)					
Persea sp.						*Utricularia floridana		1	1	1	1
Pennisetum purpureum						*Utricularia foliosa					
Phragmites australis						*Utricularia inflata					
Pinus elliotii				1		*Utricularia purpurea					
Pistia stratioides						*Utricularia cornuta					
Pluchea sp.						*Utricularia radiata					
*Polygonum glabrum (densiflorum)						Vallisneria americana					
*Polygonum hydropiperoides						*Websteria confervoides	1	1		1	
*Polygonum punctatum						Wedelia trilobata (Sphag. trilobata)					
*Polygonum						Wolffiella spp.					
Pontederia cordata						Woodwardia virginica					
*Potamogeton diversifolius						Xyris sp.	1	1	1	1	
*Potamogeton illinoensis						Zizania aquatica					
*Potamogeton pusillus						Zizaniopsis milacea					
*Potamogeton pectinatus (Stuck. pectinatus)						Vitis			1		
Proserpinaca pectinata						Rhynchospora sp.		1	1		
*Rhexia						Rhynchospora					
*Rhynchospora corniculata						<u>Rhynchospora</u>					
*Rhynchospora inundata	1	1	1			<u>Rhynchospora</u>					
Rhynchospora tracyi						<u>Panicum grass</u>					
Ricciocarpus natans						<u>Rhynchospora</u>					
Sabal palmetto						<u>microcephala</u>					
Sacciolepis striata	1	1	1	1		<u>Orchontelium scab</u>		1	1		
*Sagittaria filiformis											
*Sagittaria graminea											
*Sagittaria isoetiformis											
Sagittaria lancifolia											
Sagittaria latifolia											
<u>Saccharum</u>	1	1	1	1							

*Schoenoplectus tabernaemontani = Scirpus validus



RQ-2022-10-24-18
Customer: NW-DIST
Project ID: STRATEGIC MONITORING PLAN

Collected By: Frank Butera, C. Stopher Slade
Field Report Prepared By: Frank Butera
Sampling Agency: FDEP

Place Label Here WIN ID/Field ID: G4NW0517 Location: Holly Lake						Comments:					
Matrix: Fresh						(Check one) ☒ GRAB ☐ COMPOSITE					
Date	Time	DO (mg/L)	DO (%SAT)	Temp. (C°)	pH	Sample Depth (m)	Secchi Disk (m)	Total Depth (m)	Sp COND (µmhos/cm)	Salinity (PPTH)	
	1230 CEN	8.19	93	21.3	5.98	0.3	2.6 ☒ VOB (S)	2.6	18.4	0.01	
10/26/2022	1234	8.2	92.2	20.9	5.49	2	Central Lab please use top row for login purposes		18.4	0.01	
	1240 CEN	8.18	92.3	20.9	5.45	2.1			18.4	0.01	
Parameter Suite		Parameter Methods				Preservation		pH Check	# Bottles sent to Lab	Bottle Group	
Preserved Nutrients (P-500ML)		☐ W-NH3 / W-NO2NO3 / W-TKN / W-TOC / W-S-A-TP				☒ Ice ☒ H2SO4*		☒ <2	1	A	
		Lot #	2145160		Exp:	6/2/23					
Metals (P-500ML)		☒ W-ICPMS ☒ W-ICP ☒ W-HARD				☒ Ice ☒ HNO3*		☒ <2	1	A	
		Lot #	1105100		Exp:	6/7/23					
Filtered Nutrients (P125ML)		☒ W-PO4-F ☒ Field Filtered 0.45 µm Filter				☒ Ice			1	A	
		Filter Lot #	17460495		Syringe Lot#	1363514					
Biochemical Oxygen Demand (BP-1L)		BODTEST OV-BODUNIN				ICE					
Chlorophyll (BP-1L)		☒ CHLSUITE-W				☒ Ice			1	A	
Physical/Aggregate (Fresh) (P-1L)		☒ Alkalinity / W-F / W-TSS / TURBIDITY / W-Cl-IC / W-COLOR / W-SO4-IC / W-TDS				☒ Ice			1	A	
Physical/Aggregate (Marine) (P-1L)		☐ Alkalinity / W-F / W-TSS / TURBIDITY				☐ Ice					
Macroinvertebrates (PJ-2L)		☐ MI-FW-QLDC Formalin Lot #				☐ Formalin					
Periphyton (PT-50ML)		☐ ALGAE-ID				☐ Ice					
Microbiology (Contract Lab Bottle)		☐ E Coli ☐ F Coli ☐ Enterococci ☐ Contract Lab				☐ Ice					
Molecular (QPCR-P-500ML)		☐ PCR-HF183 ☐ PCR-BacR ☐ PCR-DG3 ☐ PCR-GULL2 ☐ PCR-GFD				☐ Ice					
Tracers (BG-500ML)		☐ W-E8321-DI ☐ W-E8321-MS				☐ Ice		MCAA Exp. Date			
Pesticides (BG-500ML) (BG-1L)		☒ W-E8321-DI		☒ WE8321-MS	☒ W-PSNP-TQ	W-CT-CI-R		☒ Ice	MCAA Lot#	5	A
		W-PCL-TQ-R		W-CARB-AA (5 ml of MCAA** Buffer Solution)		W-TR-SQ-R					
Phytoplankton/Periphyton		W-PCB-TQ-R		PKD-QN-BV		☐ Ice					
Name: Frank Butera C. Stopher Slade						Signature:		Date: 10/26/2022			

