

DEP Form F 000-3 Physical/Chemical Characterization Field Sheet

SAMPLE ID _____ ORG ID 21FLWQSP LATITUDE 30.2361
 COUNTY Wakulla STORET # 22030062 LONGITUDE -84.2722
 DATE 2/25/16 TIME 1125 SAMPLING AGENCY FOEP/AEQA
 SITE NAME McBride Slough
 FIELD ID/NAME McBRIRF RECEIVING BODY OF WATER WAKULLA RIVER

RIPARIAN ZONE / STREAM FEATURES

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category): Forest/Natural ☒ Silviculture ☐ Field/Pasture ☐ Agricultural ☐ Residential ☐ Commercial ☐ Industry ☐ Other (Specify) ☐							Landscape Development Intensity Index (LDI) ☐
Local Watershed Erosion (select one): ☒ None ☐ Slight ☐ Moderate ☐ Heavy Local Watershed NPS Pollution: ☒ No evidence ☐ Slight ☐ Moderate ☐ Heavy				Typical Width (m) Depth (m)/Velocity (m/sec) Transect 3.5 m wide 0.25 m/s 0.25 m/s 0.2 m/s 4sec 4sec 5sec 0.6 m deep 0.5 m deep 0.5 m deep			
Width of Riparian Vegetation (m) on Each Buffer Side Left Bank: <u>>18m</u> Right Bank: <u>>18m</u>		Hydrologic Modification Score (per FT 3101) <u>2</u>					
High Water Mark: <u>0.3</u> + <u>0.5</u> = <u>0.8</u> (m) (above present water level) (present depth) (above bed)		Artificially Impounded ☐ Yes ☒ No					
Artificially ☒ No ☐ Mostly recovered, more sinuous Channelized: ☐ Some recovery ☐ Recent, severe		Canopy Cover % ☐ Open ☐ Lightly Shaded (11-45%) ☐ Heavily Shaded ☒ Moderate Shaded (46-80%)					

SEDIMENT / SUBSTRATE

Sediment Oils ☒ Absent ☐ Slight ☐ Moderate ☐ Profuse		Sediment Odors ☒ Normal ☐ Sewage ☐ Petroleum ☐ Chemical ☐ Anaerobic ☐ Other (Specify):		Smothering of Substrates Sand Smothering: None ☐ Slight ☒ Moderate ☐ Severe ☐ Silt Smothering: None ☐ Slight ☐ Moderate ☒ Severe ☐ Algae Smothering: None ☐ Slight ☒ Moderate ☐ Severe ☐	
SUBSTRATE TYPE Assessment Tool: ☒ SCI ☒ RPS ☒ LVS ☐ LCI ☐ BioRecon Invert ☐ Peri ☐ % Coverage # Times Sampled # Times Sampled			WATER QUALITY Depth (M) Temp. (°C) pH (SU) D.O. (MG/L) D.O. Sat (%) Cond. (UMHO/CM) Salinity (PPT) SECCHI (M) Top: <u>0.20</u> <u>18.5</u> <u>7.10</u> <u>5.66</u> <u>100.1</u> <u>368.7</u> <u>1</u> Mid: ☐ ☐ ☐ ☐ ☐ ☐ ☐ Bottom: ☐ ☐ ☐ ☐ ☐ ☐ ☐ Meter ID: <u>YSI #1483</u>		
Woody Debris (Snags) <u>16%</u> <u>7</u> Undercut Banks / Roots <u>11</u> <u>22</u> Leaf Packs or Mat ☐ Aquatic Vegetation <u>55%</u> <u>7</u> Rock or Shell Rubble ☐ Sand <u>28%</u> <u>34</u> Mud / Muck / Silt ☐ Other ☐ Other ☐			Water Odors Normal ☒ Petroleum ☐ Sewage ☐ Chemical ☐ Other ☐ Water Sample Taken? ☒ Yes ☐ No Sample Preserved? ☒ Yes ☐ No Lot Number: <u>SA-5113230</u> Exp: <u>4/23/16</u> Algae Sample Taken? ☐ Yes ☒ No Sample Preserved? ☒ Yes ☐ No Lot Number: ☐ Exp: ☐		
			Water Surface Oils Normal ☒ Sheen ☐ Globbs ☐ Slick ☐ Other ☐ Color Tannic ☐ Green (Algae) ☐ Clear ☒ Other (Specify) ☐ Clarity Clear ☒ Slightly Turbid ☐ Turbid ☐ Opaque ☐		

ABUNDANCE	Not Obs.	Rare	Common	Abundant
Periphyton:	☐	☒	☐	☐
Fish:	☐	☐	☐	☒
Aquatic Plants:	☐	☐	☐	☒
Iron/Sulfur Bacteria:	☒	☐	☐	☐

AMBIENT FIELD CONDITIONS / NOTES:

60's, clear, Full sun, no clouds
 D.O. is 100.1
 NOTED AT 70 M SECTION
☒ The antecedent hydrologic conditions have been met to my best knowledge.

