



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

STRATEGIC MONITORING PLAN FIELD SHEET

January 2022

Meter Passed End

of Day CCV

Yes / No

WIN Station Name: Kell-Aire Lake

Date: 6/15/2022

WIN/Field ID: G3NW0217

WBID: 906B

ENR:

Latitude: 30.40432

County: OKALOOSA

Org ID: 21FLPNS

Longitude: -86.482439

Receiving Body of Water: Joes Bayou

RQ: 2022-06-13-31

Sampling Team Members		WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check
☒	Frank Butera	☒	☐	☒	☐	☐
☒	Leif Boman	☐	☒	☐	☒	☒
☐		☐	☐	☐	☐	☐
☐		☐	☐	☐	☐	☐

Sampling Equipment	
☒ Sample Container	☐ Carboy
☐ Dipper	☐ Van Dorn
☒ Syringe	☐ Pole
Depth measured with: Meter	
Secchi Equipment ID:	
Collection Method	
☐ Wading	☒ Canoe/Kayak
☐ From Shore	☐ Electric Motor
☐ Other	☐ Gasoline Motor

Water Level: ☐ Normal ☐ Low ☒ High ☐ Dry ☐ Pooled ☐ Flooded		Meter ID# 155077 (PRODSS)	
Photos: YES	Flow:	Tide:	Tide Times: High: Low:
Biological Samples Collected: ☐ None ☒ HA ☐ SCI ☐ RPS ☐ Algae ID ☐ LVS ☒ LVI Other:			
SBIO ID Numbers: SBIO ID 84682. HA ID 175148. Macro ID 12196			
Notes: LAKE COVERED IN ALGAE			

Duplicate Sample

Time Zone: CEN	Time:	Field ID:	(WIN ID_DUP)
WIN DMT Activity ID:			

Blank

Time Zone:	Time:	Field ID:	(Blank Type_DDMMYYYY)
DI Source:	Location:		
DI Type:	Equipment ID:		
DI Container (Name/ID):		DI Container Type:	

LIMS EVENT ID: 2335029

WIN Import ID:

Enter Field Parameters, Verify Station ID In LIMS DMT:

(Initials/Date)

QC Station ID, Field Parameters In LIMS DMT:

(Initials/Date)

Scan/Save Field Sheets FB / 07-18-2022

(Initials/Date)

Migrate Data to WIN:

(Initials/Date)

Verify Data In WIN:

(Initials/Date)



RQ-2022-06-13-31
Customer: NW-DIST
Project ID: STRATEGIC MONITORING PLAN

Collected By: Frank Butera, Other
Field Report Prepared By: Frank Butera
Sampling Agency: FDEP

Place Label Here WIN ID/Field ID: G3NW0217 Location: Kell-Aire 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)	
6/15/2022	1116 CEN	7.07	93	29.8	7.55	0.3	0.7 ☐ VOB (S)	1.8	181.5	0.08	
	1121 CEN	6.19	79.8	28.5	7.15	1.3	Central Lab please use top row for login purposes		181.5	0.08	
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 #	SA1308030		Exp:	12/01/2022					
Metals (P-500ML)		☒ W-ICPMS ☒ W-ICP ☒ W-HARD				☒ Ice ☒ HNO3*		☐ <2	1	A	
		Lot #	NA1286110		Exp:	11/16/2022					
Filtered Nutrients (P125ML)		☒ W-PO4-F ☒ Field Filtered 0.45 µm Filter				☒ Ice			1	A	
		Filter Lot #	17460495			Syringe Lot #	100553				
BOD (BP-1L)		☐ 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					
Periphyton (PT-50ML)		☐ ALGAE-ID				☐ Ice					
Microbiology (Contract Lab Bottle)		☐ E. Coli ☐ 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.	1	A	
Pesticides (BG-500ML) (BG-1L)		W-E8321-DI		WE8321-MS		W-PSNP-TQ		W-CT-Cl-R		MCAA Lot#	
		W-PCL-TQ-R		W-CARB-AA (5 ml of MCAA** Buffer Solution)		W-TR-SQ-R					
		W-PCB-TQ-R									
Phytoplankton/Periphyton				DTY-QN-C		PKD-QN-C		☐ Ice			
Name: Frank Butera Leif Boman					Signature:					Date: 06/15/2022	

*2.0 ml of Preservative used unless noted otherwise.