*2.0 ml of Preservative used unless noted otherwise.

**MCAA: Monochloroacetic acid buffer solution

Site Name Holly Lake, Center

Date: 10/26/2022

Storet G4NW0517

Field ID G4NW0517

Project: SMP/ TMDL Studies

Visit ID 85720

RQ: 2022-10-24-18

Macro ID 12299

LIMS ID: 2365729

HA ID 18000

WBID: 266B

☒ LVI

☐ Sample Site Created in SBIO

☒ Phys/Chem entered in SBIO

☒ HA entered in SBIO Initial FB, 10/31/22

☒ Date and Initial QA: 11/10/22 SS HA Score 91

☒ LVI entered in SBIO Initial FB, 11/01/2022

☒ Date and Initial QA: 11/10/22 SS

☒ Plants getting verified

☒ Date submitted: In House

☒ Plants verified

☒ Date returned: In House

☒ Macro ID authorized in SBIO

☒ Date and Initial: 11/10/22 SS

☒ Macro ID score: 66

☒ If SMP, scanned into database

Notes:

Private property. Access via Twin Lakes Resort Campground.

Kirsten O'Neill. kirstan@twinlakescampresort.com. www.twinlakescampresort.com 850 892-5914

DEP FORM FD 9000-31: LAKE OBSERVATION FIELD SHEET

SAMPLE ID: 05720 MACROPHYTE ID: 122981299 LATITUDE: N 30.7773
 COUNTY: Walton (Defuniak Springs) STORET #: G4NW0517 LONGITUDE: W 86.17570
 DATE: 10/26/2022 TIME: 10:30 CTZ SAMPLING AGENCY: FL DEP - NWROC
 SITE NAME: Holly Lake Center WBID: 266B
 FIELD ID/NAME: G4NW0517 LAKE SIZE: 229 RQ: 2022-08-08-31-202

WATERSHED / LAKESIDE FEATURES

WMS ID 2365729

2022-10-24-18

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category – from GIS) : Forest/Natural ☐ Silviculture ☐ Field/Pasture ☐ Agricultural ☐ Residential ☐ Commercial ☐ Industrial ☐ Other (Specify) ☐					LANDSCAPE DEVELOPMENT INTENSITY (100 m buffer) LD: <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>13</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		
LAKESIDE ALTERATIONS <u>13</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 3 2 1		
BUFFER ZONE <u>15</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		