SAMPLING TEAM L. Olney, N. Frederick, K. Sapp SIGNATURE: [Signature] DATE: 2/25/16

DEP Form FL 000-5 Stream/River Habitat Assessment Field Sheet

SAMPLING AGENCY: <u>FDEP/AEQA</u>		STORET STATION NUMBER: <u>22030062</u>	DATE (MM/DD/YY): <u>2/25/16</u>	RECEIVING BODY OF WATER: <u>WAKULLA RIVER</u>
REMARKS:	COUNTY: <u>WAKULLA</u>	LOCATION: <u>MCBRIDE SLOUGH</u>	FIELD ID/NAME: <u>MCBRIDE</u>	

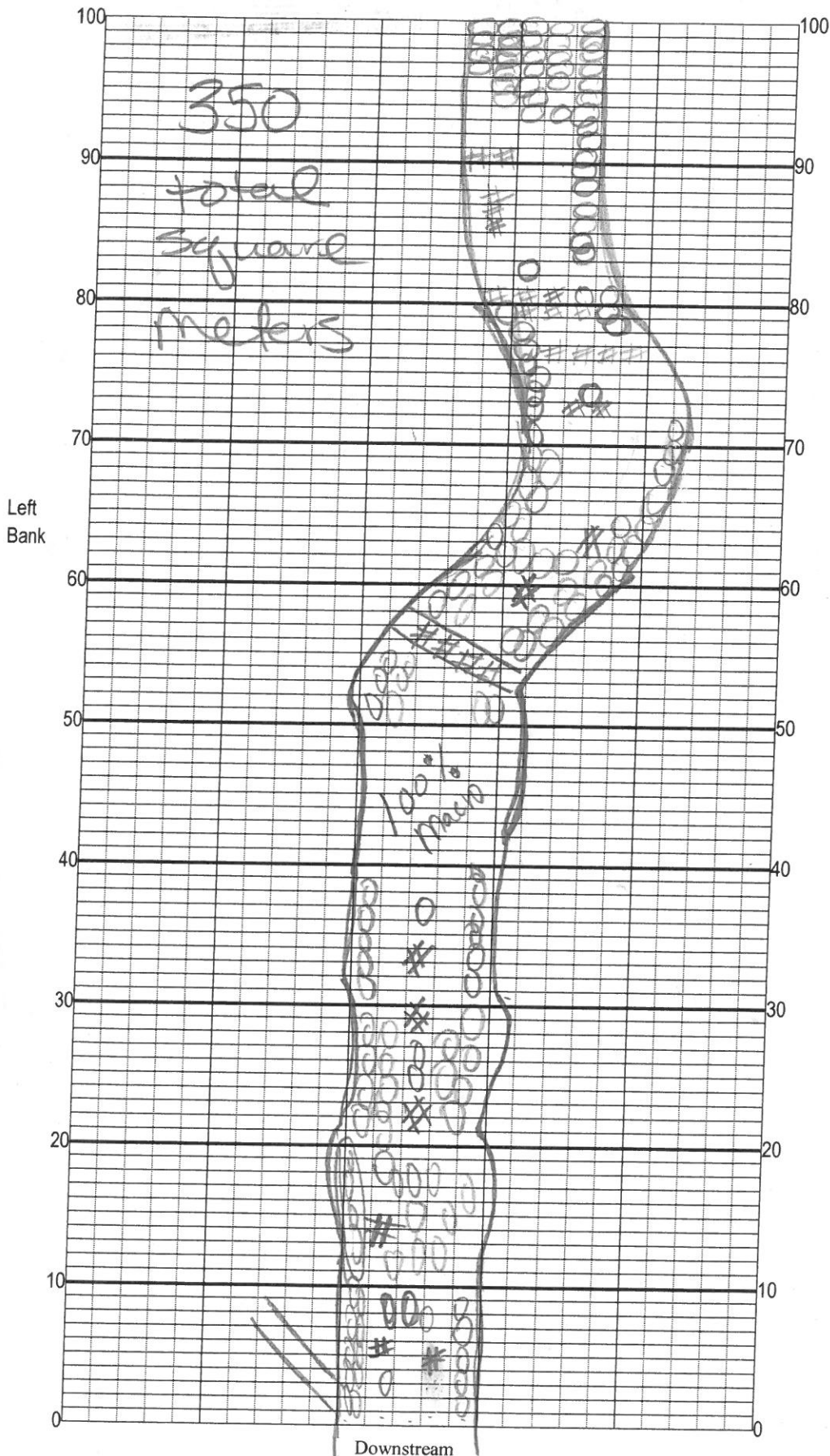
Habitat Parameter	Optimal	Suboptimal	Marginal	Poor
Primary Habitat Components Substrate Diversity <u>10</u>	Four or more major productive habitats present (snags, tree roots, aquatic vegetation, leaf packs (partially decayed), rock) 20 19 18 17 16	Three major productive habitats present. Adequate habitat. Some substrates may be new fall (fresh leaves or snags) 15 14 13 12 11	Two major productive habitats present. Less than desirable habitat, frequently disturbed or removed 10 9 8 7 6	One or less major productive habitat. Lack of habitat is obvious, substrates unstable or smothered 5 4 3 2 1
Substrate Availability <u>18</u>	Greater than 30% major productive habitat present at site 20 19 18 17 16	16% to 30% major productive habitat, by aerial extent 15 14 13 12 11	6% to 15% major productive habitat 10 9 8 7 6	Less than 5% major productive habitat 5 4 3 2 1
Water Velocity <u>17</u>	Max. observed at typical transect: > 0.25 m/sec. But < 1 m/sec ≥0.33 0.31 0.29 0.27 >0.25 20 19 18 17 16	Max. observed at typical transect: >0.1 to 0.25 m/sec 0.25 0.21 0.17 0.13 >0.1 15 14 13 12 11	Max. observed at typical transect: 0.05 to 0.1 m/sec 0.1 0.09 0.07 0.06 0.05 10 9 8 7 6	Max. observed at typical transect: <0.05 m/sec; or spate occurring: > 1 m/sec <0.05 0.04 0.03 0.01 <0.01 5 4 3 2 1
Habitat Smothering <u>17</u> ----- Primary Score <u>62</u>	Adequate number of stable pools (1-2 per 12 times width) and <25% of habitats affected by sand, silt, or algae. 20 19 18 17 16	Adequate number of stable pools (1-2 per 12 times width) and >25% of habitats affected by sand, silt, or algae. 15 14 13 12 11	Does not have required number of stable pools (1-2 per 12 x width) and/or has shallow pools (<2 x prevailing depth). 10 9 8 7 6	Stable pools are absent. Most habitats affected by sand, silt, or algae accumulation. 5 4 3 2 1
