

Site Name Z1-SL-11017. UnNamed Oxbow Lake

Date 10/20/2017

Field ID Z1SL11017

Storet 52005

Visit ID 78218

RQ: N/A

RPS ID N/A

VPDB ID 10809

HA ID 15014

☒ Sample Site Created in SBIO FB 02/15/2018

☒ Phys/Chem entered in SBIO FB 02/15/2018

☒ HA entered in SBIO Initial FB 02/15/2018 ☐ Date and Initial QA: _____

☒ LVI entered in SBIO Initial FB 02/15/2018 ☐ Date and Initial QA: _____

☐ < 2 m² vegetation

☐ Plants getting verified Date submitted: _____

☒ Plants verified Date returned: Identified at lab.

DEP FORM FD 9000-31: LAKE OBSERVATION FIELD SHEET

SAMPLE ID: 78218 MACROPHYTE ID: _____ LATITUDE: N 30.935722
 COUNTY: Escambia STORET #: 52005 LONGITUDE: W 87.274186
 DATE: 10/20/2017 TIME: 11:00 CST SAMPLING AGENCY: FL DEP - NWROC
 SITE NAME: Z1-SL-11017: Un-Named Oxbow Lake WBID: 25
 FIELD ID/NAME: Z1-SL-11017 LAKE SIZE: 9 RQ: _____

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:	
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>14</u>		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	
LAKESIDE ALTERATIONS <u>11</u>		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)	
		20 19 18 17 16 15 14 13 12 11 10 9 8 7 6		5 4 3 2 1	
BUFFER ZONE <u>13</u>		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	

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: Depth (M) Temp. (°C) pH (SU) D.O. (MG/L) D.O. Sat. (%) Cond. (UMHO/CM) Salinity (PPT) Top: <u>0.3</u> <u>23.5</u> <u>6.4</u> <u>2.9</u> <u>34</u> <u>55</u> <u>0.0</u> Mid-Depth: _____ Bottom: <u>2.5</u> <u>22.6</u> <u>6.4</u> <u>2.2</u> <u>26</u> <u>54</u> <u>0.0</u> Meter ID: <u>132237</u>				Water Surface Oils: ☒ None ☐ Sheen/Slick ☐ Glob ☒ Other <u>CLAY</u>							
Sediment Type: (may check more than one) ☐ Sandy ☐ Organic fibrous (peaty, CPOM) ☒ Vegetated ☒ Sand/Silt ☒ Organic smooth (muck) ☒ Other (Specify): <u>GRAVEL</u>				Clarity: ☐ Clear ☒ Turbid ☐ Opaque ☐ Slightly Turbid ☒ RED/BROWN CLAY SECCHI (M) <u>1.0</u> Total Station Depth (M) <u>3.0</u> VOB ☐							
Sediment Odors: ☒ Normal ☐ Other (Specify): _____ ☐ Anaerobic				Biological Communities: LVI Conducted? ☒ Yes ☐ No Phytoplankton Sample Taken? ☐ Yes ☒ No Sample Preserved? ☒ N/A ☐ 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 ☒ ☐ ☐ ☐			
Additional Notes: D.O. DEPRESSED SINCE 2015 SAMPLING (87.8% below 15). Lots of clay in water. 6' rock line above water mark. (cont.)											
Weather Conditions: <u>BERM for Road on South end of lake. Clay turbidity from road coloring lake</u>											
SAMPLING TEAM: Frank Butera, Stopher Slade				SIGNATURE: <u>Frank Butera</u>		DATE: <u>10/20/2017</u>					

STATE OF FLORIDA, DEPARTMENT OF ENVIRONMENTAL PROTECTION
Lake Habitat Assessment Field Sheet

