

DEP FORM FD 9000-31: LAKE OBSERVATION FIELD SHEET

SAMPLE ID: 80055
 COUNTY: Liberty
 DATE: 7/24/19
 SITE NAME: Camel Lake
 FIELD ID/NAME: Camel Ref

MACROPHYTE ID: 11441
 STORET #: 31010183
 TIME: 4:40 PM Est

LATITUDE: 30.27521 N
 LONGITUDE: -84.9893 W
 SAMPLING AGENCY: PDEP
 WBID: 1039 A
 LAKE SIZE: 40 acres RQ: 2019-07-22-61

WATERSHED / LAKESIDE FEATURES

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category - from GIS): Forest/Natural <u>50</u> Silviculture <u>50</u> Field/Pasture <u> </u> Agricultural <u> </u> Residential <u> </u> Commercial <u> </u> Industrial <u> </u> Other (Specify) <u> </u>						LANDSCAPE DEVELOPMENT INTENSITY (100 m buffer) LDI: <u>no LD</u>			
Local Watershed Erosion (select one): ☐ None ☒ Slight ☐ Moderate ☐ Heavy Local Watershed NPS Pollution: ☐ No evidence ☒ Slight ☐ Moderate ☐ Heavy						Artificially Impounded ☐ Yes ☒ No Land Use Source & Year:			
STORMWATER INPUTS <u>19</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>17</u> <u>Swim area bathroom (septic?)</u> <u>ANF</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>17</u> <u>Swim area beach</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 ☐ No pH < 2 ☐ No Color Sample Taken? ☒ Yes ☐ No Lot # <u> </u> Exp. Date: <u> </u> Alkalinity Sample Taken? ☒ Yes ☐ No Water Level ☐ Low ☒ Normal ☐ High						Water Odors: ☒ Normal ☐ Sewage ☐ Petroleum ☐ Other <u> </u>					
Meter Readings: Depth (M) Temp. (°C) pH (SU) D.O. (MG/L) D.O. Sat. (%) Cond. (UMHO/CM) Salinity (PPT) Top: <u>0.2</u> <u>30.9</u> <u>5.23</u> <u>6.39</u> <u>85.8</u> <u>14.6</u> <u>0.01</u> Mid-Depth: <u>1.5</u> <u>30.9</u> <u>5.17</u> <u>6.39</u> <u>85.7</u> <u>14.6</u> <u>0.01</u> Bottom: <u>3.5</u> <u>30.5</u> <u>5.17</u> <u>6.25</u> <u>84.4</u> <u>14.8</u> <u>0.01</u>						Water Surface Oils: ☒ None ☐ Sheen/Slick ☐ Glob ☐ Other <u> </u>					
Meter ID: <u>451 134185/-186</u>						Clarity: ☒ Clear ☐ Opaque ☐ Turbid ☐ Slightly Turbid Color: ☒ Clear ☐ Tannic ☐ Green					
SECCHI (M) <u>3.4</u>						Total Station Depth (M) <u>3.8</u>					
VOB ☐											

Sediment Type: (may check more than one) ☒ Sandy ☐ Organic fibrous (peaty, CPOM) ☒ Vegetated ☐ Sand/Silt ☒ Organic smooth (muck) ☐ Other (Specify): <u> </u>				Sample Taken? ☐ Yes ☒ No				Sediment Odors: ☒ Normal ☐ Other (Specify): <u> </u> ☐ Anaerobic			
Biological Communities: LVI Conducted? ☒ Yes ☐ No Phytoplankton Sample Taken? ☐ Yes ☒ No Sample Preserved? ☐ Yes ☒ No Lot #: <u> </u> Exp Date: <u> </u> Algal Bloom/Algal ID Sample Taken? Yes ☒ No ☐ No Active Vegetation Mgmt? ☐ Yes ☒ No ☐ Don't Know				Abundance: Absent Rare Common Abundant Periphyton ☐ ☒ ☐ ☐ Nuisance Plants ☐ ☒ ☐ ☐ Submersed Plants ☐ ☐ ☐ ☒ Exotic Apple Snails ☒ ☐ ☐ ☐				Additional Notes: <u> </u>			