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: Top: <u>0.3</u> <u>21.3</u> <u>5.98</u> <u>8.19</u> <u>93</u> <u>18.4</u> <u>0.01</u> Mid-Depth: <u>2.0</u> <u>20.9</u> <u>5.49</u> <u>8.2</u> <u>92</u> <u>18.4</u> <u>0.01</u> Bottom: <u>2.1</u> <u>20.9</u> <u>5.45</u> <u>8.18</u> <u>92.3</u> <u>18.4</u> <u>0.01</u> Meter ID: <u>154179</u>						Clarity: ☒ Clear ☐ Opaque ☐ Turbid ☐ Slightly Turbid Color: ☒ Clear ☐ Tannic ☐ Green SECCHI (M) <u>2.6</u> Total Station Depth (M) <u>2.6</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 ☐ Anaerobic ☐ Other (Specify): _____					
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: Periphyton ☐ Absent ☐ Rare ☐ Common ☒ Abundant Nuisance Plants ☐ ☐ ☒ ☐ Submersed Plants ☐ ☐ ☐ ☒ Exotic Apple Snails ☒ ☐ ☐ ☐					
Weather Conditions: <u>Ongoing land clearing section 1.1</u>											
SAMPLING TEAM: Frank Butera, <u>Stefan Slade</u>						SIGNATURE: <u>[Signature]</u>			DATE: <u>10/26/2022</u>		

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

STORET STATION NUMBER: G4NW0517	DATE (M/D/Y) 10/26/2022	LAKE NAME Holly Lake Center		FIELD ID / NAME G4NW0517	
WBID: 266B	COUNTY: Walton (Defuniak Springs)	SAMPLING LOCATION/DESCRIPTION: Launch at Twin Lakes Camp Resort		LAKE SIZE: 229 Acres / 93 Hectares	
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 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	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% Emergent Taxa (6% 2021) 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 Construction 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 Alternations	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	91				
COMMENTS:	Construction in section 2 has progressed. Land clearing.				

ANALYSIS DATE: **10/26/22** ANALYST: **F. Butera** SIGNATURE: *[Signature]*

SBIO Sample ID: **85724** HA ID: **10000** QC: **SS 4/10/22**

DEP FORM FD 9000-27 LAKE VEGETATION INDEX FIELD SHEET

Waterbody: Holly Lake Center					County: Walton (Defuniak Springs)					Date: 14/26/22				
Analyst: F. Butera <i>S. Slade</i>					Signature: <i>[Signature]</i>					STORET: G4NW0517				
Except where noted as "sp." species level identification required. *Genera that may require lab verification* Plants in bold= FLEPPC invasive exotic.										Lake units sampled (circle one group):				
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.										1, 4, 7, 10 2, 5, 8, 11 3, 6, 9, 12				
SBIO ID 85720	3	6	9	12	Collect ed? (✓)	Macro ID 12298 12299	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 <i>P. 125A</i>								
Cyrtilla racemiflora						*Ludwigia <i>Saffordii</i>								
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 <i>V.V. peris</i>						Myrica cerifera								
Eleocharis cellulosa						<i>Lycopus</i>								
Eleocharis equisetoides						<i>Hypericum brachy</i>								
Eleocharis interstincta						<i>Eleocharis</i>								
*Eriocaulon compressum						<i>Ilex vomifolia</i>								
*Eriocaulon decangulare						<i>Calxin bullrose</i>								
Eupatorium capillifolium														
*Fuirena														
Fuirena scirpoidea						<i>Agrostis</i>								
Gordonia lasianthus						<i>SB1450 cher</i>								
LIMS ID: 2365729						Decodon verticillatus								