Secondary Habitat Components Artificial Channelization <u>20</u>	Expected sinuosity given the stream width. No evidence of dredging or artificial straightening. No spoil banks. 20 19 18 17 16	Good sinuosity within old channelized area. Evidence of dredging in the past (>25 yrs) but mostly recovered. 15 14 13 12 11	Straightened with trapezoidal cross section, but has a small degree of sinuosity developed within channelized area. 10 9 8 7 6	Straightened or engineered by dredging, has trapezoidal or box cut cross section, lacks required pools. May have spoil banks. 5 4 3 2 1
Bank Stability Right Bank <u>10</u> Left Bank <u>10</u>	Bankfull > 60% of bank height. Slope of bank ≤ 60° from bankfull to top of bank. Bankfull is within or above the root zone with few raw, eroded areas. 10 9	Only meets 2 of the 3 requirements for optimal bank stability. 8 7 6	Only meets 1 of the 3 requirements for optimal bank stability. 5 4	Bankfull < 60% of bank height. Slope of bank > 60°. Bankfull is below the root zone with raw, eroded areas. 3 2 1
Riparian Buffer Zone Width Right Bank <u>10</u> Left Bank <u>10</u>	Width of vegetation greater than 18 m 10 9	Width of vegetation >12 to 18m 8 7 6	Width of vegetation 6 to 12 m. human activities close to system 5 4	Less than 6 m of buffer zone due to intensive human activities 3 2 1
Riparian Zone Vegetation Quality Right Bank <u>10</u> Left Bank <u>10</u> ----- Secondary Score <u>80</u>	Over 80% of riparian surfaces consist of normal, expected plant community for given sunlight & habitat conditions (e.g., native plants; tree, shrub, and forbs represented, if appropriate). Minimal disturbance. 10 9	>50% to 80% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions). Some disruption in community observed. 8 7 6	25% to 50% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions). Disruption obvious. 5 4	Less than 25% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions). 3 2 1

