

DEP Form FD 9000-3 Physical/Chemical Characterization Field Sheet

SAMPLE ID 80527 ORG ID 21FLWQSP LATITUDE 30.55116
COUNTY Calhoun STORET # 31020012 LONGITUDE -85.1714
DATE 10/2/19 TIME 1100 SAMPLING AGENCY FDEP/AEQA
SITE NAME chipola River
FIELD ID/NAME chipo* Ref RECEIVING BODY OF WATER Apalachicola R.

RIPARIAN ZONE / STREAM FEATURES

RQ-2019-09-30-86

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category):								Landscape Development Intensity Index (LDI)	
Forest/Natural	Silviculture	Field/Pasture	Agricultural	Residential	Commercial	Industry	Other (Specify)		
<u>20</u>	<u>80</u>							<u>1.5</u>	
Local Watershed Erosion (select one): ☐ None ☒ Slight ☐ Moderate ☐ Heavy								Typical Width (m) Depth (m)/Velocity (m/sec) Transect	
Local Watershed NPS Pollution: ☐ No evidence ☒ Slight ☐ Moderate ☐ Heavy								<u>~40</u> m wide	
Width of Riparian Vegetation (m) on Each Buffer Side				Hydrologic Modification Score (per FT 3101)					
Left Bank: <u>718</u> Right Bank: <u>>18</u>				<u>1-2</u>					
High Water Mark: <u>2</u> + <u>1</u> = <u>3</u> (m) (above present water level) (present depth) (above bed)				Artificially Impounded ☐ Yes ☒ No					
Artificially ☒ No ☐ Mostly recovered, more sinuous				Canopy Cover % ☒ Open ☐ Lightly Shaded (11-45%)					
Channelized: ☐ Some recovery ☐ Recent, severe				☐ 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		WATER QUALITY Depth (M) Temp. (°C) pH (SU) D.O. (MG/L) D.O. Sat (%) Cond. (UMHO/CM) Salinity (PPT) SECCHI (M) Top: <u>0.1</u> <u>15.5</u> <u>7.73</u> <u>6.82</u> <u>83.3</u> <u>268.8</u> <u></u> Mid: <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> Bottom: <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> Meter ID: <u>154185</u> TOTAL DEPTH: <u>0.75m</u>			
Woody Debris (Snags) <u>1</u> <u></u> <u>5</u> Undercut Banks / Roots <u><1</u> <u></u> <u>1</u> Leaf Packs or Mat <u>1</u> <u></u> <u>5</u> Aquatic Vegetation <u></u> <u></u> <u></u> Rock or Shell Rubble <u>45</u> <u></u> <u>5</u> Sand <u>35</u> <u></u> <u>4</u> Mud / Muck / Silt <u></u> <u></u> <u></u> Other <u>pebbles</u> <u>5</u> <u></u> Other <u></u> <u></u> <u></u>		Water Odors Normal ☒ Petroleum ☐ Sewage ☐ Chemical ☐ Other ☐ Water Sample Taken? ☒ Yes ☐ No Sample Preserved? ☒ Yes ☐ No Lot Number: Exp:		Water Surface Oils Normal ☒ Sheen ☐ Globs ☐ Slick ☐ Other ☐ Color Tannic ☐ Green (Algae) ☐ Clear ☒ Other (Specify) ☐	
ABUNDANCE Not Obs. Rare Common Abundant Periphyton: ☐ ☐ ☒ ☐ Fish: ☐ ☐ ☒ ☐ Aquatic Plants: ☒ ☐ ☐ ☐ Iron/Sulfur Bacteria: ☐ ☐ ☐ ☐		Algae Sample Taken? ☐ Yes ☒ No Sample Preserved? <u>NA</u> ☐ Yes ☐ No Lot Number: Exp:		Clarity Clear ☒ Slightly Turbid ☐ Turbid ☐ Opaque ☐	
SAMPLING TEAM <u>A. O'NEAL, S. Noble, N. Wellendorf, J. Interior</u>		System Type: Stream ☒ Lake ☐ Wetland ☐ Estuary ☐ Other (Specify) ☐		AMBIENT FIELD CONDITIONS / NOTES: <u>Sunny, ~85°</u> ☒ The antecedent hydrologic conditions have been met to my best knowledge.	
SIGNATURE: <u>[Signature]</u>		DATE: <u>10/2/19</u>			