**MCAA: Monochloroacetic acid buffer solution

Site Name Kell-Aire Lake

Date: 06/15/2022

Storet G3NW0217 Field ID G3NW0217

Project: SMP / TMDL Studies

Visit ID 84682

RQ: 2022-06-13-31

Macro ID 12196

LIMS ID: 2335029

HA ID 17518

WBID: 906B

☒ LVI

☒ Sample Site Created in SBIO

☒ Phys/Chem entered in SBIO

☒ HA entered in SBIO Initial 7/12/2022, FB ☒ Date and Initial QA: 7/14/22, SS HA Score 27

☒ LVI entered in SBIO Initial 7/12/2022, FB ☒ Date and Initial QA: 7/14/22, SS

☒ Plants getting verified ☒ Date submitted: In House

☒ Plants verified ☒ Date returned: In House

☒ Macro ID authorized in SBIO

☒ Date and Initial: 7/14/2022, FB

☒ Macro ID score: 11

☒ If SMP, scanned into database

Notes:

Site Name Kell-Aire Lake

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☒ If SMP, scanned into database

Notes:

DEP FORM FD 9000-31: LAKE OBSERVATION FIELD SHEET

SAMPLE ID: 84682 MACROPHYTE ID: 12196 LATITUDE: N 30.40432
COUNTY: Okaloosa STORET #: G3NW0217 LONGITUDE: W -86.48244
DATE: 6/15/2022 TIME: 11:16 CTZ SAMPLING AGENCY: FL DEP - NWROC
SITE NAME: Kell-Aire Lake WBID: 906B
FIELD ID/NAME: G3NW0217 LAKE SIZE: 8.48 Acres RQ: 2022-06-13-31

WATERSHED / LAKESIDE FEATURES

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) 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>1</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>6</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>6</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 <u>algae</u>			
Meter Readings: Top: <u>0.3</u> <u>29.8</u> <u>7.55</u> <u>7.07</u> <u>93</u> <u>181.5</u> <u>0.08</u> Mid-Depth: _____ Bottom: <u>1.3</u> <u>28.5</u> <u>7.15</u> <u>6.19</u> <u>79.8</u> <u>181.5</u> <u>0.08</u> Meter ID: <u>15077</u>				Water Surface Oils: ☒ None ☐ Sheen/Slick ☐ Glob ☐ Other _____ Clarity: ☐ Clear ☒ Turbid ☐ Slightly Turbid Color: ☐ Clear ☒ Tannic ☒ Green SECCHI (M) <u>0.7</u> Total Station Depth (M) <u>1.8</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): <u>Musty</u> ☐ 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>Hot</u>				Additional Notes: <u>Active Algal Bloom @ time of sampling.</u>			
SAMPLING TEAM: Frank Butera, <u>Leif Boman</u>				SIGNATURE: <u>[Signature]</u>		DATE: <u>6/15/2022</u>	

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

STORET STATION NUMBER: G3NW0217	DATE (M/D/Y) <u>06/15/22</u>	LAKE NAME Kell-Aire Lake		FIELD ID / NAME G3NW0217		
WBID: 906B	COUNTY: Okaloosa	SAMPLING LOCATION/DESCRIPTION: <u>Kell-Aire Lake Center</u>		LAKE SIZE: 8.48 acres		
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	Secchi(m)		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		
Vegetation Quality	Diverse, expected native vegetation (emergent or submersed), less than 5% nuisance taxa <u>1</u>	Mostly expected native plants, but moderate growths (6%-20% of lake) of nuisance macrophytes, or more than 50% of lake covered with plants <u>1</u>		Large masses (21%-40%) of nuisance macrophytes (e.g., Hydrilla, hyacinth, cattail, etc.) or algal mats <u>1</u>		
Stormwater Inputs	Stormwater enters system via sheet flow over non-cultivated and/or natural vegetation <u>1</u>	Some direct stormwater inputs (ditches, pipes, cultivated vegetation < 10%) but good BMPs in place <u>1</u>		Moderate direct inputs of stormwater (ditches, pipes, cultivated vegetation 11%-50%) but few BMPs in place <u>1</u>		
Bottom Substrate Quality	Diverse mixture of sand, detritus, with small amounts of CPOM/mud/muck. SAV may be present <u>2</u>	Mixture of sand or clay and detritus with higher % CPOM/mud/muck content. SAV may be present <u>2</u>		Thick deposits of CPOM, or fine detritus and anaerobic muck/mud/silt, or algal growth or nuisance plants (Hydrilla) cover bottom <u>2</u>		
Lakeside Adverse Human Alternations	Very few man-made structures, roads, or other disturbance adjacent to lake (<10%) <u>6</u>	Moderate disturbance visible (structures, roads or other), 10%-49% lakeside affected <u>6</u>		Many structures, roads or other human disturbance visible (50%-70%) lakeside affected <u>6</u>		
Upland Buffer Zone	Expected native vegetation between uplands and littoral zone, greater than 90% of shore with >18 m buffer <u>6</u>	89%-51% of shoreline with >18m buffer or >75% with 10m to 18m buffer <u>6</u>		50%-30% of shoreline with >18m buffer or 50%-74% with 10m to 18m buffer <u>6</u>		
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, <u>Low Density Residential</u> , Row Crops, Commercial, High Density Residential, Urban, Industrial <u>4</u>					
TOTAL SCORE	<u>27</u>	COMMENTS:				