142

TOTAL SCORE

Date: <u>2-25-16</u>	Analyst: <u>L. Olney, N. Fredenick, K. Sapp</u>	Signature: 
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DEP Form FD 9000-4 Stream/River Habitat Assessment Sketch Sheet



Length of grid represents 100 m of stream (not linear meters).
(Horizontal scale is double vertical scale, draw proportionately).

Location: McBride Slough
Date: 2.25.16
Sampler: L. Olney, N. Frederick, K. Sapp

100 m: Latitude _____
Longitude _____

0 m: Latitude _____
Longitude _____

Substrates: Code key, draw proportionate habitat abundance. %

Snags _____

SS Roots/undercut banks 12m
sampled once as minor twice

Leaf Packs (or mats) _____

B Aquatic Macrophytes _____

Pools total # observed = Lots
range expected = _____

Average width 4.0 m 3.5 m

Average depth 0.4 m

Velocity measured at 100 meter mark.

WQ & chemistry taken at 100 meter mark.

Habitat Smothering:
Note areas (on map) where sand or silt is smothering substrates, limiting habitability.

Bank Stability:
Note areas (on map) with unstable, eroding banks.

Riparian Buffer Width:
Note areas (on map) where natural vegetation is altered or eliminated.

Plants observed / other notes:

NYS BIF
PER PAL
MYR CER
TAX DIS
MAG VIR
ILE CAS
} IN Buffer

DEP FORM FD 9000-32: LINEAR VEGETATION SURVEY FIELD SHEET

Waterbody: McBRIDE SLOUGH Date: 2-25-16 County: WAKULLA Storet Number: 22130062
Analyst: L. OLNEY Signature: [Signature]

Comments:

Instructions: Note taxa growing in the water with a checkmark if present, "D" if dominant, and "C" if codominant (dominance only if 1 m² of taxa present). Note in the boxes below if no dominant are selected, and note total macrophyte abundance rank for each section. Only the most common taxa are listed, so use blank spaces for additional taxa names.

HERBACEOUS SPECIES	Meter Mark										Specimen collected (check)	HERBACEOUS SPECIES	Meter Mark										Specimen collected (check)
	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100			0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	
Alternanthera philoxeroides												Micranthemum glomeratum											
Bacopa caroliniana												Micranthemum umbrosum											
Bacopa monnieri												Myriophyllum aquaticum											
Bidens mitis												Najas guadelupensis											
Boehmeria cylindrica												Nuphar luteum											
Centella asiatica												Orontium aquaticum											
Ceratophyllum demersum												Panicum hemitomon											
Chara												Panicum repens											
Cicuta maculata												Panicum rigidulum											
Cladium jamaicense												Pistia stratioides											
Colocasia esculenta												Polygonum glabra											
Commelina diffusa												Polygonum hydropiperoides					✓			✓			
Commelina virginica												Polygonum punctatum											
Crinum americanum		✓	✓		✓	✓	✓	✓	✓	✓		Pontedaria cordata									✓		
Diodia virginiana												Potamogeton illinoensis											
Eichhornia crassipes												Ruellia simplex											
Eleocharis (wispy viviparous)												Sacciolepis striata											
Hydrilla verticillata												Sagittaria kurziana					✓			D			
Hydrocotyle		✓						✓				Sagittaria lancifolia											
Hygrophila polysperma												Sagittaria latifolia											
Hymenocallis												Salvinia minima											
Lachnanthes caroliniana												Samolus parviflora											
Landoltia punctata												Saururus cernuus	✓	✓	✓								
Lemna												Sparganium americanum											
Limnophila sessiflora												Typha											
Ludwigia leptocarpa												Vallisneria americana											
Ludwigia palustris												Zizania aquatica											
Ludwigia peruviana												Fontinalis	✓	✓		✓	✓	D	✓				
Ludwigia repens						✓	✓	✓	✓			Micromeria Brownei				✓				✓			
Luziola fluitans												Najas guadalupensis								✓	✓		
LOBELIA CARDINALIS	D	✓	C	C	D	C	C	✓	✓			Eleocharis sp				✓							
Rhynchospora																							
CORNICULATA	✓	✓	✓	✓	✓	✓	✓	✓	✓														
Sium suave									✓														
ARMORACIA AQUATICA	✓	✓	✓	✓	✓	✓	✓	✓	✓														
If no Dominant or Co-Dominant were selected, indicate with "X"																							
Indicate % cover macrophytes per section																							
0-5% Macrophyte Coverage																							
>5 and ≤10% Macrophyte Coverage																							
>10 and ≤25% Macrophyte Coverage								XX															
>25 and ≤50% Macrophyte Coverage									X														
> 50% Macrophyte Coverage	X	X	X	X	X	X	X																