DEP Form FD 9000-5 Stream/River Habitat Assessment Field Sheet

SAMPLING AGENCY: <u>DEP AECAS</u>		STORET STATION NUMBER: <u>31020012</u>	DATE (MM/DD/YY): <u>10/2/19</u>	RECEIVING BODY OF WATER: <u>Apalachicola R.</u>
REMARKS: <u>Refer to sheet</u>	COUNTY: <u>Calhoun</u>	LOCATION: <u>Chipola Ref</u>	FIELD ID/NAME: <u>Chip * Ref</u>	

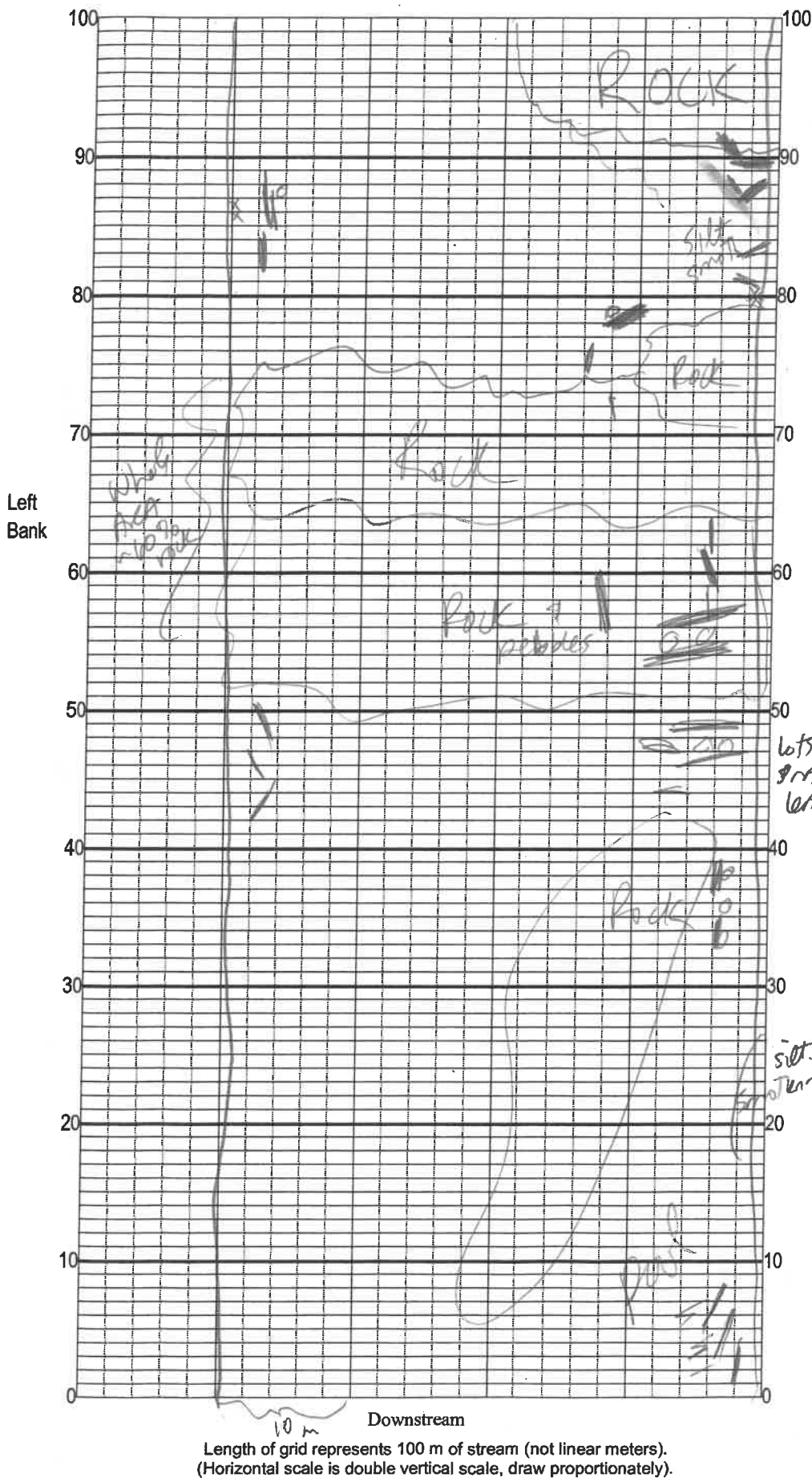
Habitat Parameter	Optimal	Suboptimal	Marginal	Poor
Primary Habitat Components	Four or more major productive habitats present (snags, tree roots, aquatic vegetation, leaf packs (partially decayed), rock)	Three major productive habitats present. Adequate habitat. Some substrates may be new fall (fresh leaves or snags)	Two major productive habitats present. Less than desirable habitat, frequently disturbed or removed	One or less major productive habitat. Lack of habitat is obvious, substrates unstable or smothered
Substrate Diversity <u>13</u>	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
Substrate Availability <u>20</u>	Greater than 30% major productive habitat present at site <u>20</u> 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>20</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>15</u> Primary Score <u>68</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	Expected sinuosity given the stream width. No evidence of dredging or artificial straightening. No spoil banks.	Good sinuosity within old channelized area. Evidence of dredging in the past (>25 yrs) but mostly recovered.	Straightened with trapezoidal cross section, but has a small degree of sinuosity developed within channelized area.	Straightened or engineered by dredging, has trapezoidal or box cut cross section, lacks required pools. May have spoil banks.
Artificial Channelization <u>20</u>	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
Bank Stability Right Bank <u>9</u> Left Bank <u>9</u> <u>mostly rock banks</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>6</u> Left Bank <u>6</u> Secondary Score <u>70</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. <u>dog fennel coming in trees down from hurricane,</u> 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