STORET STATION NUMBER: 52005	DATE (M/D/Y) 10/20/2017	LAKE NAME: Z1-SL-11017. (UnNamed Oxbow Lake)		FIELD ID / NAME: Z1-SL-11017
WBID: 25	COUNTY: Escambia	SAMPLING LOCATION/DESCRIPTION: Century		LAKE SIZE: 9.3 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 CLAY ☒
	Optimal	Suboptimal	Marginal	Poor
Secchi 10	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	0.5 0.4 0.3 0.2 0.1 5 4 3 2 1
Vegetation Quality 12	Diverse, expected native vegetation (emergent or submersed), less than 5% nuisance taxa 20 19 18 17 16	Mostly expected native plants, but moderate growths (6%-20% of lake) of nuisance macrophytes, or more than 50% of lake covered with plants 15 14 13 12 11	Large masses (21%- 40%) of nuisance macrophytes (e.g., Hydrilla, hyacinth, cattail, etc.) or algal mats 10 9 8 7 6	Lake choked (>40%) with nuisance macrophytes (duckweed, hyacinth, etc.) or algal mats, or few plants present at all (e.g., plants removed) 5 4 3 2 1
Stormwater Inputs 14	Stormwater enters system via sheet flow over non-cultivated and/or natural vegetation 20 19 18 17 16	Some direct stormwater inputs (ditches, pipes, cultivated vegetation < 10%) but good BMPs in place 15 14 13 12 11	Moderate direct inputs of stormwater (ditches, pipes, cultivated vegetation 11%-50%) but few BMPs in place 10 9 8 7 6	Much direct input of stormwater (ditches, pipes, cultivated vegetation > 51%) and no or ineffective BMPs in place 5 4 3 2 1
Bottom Substrate Quality 13	Diverse mixture of sand, detritus, with small amounts of CPOM/mud/muck. SAV may be present 20 19 18 17 16	Mixture of sand or clay and detritus with higher % CPOM/mud/muck content. SAV may be present 15 14 13 12 11	Moderate layer of CPOM/ mud/muck, or hardpacked sand only, or moderate algal growth (mats or Chara) on bottom 10 9 8 7 6	Thick deposits of CPOM, or fine detritus and anaerobic muck/mud/silt, or algal growth or nuisance plants (Hydrilla) cover bottom 5 4 3 2 1
Lakeside Adverse Human Alterations 11	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 13	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 13	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	91			
COMMENTS:				

ANALYSIS DATE:

10/20/2017

ANALYST: Frank Butera, Stopher Slade

SIGNATURE:

SBIO ID. **78218**HA ID. **15014**

DEP FORM FD 9000-27 LAKE VEGETATION INDEX FIELD SHEET

Waterbody: Z1-SL-110017. Un-Named Oxbow Lake					County: Okaloosa					Date: 10/20/17				
Analyst: F. Butera					Signature: <i>[Signature]</i>					STORET: 52005				
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): 1, 4, 7, 10 2, 5, 8, 11 3, 6, 9, 12				
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 <u>78218</u>					Macro ID <u>10849</u>									
SPECIES					SPECIES					SPECIES				
1 4 7 10					1 4 7 10					1 4 7 10				
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 (Eubotrys 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 (Hydrochloa 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					CAREX glaucescens									
Eleocharis equisetoides					ALNUS serulata									
Eleocharis interstincta					Liquidambar styr...									
*Eriocaulon compressum					Leptochloa fascicularis									
*Eriocaulon decangulare					Lycopus									
Eupatorium capillifolium					Hypericum galoides									
*Fuirena														
Fuirena scirpoidea														
Gordonia lasianthus														

Site: Z1-SL-11017 Un-Named Oxbow Lake	Storet. 52005	Date: 10/20/2017	S BIO ID 78218	Macro ID 10809
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Revision Date: March 1, 2014

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

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

Date: <u>10/20/17</u>		Name of Lake: <u>Z1-SL-11017</u> <u>UnNamed Oxbow Lake</u>		Gear used: <u>PONAR</u> <u>Petite</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	3.2	^{2*} sand, silt/clay, CPOM, muck, SAV	
2		sand, silt/clay, CPOM, muck, SAV	<u>Storet</u> 8	3.4	* sand, silt/clay, CPOM, muck, SAV <u>GRAVEL</u>	
3		sand, silt/clay, CPOM, muck, SAV	9		sand, silt/clay, CPOM, muck, SAV	
4	3.7	sand, silt/clay, CPOM, muck, SAV	10	3.8	* sand, silt/clay, CPOM, muck, SAV <u>GRAVEL</u>	
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 51067 Field ID Z1SL11017 Project. Status Small 2017
WBID 25

SBIO ID: 78218

SECCHI MEASUREMENTS
sect. 7 0.9m
(short) sect. 8 1.0m

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