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site: <u>McBride Slough</u>					County: <u>WAKULLA</u>		Date: <u>2-25-16</u>		Investigators: <u>L. BLINNEY, K. SAPP, N. FREDERICK</u>	
					STORET Station Number: <u>22030062</u>					

Transect (m)	Point 1=right 9=left	Algal Thickness Rank (N-6, X)	Estimated	Canopy Cover	Transect (m)	Point 1=right 9=left	Algal Thickness Rank (N-6, X)	Estimated	Canopy Cover	
0	1	N			60	1	N			
	2					2				
	3					3				
	4					4				
	5			50		5				96
	6					6				
	7					7				
	8					8				
	9					9				
10	1	N			70	1	N			
	2					2	5			
	3					3	N			
	4					4	N			
	5			91		5	N			100
	6					6	N			
	7					7	N			
	8					8	N			
	9					9	N			
20	1	N			80	1	N			
	2					2				
	3					3				
	4					4				
	5			85		5				98
	6					6				
	7					7				
	8					8				
	9					9				
30	1	N			90	1	N			
	2					2				
	3					3				
	4					4				
	5			90		5				99
	6					6				
	7					7				
	8					8				
	9					9				
40	1	N			100	1	N			
	2					2				
	3					3				
	4					4				
	5			70		5				80
	6					6				
	7					7				
	8					8				
	9					9				
50	1	N				1	N			
	2					2				
	3					3				
	4					4				
	5			85		5				
	6					6				
	7					7				
	8					8				
	9					9				

Secchi depth	<u>V0B</u>	<u>V0B</u>
Estimated?		

# points ranked 4-6	<u>1</u>
total points assessed	<u>99</u>
% points ranked 4-6	<u>0.01</u>

Check accompanying data collected at same site/date.	
Algal mat sample	
Linear Veg Survey	☒
Habitat Assessment	☒
SCI/Biorecon	
Water sample	☒
RQ- <u>2015-12-14-21</u>	

Algal Thickness Rank	
N	rough, no algae, slimy, algae up to 1mm
3	>1mm - 6mm
4	>6mm - 20mm
5	>20mm - 10 cm
6	>10 cm

Record "N" and check "Estimated" for points deeper than the Secchi depth; algae are presumed absent. Check "Estimated" if thickness estimated for deep points which can be seen but not reached.

Record "X" for points shallower than Secchi depth for which substrate cannot be seen or reached with the hand. No estimated rank.

Record canopy cover as the number of small densiometer quadrants (out of 96) that HAVE canopy cover. Measure facing upstream at point 4, 5, or 6.

Collect algal mat sample following DEP SOP FS 7240 if the percentage of total sampled points with a thickness rank of 4, 5, or 6 is >20%.

SITE NAME: McBride SloughDATE: 2-25-16TIME 11:25 EST CSTDEPTH: 0.2 ft (m)FIELD ID: McBride

SAMPLING TEAM MEMBERS	WQ MEASUREMENTS	DOCUMENTATION	SAMPLE COLLECTION	PRESERVATION	PRESERVATION CHECK
<u>L. OLNEY</u>	☒	☒	☒	☒	☒
<u>K. SAPP</u>	☒	☒	☒	☒	☒
<u>N. FREDRICK</u>	☒	☒	☒	☒	☒