138

TOTAL SCORE

Date: <u>10/2/19</u>	Analyst: <u>NIA Wellendorf</u>	Signature: <u>Thyde Welch</u>
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DEP Form FD 9000-4 Stream/River Habitat Assessment Sketch Sheet



Location: Chapala Ref
 Date: 10/2/19
 Sampler: NIA Wellendorf

100 m: Latitude _____	Longitude _____
0 m: Latitude _____	Longitude _____
Substrates: Code key, draw proportionate habitat abundance.	
☐ 38m ² Snags	1%
☐ 1m ² Roots/undercut banks	<1
☐ 20m ² Leaf Packs (or mats)	~1%
☐ 0 Aquatic Macrophytes	_____
☐ 1800m ² Rock	45%
☐ total = 4,000m ²	_____
☐ Pools	total # observed = _____ # range expected = _____
Average width ~40 m	
Average depth _____ m	
Velocity measured at <u>66</u> meter mark.	
WQ & chemistry taken at <u>100</u> 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:

Taxodium
Pluchea
Quercus sp.
Eupatorium aspillatoides
Sabal Palmetto
Acer Rubrum

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site: Chipola Ref County: Calhoun Date: 10/2/19 Investigators: Jessica R NIAW

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			X		
	2			X		
	3			X		
	4			X		
	5			N	✓	0
	6			N	✓	
	7			N	✓	
	8			N	✓	
	9			N	✓	
10	1			N	✓	
	2			N		
	3			X		
	4			X		
	5			N		0
	6			N		
	7			2		
	8			N	✓	
	9			X		
20	1			N		
	2			N	✓	
	3			X		
	4			X		
	5			3		0
	6			N		
	7			3		
	8			N	✓	
	9			X		
30	1			N		
	2			N		
	3			N		
	4			N	✓	
	5			5		0
	6			3		
	7			N		
	8			N		
	9			X		
40	1			N		
	2			3		
	3			3		
	4			N		
	5			N		0
	6			N		
	7			3		
	8			3		
	9			N	✓	
50	1			N		
	2			N	✓	
	3			3		
	4			3		
	5			3		0
	6			N		
	7			3		
	8			3		
	9			N	✓	
60	1			N	✓	
	2			N	✓	
	3			3		
	4			N		
	5			N		0
	6			N		
	7			3		
	8			3		
	9			N	✓	
70	1			N		
	2			N		
	3			3		
	4			3		
	5			3		0
	6			3		
	7			3		
	8			N		
	9			N		
80	1			5		
	2			5		
	3			N		
	4			X		
	5			3	✓	0
	6			3	✓	
	7			3		
	8			3		
	9			N		
90	1			X		
	2			X		
	3			N		
	4			X		
	5			X		0
	6			X		
	7			X		
	8			X		
	9			X		
100	1			N		
	2			3		
	3			3		
	4			5	✓	0
	5			X		
	6			X		
	7			X		
	8			X		
	9			X		

STORET Station Number: 31020012

Secchi depth 2m
Estimated? ☒

points ranked 4-6 5
total points assessed 75
% points ranked 4-6 7%

Check accompanying data collected at same site/date.
Algal mat sample ☐
Linear Veg Survey ☒
Habitat Assessment ☒
SCI/Biorecon ☒
Water sample ☒
RQ-2019-09-30-86

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

Visible short diatoms
Some longer strands

All densimeter points probably 0 cover due to width but could not reach them all. Reached most