Weather Conditions: cloudy, warm, very windy

SAMPLING TEAM: S. Patronis, A O'Neal SIGNATURE: [Signature] DATE: 7/24/19

DEP FORM FD 9000-27 LAKE VEGETATION INDEX FIELD SHEET

Waterbody: <u>Camel Lake</u>				County: <u>Liberty</u>				Date: <u>7/24/19</u>			
Analyst: <u>J. P. Davis A. O'Neal</u>				Signature: <u>[Signature]</u>				STORET:			
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): <u>1, 4, 7, 10</u> 2, 5, 8, 11 3, 6, 9, 12			
SPECIES	1	4	7	10	Collected? (Y)	SPECIES	1	4	7	10	Collected? (Y)
Acer rubrum						Habenaria repens					
Alternanthera philoxeroides						Hydrilla verticillata					
Andropogon sp.	1					Hydrocotyle sp.					
Azolla filiculoides (A. caroliniana)						Hygrophila polysperma					
Baccharis sp.						*Hypericum fasciculatum	1	1	1	1	
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 <u>tenuis?</u>	1				
Cabomba caroliniana						*Juncus marginatus					
Casuarina equisetifolia						*Juncus megacephalus					
Centella asiatica	1					Juncus repens					
Cephalanthus occidentalis						*Juncus scirpoides	1				
Ceratophyllum demersum						Lachnanthes caroliniana					
Chara sp.						Leersia hexandra					
Cladium jamaicense						Landoltia punctata (Spirodela punctata)					
Cliftonia monophylla						Lemna sp.					
Colocasia esculenta						Leucothoe racemosa (Eubotrys racemosa)					
*Commelina						Limnium spongiosa					
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					
Cyrtilla racemiflora	1	1	1	1		*Ludwigia					
Decodon verticillatus						Luziola fluitans (Hydrochloa carolinensis)					
Diodia virginiana	1					Lyonia lucida					
*Echinochloa crus-galli						Magnolia virginiana					
*Echinochloa muricatum						Mayaca fluviatilis	1	1	1	1	
Echinochloa walteri						Melaleuca quinquenervia					
Eclipta prostrata (E. alba)						Micranthemum glomeratum					
Egeria densa						Micranthemum umbrosum					
Eichhornia crassipes						Mikania scandens					
*Eleocharis baldwinii <u>sp. elongata?</u>						Mimosa pigra					
*Eleocharis vivipara Subm.	1	1	1	1		Myrica cerifera					
Eleocharis cellulosa						<u>Unknown aster?</u>	1				
Eleocharis equisetoides						<u>Asteraceae</u>					
Eleocharis interstincta						<u>AO</u>					
*Eriocaulon compressum											
*Eriocaulon decangulare											
Eupatorium capillifolium											
*Fuirena											
Fuirena scirpoidea											
Gordonia lasianthus											

Site: <i>Cum Lake</i>					Date: <i>7/24/19</i>
SPECIES	1	4	7	10	Collected? (✓)
<i>Myriophyllum aquaticum</i> <i>sp laxum</i>	1	1	1	1	
* <i>Myriophyllum heterophyllum</i>					
* <i>Myriophyllum laxum</i>					
* <i>Myriophyllum pinnatum</i>					
<i>Myriophyllum spicatum</i>					
* <i>Najas filifolia</i>					
* <i>Najas guadalupensis</i>					
* <i>Najas minor</i>					
<i>Nelumbo lutea</i>					
<i>Nitella</i> spp.					
<i>Nuphar</i> sp.	1	1	1	1	
<i>Nymphaea odorata</i>	1	1			
<i>Nymphoides aquatica</i>					
<i>Nyssa sylvatica</i> var. <i>biflora</i>					
<i>Orontium aquaticum</i>					
<i>Osmunda cinnamomea</i>					
<i>Osmunda regalis</i>					
<i>Panicum hemitomon</i>	1	1	1	1	
<i>Panicum repens</i>					
<i>Paspalidium geminatum</i>					
* <i>Paspalum repens</i>					
<i>Paspalum urvillei</i>					
<i>Peltandra</i> sp.					
<i>Persea</i> sp.					
<i>Pennisetum purpureum</i>					
<i>Phragmites australis</i>					
<i>Pinus elliotii</i>					
<i>Pistia stratioides</i>					
<i>Pluchea</i> sp.					
* <i>Polygonum glabrum</i> (<i>densiflorum</i>)					
* <i>Polygonum hydropiperoides</i>					
* <i>Polygonum punctatum</i>					
* <i>Polygonum</i>					
<i>Pontederia cordata</i>					
* <i>Potamogeton diversifolius</i>					
* <i>Potamogeton illinoensis</i>					
* <i>Potamogeton pusillus</i>					
* <i>Potamogeton pectinatus</i> (<i>Stuckenia pectinatus</i>)					
<i>Proserpinaca pectinata</i>					
* <i>Rhexia</i>	1				
* <i>Rhynchospora corniculata</i>					
* <i>Rhynchospora inundata</i> <i>sp inun</i>	1				✓
<i>Rhynchospora tracyi</i>					
<i>Ricciocarpus natans</i>					
<i>Sabal palmetto</i>					
<i>Sacciolepis striata</i>					
* <i>Sagittaria filiformis</i>					
* <i>Sagittaria graminea</i> ?	1				✓
* <i>Sagittaria isoetiformis</i>					
<i>Sagittaria lancifolia</i>					
<i>Sagittaria latifolia</i>					