SAMPLING EQUIPMENT	
☒ Sample Container	☐ Tubing type: _____
☐ Pole	☐ Other: _____
☐ Pump ID#: _____	☐ Other: _____
WATER QUALITY MEASUREMENTS	
Instrument ID: <u>YSI #1483</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 ☐ Other: _____	<u>S</u> W	☐ Ice ☒ H ₂ SO ₄		☒ <2	<u>1</u>
Filtered Nutrients	☐ oP ☐ Other: _____	W	☐ Ice ☐ .45 um Filter			
Unpreserved Nutrients	☐ NO ₂ ☐ NO ₃ ☐ SO ₄ ☐ Other: _____	W	☐ Ice			
Physical/Aggregate Properties	☒ TDS ☒ TSS ☐ TS ☒ Turbidity ☒ Alk ☒ Color ☐ Other: _____	<u>S</u> W	☐ Ice			<u>1</u>
Chlorophyll	☒ CHL-PPTN-W	<u>S</u> W	☐ Ice			<u>1</u>
BOD	☐ BOD-INHB ☐ BOD-UNIN	W	☐ Ice			<u>1</u>
Microbiology	MF: ☒ E coli ☐ T Coli ☒ F Coli ☐ Enteroc ☐ F Strep	<u>S</u> W	☐ Ice			
Macroinvertebrates	☒ MI-FW-QLDC ☐ MI-FW-QLBR ☐ MI-FW-QNNC ☐ MI-MN-QNNC	<u>S</u> W	☒ Formalin			<u>2</u>
Phytoplankton	☐ PKD-QN-C ☐ DTY-QN-C	W	☐ Lugol's			
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	W	☐ HNO ₃		☐ <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				
BaseNeutral / Acid Extractable	☐ W-BNA ☐ W-AE ☐ W-BN ☐ W-PAH ☐ 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-NP-AA-SF ☐ W-PC-AA-SF ☐ W-PSHRB-NP ☐ W-SLFN-UREA ☐ W-SULFN-LC ☐ Other: _____ ☐ W-ACIDHERB ☐ W-CARB	W	☐ Ice ☐ H ₂ SO ₄ ☐ Ice ☐ MCAA			
Purgeables	☐ W-VOC-MS ☐ W-VOC-MS-A	W	☐ Ice ☐ HCl			
Bioassay	Specify Test: _____	W	☐ Ice			
OTHER	<u>N-SUC-AA-R</u>	<u>S</u> W	☐ Other: <u>ICE</u>			<u>1</u>

Notes: QPCR S ICE 2

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.)

DEP Bureau of Laboratories Water Sample Collection Record

(Use with FDEP SOP-001/01 Form FD 9000-3 Physical/Chemical Characterization Field Sheet)

SCI Reference sites

last revised Nov 10, 2015

Central Laboratory Submittal Form

Customer: BSSP

Requester: Larry Olney

Field Report Prepared By: LARRY OLNEY

Project ID: SCIREF

Collected By: LARRY OLNEY

Sampling Agency: DEP/AEQA

Location		MCBRIDE SLOUGH		Collection (comp begin or grab)		Composite end		Bottle Group(s)	
Field ID		MCBRIDE		Matrix (type, e.g., Salt, Fresh, etc)		Date 2-25-16 Time 11:25		Total Res. Chlorine (mg/L)	
STORET #		22020050		Temp (C) 18.5		pH 7.1		Sample Depth 0.2	
Latitude		Longitude		Salinity (ppt)		Comments		Sp. Conductance (umho/cm) 368.7	
Location		MCBRIDE SLOUGH		Collection (comp begin or grab)		Composite end		Bottle Group(s)	
Field ID		MCBRIDE		Matrix (type, e.g., Salt, Fresh, etc)		Date		Total Res. Chlorine (mg/L)	
STORET #		22020050		Temp (C)		pH		Sample Depth	
Latitude		Longitude		Salinity (ppt)		Comments		Sp. Conductance (umho/cm)	
Location		MCBRIDE SLOUGH		Collection (comp begin or grab)		Composite end		Bottle Group(s)	
Field ID		MCBRIDE		Matrix (type, e.g., Salt, Fresh, etc)		Date		Total Res. Chlorine (mg/L)	
STORET #		22020050		Temp (C)		pH		Sample Depth	
Latitude		Longitude		Salinity (ppt)		Comments		Sp. Conductance (umho/cm)	

Relinquished By: ZOO	Date/Time: 2/25/16	Shipping Method: 1625	Received By: [Signature]	Date/Time: 2/25/16	Relinquished By: [Signature]	Date/Time: 2/25/16
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