FORM FD 9000-27: LAKE VEGETATION INDEX FIELD SHEET

12299

Waterbody: Holly Lake Center

Storet: G4NW0517

Date: 10/26/22

SBIO ID 85724

Macro ID 12298

SPECIES	3	6	9	12	Collect ed? (✓)	SPECIES	3	6	9	12	Collect ed? (✓)
Myriophyllum aquaticum						Salix caroliniana		1			
*Myriophyllum heterophyllum			1	1		Salvinia minima					
*Myriophyllum laxum						Sambucus canadensis					
*Myriophyllum pinnatum						Sapium sebiferum		1	1		
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.	1	1		1		Scirpus cyperinus					
Nymphaea odorata	1	1	1	1		*Sesbania					
Nymphoides aquatica <i>early</i>	1	1	1	1		Solidago sp.	1	1	1	1	
Nyssa sylvatica var. biflora	1	1				Sparganium americanum					
Orontium aquaticum						Spartina bakeri					
Osmunda cinnamomea						Spirodela polyrhiza					
Osmunda regalis						Taxodium sp.		1	1		
Panicum hemitomon	1	1	1	1		Thalia geniculata					
Panicum repens	1	1	1	1		Thelypteris palustris					
Paspalidium geminatum						Triadenum virginicum	1	1	1	1	
*Paspalum repens						Typha sp.			1	1	
Paspalum urvillei		1	1			Urochloa mutica (Brachiaria mutica)					
Peltandra sp.						*Utricularia gibba (U. biflora)					
Persea sp.						*Utricularia floridana		1	1	1	1
Pennisetum purpureum						*Utricularia foliosa					
Phragmites australis						*Utricularia inflata					
Pinus elliotii				1		*Utricularia purpurea					
Pistia stratioides						*Utricularia cornuta					
Pluchea sp.						*Utricularia radiata					
*Polygonum glabrum (densiflorum)						Vallisneria americana					
*Polygonum hydropiperoides						*Websteria confervoides	1	1		1	
*Polygonum punctatum						Wedelia trilobata (Sphag. trilobata)					
*Polygonum						Wolffiella spp.					
Pontederia cordata						Woodwardia virginica					
*Potamogeton diversifolius						Xyris sp.	1	1	1	1	
*Potamogeton illinoensis						Zizania aquatica					
*Potamogeton pusillus						Zizaniopsis milacea					
*Potamogeton pectinatus (Stuck. pectinatus)						Vitis			1		
Proserpinaca pectinata						Rhynchospora sp.		1	1		
*Rhexia						Rhynchospora					
*Rhynchospora corniculata						<u>Rhynchospora</u>					
*Rhynchospora inundata	1	1	1			<u>Rhynchospora</u>					
Rhynchospora tracyi						<u>Panicum grass</u>					
Ricciocarpus natans						<u>Rhynchospora</u>					
Sabal palmetto						<u>microcephala</u>					
Sacciolepis striata	1	1	1	1		<u>Orchidella scab</u>		1	1		
*Sagittaria filiformis											
*Sagittaria graminea											
*Sagittaria isoetiformis											
Sagittaria lancifolia											
Sagittaria latifolia											
<u>Saccharum</u>	1	1	1	1							

*Schoenoplectus tabernaemontani = Scirpus validus

DEP-SOP-001/01
FS 7000 General Biological Community Sampling

Form FD 9000-2: COMPOSITE LAKE SAMPLING SHEET (< 1000 ACRES)

Date: <u>10/26/2022</u>		Name of Lake: <u>Holly Lake Center</u>		Gear used: <u>PONAR</u> EKMAN OTHER	
Comments:					
Drop #	Depth (m)	Sediment Type (circle all that apply)	Drop #	Depth (m)	Sediment Type (circle all that apply)
1		sand, silt/clay, CPOM, muck, SAV	7		sand, silt/clay, CPOM, muck, SAV
2		sand, silt/clay, CPOM, muck, SAV	8		sand, silt/clay, CPOM, muck, SAV
3		sand, silt/clay, CPOM, muck, SAV	9		sand, silt/clay, CPOM, muck, SAV
4	<u>Construction clearing</u>	<u>sand</u> , <u>silt/clay</u> , <u>CPOM</u> , <u>muck</u> , <u>SAV</u>	10		sand, silt/clay, CPOM, muck, SAV
5		sand, silt/clay, CPOM, muck, SAV	11		sand, silt/clay, CPOM, muck, SAV
6		sand, silt/clay, CPOM, muck, SAV	12		sand, silt/clay, CPOM, muck, SAV

CPOM = coarse particulate organic matter; SAV = submerged aquatic vegetation

Storet G4NW0517 Field ID G4NW0517
WBID 266B

Project: SMP / TMDL Studies

SBIO ID: 85720

Paste map here and show location of each dredge drop and where water chemistry parameters were collected.