SITE NAME: Camel LakeDATE: 7/24/19TIME 4:40
(military)EST CST DEPTH: 35 ft (m) FIELD ID: Camel Ref

SAMPLING TEAM MEMBERS	WQ MEASUREMENTS	DOCUMENTATION	SAMPLE COLLECTION	PRESERVATION	PRESERVATION CHECK
A O'neal	☒	☒	☒	☒	☒
J. Paton	☒	☒	☒	☒	☒

SAMPLING EQUIPMENT	
☒ Sample Container	☐ Tubing type: _____
☐ Pole	☐ Other: _____
☐ Pump ID#: _____	☐ Other: _____
WATER QUALITY MEASUREMENTS	
Instrument ID: <u>YSI 154185 / 186</u>	
COLLECTION MODE	
☐ Wading	☒ Via Boat
☐ Diving	☒ Canoe
☐ From Shore	☐ Electric Motor
☐ Other	☐ Gasoline Motor

Parameter Suite	Parameter(s)/Method	Matrix Code*	Preservation**	Preservative Lot #	pH Check	# Bottles ***
Preserved Nutrients	☒ TKN ☒ TP ☒ NOx ☒ NH3 ☐ TOC ☐ Total N	SW	☒ Ice ☒ H ₂ SO ₄	101232	☒ <2	1
Filtered Nutrients	☒ OP ☐ Other: _____	SW	☒ Ice ☒ 45 um Filter			
Unpreserved Nutrients	☐ NO ₂ ☐ NO ₃ ☐ SO ₄ ☐ Other: _____	W	☐ Ice			
Physical/Aggregate Properties	☐ TDS ☐ TSS ☐ TS ☐ Turbidity ☒ Alk ☐ Color	SW	☒ Ice			1
Chlorophyll	☒ CHL-PPTN-W	SW	☒ Ice			
BOD	☐ BOD-INHB ☐ BOD-UNIN	W	☐ Ice			
Microbiology	MF: ☐ E coli ☐ T Coli ☐ F Coli ☐ Enteroc ☐ F Strep	W	☐ Ice			
Macroinvertebrates	☐ MI-FW-QLDC ☐ MI-FW-QLBR ☐ MI-FW-QNNC	W	☐ Formalin			
Phytoplankton	☒ PKD-QN-C ☒ DTY-QN-C	SW	☒ Log's in lab			1
Periphyton	☐ PRN-QL-C ☐ DTM-QL-C ☐ PRN-QN-C ☐ DTM-QN-C	W	☐ Formalin			
AGP	☐ AA-AGP ☐ AA-LIM-NUT	W	☐ Ice			
Metals	☒ W-ICP ☐ W-FIAS ☒ W-ICPMS ☐ W-ICP-Tr	SW	☒ HNO ₃	101246	☐ <2	
Filtered Metals	☐ W-ICP-F ☐ W-FIAS-F ☐ W-ICPMS-F ☐ W-ICP-Tr-F	W	☐ HNO ₃ ☐ 45 um Filter		☐ <2	
Mercury	☐ W-HG-AF	W				
Base/Neutral / Acid Extractable	☐ W-BNA ☐ W-AE ☐ W-BN ☐ W-PAH	W	☐ Ice			
	☐ W-FL-PRO ☐ W ☐ Other: _____	W	☐ Ice ☐ H ₂ SO ₄		☐ <2	
Pesticides	☐ W-PEST-CL ☐ W-PCB ☐ W-PEST-NP ☐ W-PSCL-PCB	W	☐ Ice			
	☐ W-NP-AA-SF ☐ W-PC-AA-SF ☐ W-PSHRB-NP	W	☐ Ice			
	☐ W-SLFN-UREA ☐ W-SULFN-LC ☐ Other: _____	W	☐ Ice			
	☐ W-ACIDHERB	W	☐ Ice ☐ H ₂ SO ₄			
	☐ W-CARB	W	☐ Ice ☐ MCAA			
Purgeables	☐ W-VOC-MS	W	☐ Ice			
	☐ W-VOC-MS-A	W	☐ Ice ☐ HCl			
Bioassay	Specify Test: _____	W	☐ Ice			
OTHER		W	☐ Other: _____			

Notes: 10NS sulfate = W-SO₄-IC
 fluoride = W-F
 chloride = W-CL-IC

Use one line for each set of sample (as supplied by the laboratory) containers. Use separate sheet for field or laboratory duplicate or blank or different water depth

*Enter "S" for surface if collected at a depth less than or equal to 1 foot

*Matrix Codes (Insert prefix): SW = Surface Water GW = Groundwater DW = Drinking Water WW = Wastewater O = Other: _____

**PRESERVATIVES: 1 ml added unless otherwise noted

***Enter number of containers supplied by the laboratory for the test (e.g., 3 for volatile organics, etc.)