ANALYSIS DATE:

6/15/2022

ANALYST:

Frank Butera

SIGNATURE:


SBIO Sample ID: 84682HA ID: 17518

QC: _____

DEP FORM FD 9000-27 LAKE VEGETATION INDEX FIELD SHEET

Waterbody: Kell-Aire Lake					County: Okaloosa (Destin)					Date: 6/15/2022				
Analyst: F. Butera, L. Boman					Signature: [Signature]					STORET: G3NW0217				
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 84682	3	6	9	12	Collect ed? (✓)	Macro ID 12196	3	6	9	12	Collect ed? (✓)			
SPECIES						SPECIES								
Acer rubrum						Habenaria repens								
Alternanthera philoxeroides	1	1	1	C		Hydrilla verticillata								
Andropogon sp.						Hydrocotyle sp.	1	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	0		1		Ipomoea aquatica								
Blechnum serrulatum						Ipomoea sagittata								
Boehmeria cylindrica	1	1		1		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	1							
Chara sp.						Leersia hexandra								
Cladium jamaicense						Landoltia punctata (Spiro. punctata)				1				
Cliftonia monophylla						Lemna sp.								
Colocasia esculenta	D	D	1	C		Leucothoe racemosa (E. racemosa)								
*Commelina						Limnium spongia								
Crinum americanum						Limnophila sessiliflora								
* Cyperus alternifolius (C. involucratus)						Liquidambar styraciflua			1					
Cyperus articulatus						*Ludwigia arcuata								
Cyperus haspan						*Ludwigia leptocarpa								
*Cyperus lecontei						*Ludwigia linearis								
*Cyperus polystachyos						*Ludwigia octovalvis								
*Cyperus odoratus						* Ludwigia peruviana								
*Cyperus surinamensis	1			1	✓	*Ludwigia repens								
Cyrilla racemiflora						*Ludwigia								
Decodon verticillatus						Luziola fluitans (H. carolinensis)								
Diodia virginiana						Lyonia lucida								
*Echinochloa crus-galli						Magnolia virginiana	1							
*Echinochloa muricatum						Mayaca fluviatilis								
Echinochloa walteri						Melaleuca quinquenervia								
Eclipta prostrata (E. alba)						Micranthemum glomeratum								
Egeria densa						Micranthemum umbrosum								
Eichhornia crassipes						Mikania scandens	1	1		1				
*Eleocharis baldwinii						Mimosa pigra								
*Eleocharis						Myrica cerifera	1	1		1				
Eleocharis cellulosa														
Eleocharis equisetoides						Lycopus	1							
Eleocharis interstincta						Betula alba	1							
*Eriocaulon compressum														
*Eriocaulon decangulare														
Eupatorium capillifolium														
*Fuirena														
Fuirena scirpoidea														
Gordonia lasianthus														
LIMS ID: 2335029														

FORM FD 9000-27: LAKE VEGETATION INDEX FIELD SHEET

[illegible]

Waterbody: Kell-Aire Lake		County: Okaloosa (Destin)		Date: 6/15/2022	
Analyst: F. Butera, L. Boman		Signature: [Signature]		STORET: G3NW0217	
Except where noted as "sp." species level identification required. *Genera that may require lab verification*				Lake units sampled (circle one group):	
Plants in bold = FLEPPC invasive exotic.				1, 4, 7, 10 2, 5, 8, 11	
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.				3, 6, 9, 12	
SBIO ID 84682	3	6	9	12	Collect
SPECIES					ed? (✓)
[NOT COUNTED]					
Osmunda cinnam.				4	
Cotadenia selloana (Palm Beach Cross)	2	5			
Lyngbya	3	6	9	12	

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

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

Date: <u>6/15/22</u>	Name of Lake: <u>Kell-Aire Lake</u>	Gear used: ☒ <u>SONAR</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		sand, silt/clay, CPOM, muck, SAV	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	<u>1.8</u>	sand, silt/clay, CPOM, muck, SAV

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

Storet G3NW0217
WBID 906B

Field ID G3NW0217

Project. SMP / TMDL Studies

SBIO ID: 84682

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