DEP-SOP-001/01
FS 7000 General Biological Community Sampling

Form FD 9000-2: COMPOSITE LAKE SAMPLING SHEET (< 1000 ACRES)

Date: <u>10/26/2022</u>		Name of Lake: <u>Holly Lake Center</u>		Gear used: <u>PONAR</u> EKMAN OTHER	
Comments:					
Drop #	Depth (m)	Sediment Type (circle all that apply)	Drop #	Depth (m)	Sediment Type (circle all that apply)
1		sand, silt/clay, CPOM, muck, SAV	7		sand, silt/clay, CPOM, muck, SAV
2		sand, silt/clay, CPOM, muck, SAV	8		sand, silt/clay, CPOM, muck, SAV
3		sand, silt/clay, CPOM, muck, SAV	9		sand, silt/clay, CPOM, muck, SAV
4	<u>Construction clearing</u>	<u>sand</u> , <u>silt/clay</u> , <u>CPOM</u> , <u>muck</u> , <u>SAV</u>	10		sand, silt/clay, CPOM, muck, SAV
5		sand, silt/clay, CPOM, muck, SAV	11		sand, silt/clay, CPOM, muck, SAV
6		sand, silt/clay, CPOM, muck, SAV	12		sand, silt/clay, CPOM, muck, SAV

CPOM = coarse particulate organic matter; SAV = submerged aquatic vegetation

Storet G4NW0517 Field ID G4NW0517
WBID 266B

Project: SMP / TMDL Studies

SBIO ID: 85720

Paste map here and show location of each dredge drop and where water chemistry parameters were collected.

Photo Log

Win ID / Storet: G4NW0517

Station Name: Holly Lake

Date: 10/26/2022

Samplers: F. Butera, S. Slade

- 1 N
- 2 E
- 3 S
- 4 W
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16
- 17

Notes.

Station: Holly Lake
 GPS Dec. 30.77730 x -86.17570
 Storet: G4NW0517 WBID 266A
 Sample ID: 85720 Macro ID: 12299
 RQ-2022-10-24-18

Sampled: 10/26/2022
 Sampled By: F. Butera, S. Slade
 Location: Defuniak Springs, Walton
 Receiving Waters: Narrow's Creek. Basin: Yellow River
 LIMS ID: 2365729

	Taxa	3	6	9	12	Coll.	Verified
1	<i>Acer rubrum</i>	1	1	1			
2	<i>Andropogon</i> sp.	1	1		1		
3	<i>Baccharis</i> sp.	1					
4	<i>Bacopa caroliniana</i>	C	C	C	C		
5	<i>Bidens mitis</i>	1	1	1	1		
6	<i>Brasenia schreberi</i>			1			
7	<i>Cephalanthus occidentalis</i>		1				
8	<i>Colocasia esculenta</i>	1		1			
9	<i>Cyperus blepharoleptos</i>	1	1	1	1		
10	<i>Cyrilla racemiflora</i>	1	1	1			
11	<i>Decodon verticillatus</i>	1	1	1	1		
12	<i>Dichanthelium scabriusculum</i>		1	1			
13	<i>Eleocharis baldwinii</i>	1	1	1	1		
14	<i>Eleocharis equisetoides</i>		1				
15	<i>Eleocharis vivipara</i> (submersed)	1	1	1			
16	<i>Eupatorium capillifolium</i>	1		1	1		
17	<i>Fuirena scirpoidea</i>	1	1		1		
19	<i>Habeneria repens</i>	1					
20	<i>Hydrocotyle</i> sp.	1	1	1	1		
21	<i>Hypericum brachyphyllum</i>	1	1	1	1		
22	<i>Hypericum hypercoides</i>	1	1	1	1		
23	<i>Ilex vomitoria</i>		1				
24	<i>Juncus marginatus</i>	1					
25	<i>Lachnanthes caroliana</i>		1		1		
26	<i>Ludwigia leptocarpa</i>	1	1		1		
27	<i>Ludwigia peruviana</i>			1			
28	<i>Ludwigia pilosa</i>	1		1			
29	<i>Lycopus</i> sp.	1	1	1	1		
29	<i>Magnolia virginiana</i>		1				
30	<i>Mayaca fluviatilis</i>	1	1	1	1		
31	<i>Myrica cerifera</i>	1	1		1		
32	<i>Myriophyllum heterophyllum</i>			1	1		
33	<i>Nuphar</i> sp.	1	1		1		
34	<i>Nymphaea odorata</i>	1	1	1			
35	<i>Nymphoides cordata</i>	1		1	1		
36	<i>Nyssa sylvatica</i> var. <i>biflora</i>	1	1				
37	<i>Panicum hemitomon</i>	1	1	1	1		
38	<i>Panicum repens</i>	1	1	1	1		
39	<i>Paspalum urvillei</i>		1	1			
40	<i>Pinus elliotii</i> (Slash)				1		
41	<i>Rhynchospora inundata</i>	1	1	1			
42	<i>Rhynchospora microcephala</i>	1			1	Y	FB
43	<i>Saccharum coarctatum</i>	1	1	1	1		
44	<i>Sacciolepis striata</i>	1	1	1	1		
45	<i>Salix carolinana</i>		1				
46	<i>Sapium sebiferum</i>		1	1			
47	<i>Solidago</i> sp.	1	1	1	1		
48	<i>Taxodium</i> sp.		1	1			

Station: Holly Lake
 GPS Dec. 30.77730 x -86.17570
 Storet: G4NW0517 WBID 266A
 Sample ID: 85720 Macro ID: 12299
 RQ-2022-10-24-18

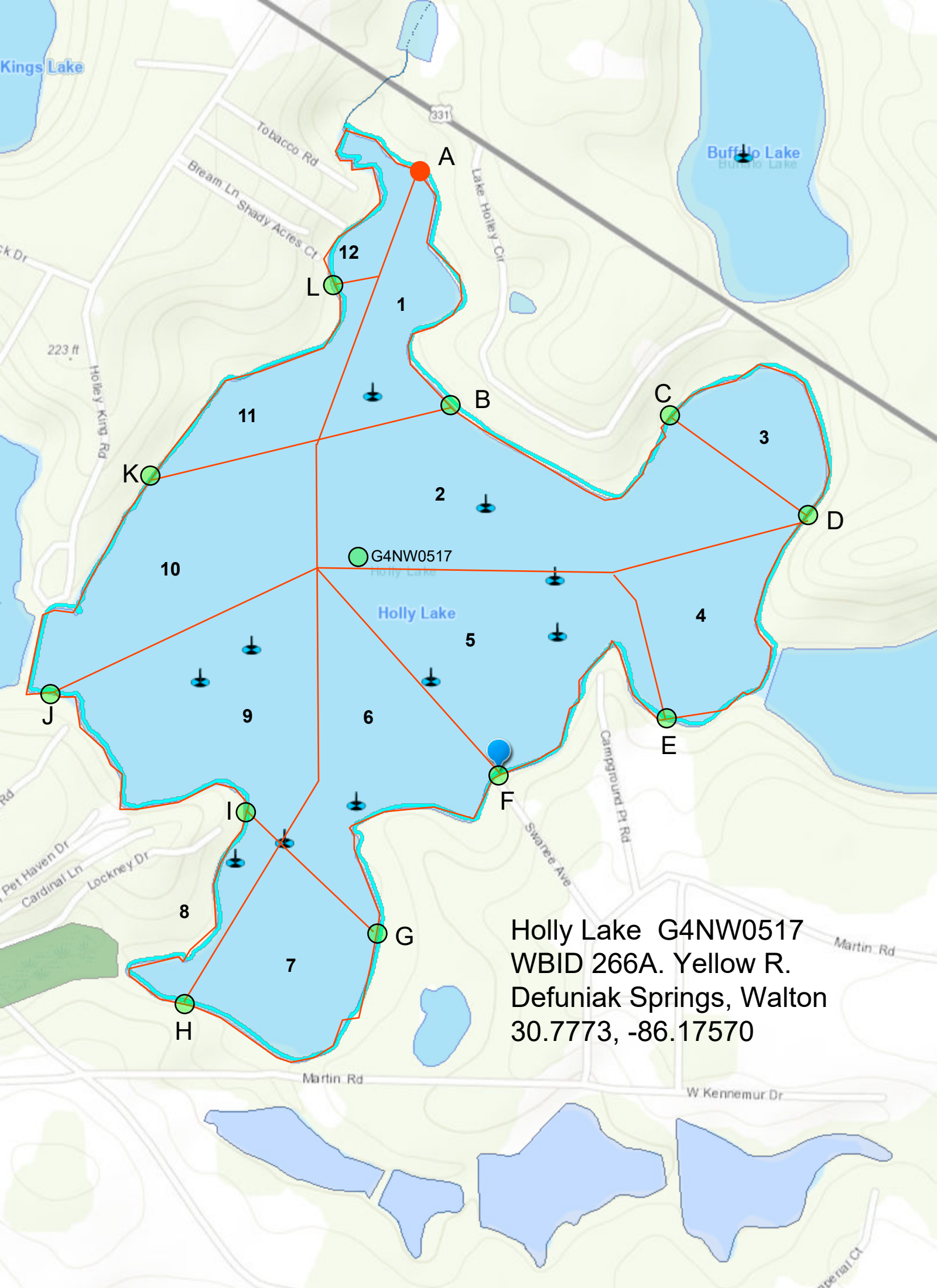
Sampled: 10/26/2022
 Sampled By: F. Butera, S. Slade
 Location: Defuniak Springs, Walton
 Receiving Waters: Narrow's Creek. Basin: Yellow River
 LIMS ID: 2365729

	Taxa	3	6	9	12	Coll.	Verified
49	<i>Triadenum virginicum</i>	1	1	1	1		
50	<i>Typha</i> sp.			1	1		
51	<i>Utricularia floridana</i>	C	C	C	C		
52	<i>Vitis</i> sp.			1			
53	<i>Websteria confervoides</i>	1	1		1		
54	<i>Xyris</i> sp.	1	1	1	1		
	Taxa per section	37	39	35	31	Herb. Taxa	42
	Exotic Present	3	4	6	2	Woody Taxa	12
	Avg. taxa per section	36				Ferns	0
	sections with exotics	4				Macro Algae	0
	Exotic Taxa	6	Exotics per Section: 3.75			Total Taxa	54

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

Taxon	Section	Section	Section	Section	Exculsion Reason
Filamentous green algae	3	6	9	12	Non-Vascular
<i>Cortaderia selloana</i> (Pampas Grass)				10	Upland
<i>Hedychium coronarium</i>	2				Non Surveyed Section

Metric	Rep. 1	Rep. 2	Rep. 3	Rep. 4	LVI Average
LVI 2012	67	72	56	69	66
Native Percentage	91.89	89.74	82.86	93.33	89.46
FLEPPC Pct (Exotic)	5.41	5.13	11.43	3.33	6.33
Total Taxa	37	39	35	30	54
C of C over 7.0	10.81	17.95	11.43	10	12.55
		B.	B.	B.	
Dominant Taxa	B. caroliniana/ U. floridana	B. caroliniana/ U. floridana	caroliniana/ U. floridana	caroliniana/ U. floridana	B. caroliniana/ U. floridana
C of C Dominant	5.42	5.42	5.42	5.42	5.42



Holly Lake G4NW0517
WBID 266A. Yellow R.
Defuniak Springs, Walton
30.7773, -86.17570

Holly Lake

WIN ID G4NW0517
Receiving Water
Basin / WBID Yellow River / 266A
City, County Defuniak Springs
Lake Acreage 229 acres / 92.84 Hectares
Circumference (M) 6040
Seg. Length (M) 503

Quadrant	Location	Dec. Latt.	Dec. Long.
2	Storet G4NW0517	30.7773	86.17570
	A	30.78337	86.17459
	B	30.77969	86.17401
3	C	30.77953	86.16999
	D	30.77796	86.16746
	E	30.77476	86.17005
6	F	30.77386	86.17313
	G	30.77137	86.17535
	H	30.77026	86.17888
9	I	30.77328	86.17776
	J	30.77514	86.18134
	K	30.77858	86.17951
12	L	30.78158	86.76160
	A	30.78337	86.17459