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 densimeter 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%.

Waterbody: <i>Chipola Ref</i>	Date: <i>10/2/19</i>	County: <i>Calhoun</i>	Storet Number: <i>31020012</i>
Analyst: <i>Nita Wellendorf</i>	Signature: <i>Nita Wellendorf</i>		
Comments: <i>No vegetation in water. Banks washed away by high water due to Hurricane Michael</i>			
Instructions: Note taxa growing in the water with a checkmark if present, "D" if dominant, and "C" if codominant (dominance only if 1 m ² 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		
<i>Alternanthera philoxeroides</i>												<i>Micranthemum glomeratum</i>												
<i>Bacopa caroliniana</i>												<i>Micranthemum umbrosum</i>												
<i>Bacopa monnieri</i>												<i>Myriophyllum aquaticum</i>												
<i>Bidens mitis</i>												<i>Najas guadelupensis</i>												
<i>Boehmeria cylindrica</i>												<i>Nuphar luteum</i>												
<i>Centella asiatica</i>												<i>Orontium aquaticum</i>												
<i>Ceratophyllum demersum</i>												<i>Panicum hemitomon</i>												
<i>Chara</i>												<i>Panicum repens</i>												
<i>Cicuta maculata</i>												<i>Panicum rigidulum</i>												
<i>Cladium jamaicense</i>												<i>Pistia stratioides</i>												
<i>Colocasia esculenta</i>												<i>Polygonum glabra</i>												
<i>Commelina diffusa</i>												<i>Polygonum hydropiperoides</i>												
<i>Commelina virginica</i>												<i>Polygonum punctatum</i>												
<i>Crinum americanum</i>												<i>Pontedaria cordata</i>												
<i>Diodia virginiana</i>												<i>Potamogeton illinoensis</i>												
<i>Eichhornia crassipes</i>												<i>Ruellia simplex</i>												
<i>Eleocharis (wispy viviparous)</i>												<i>Sacciolepis striata</i>												
<i>Hydrilla verticillata</i>												<i>Sagittaria kurziana</i>												
<i>Hydrocotyle</i>												<i>Sagittaria lancifolia</i>												
<i>Hygrophila polysperma</i>												<i>Sagittaria latifolia</i>												
<i>Hymenocallis</i>												<i>Salvinia minima</i>												
<i>Lachnanthes caroliniana</i>												<i>Samolus parviflora</i>												
<i>Landoltia punctata</i>												<i>Saururus cernuus</i>												
<i>Lemna</i>												<i>Sparganium americanum</i>												
<i>Limnophila sessiflora</i>												<i>Typha</i>												
<i>Ludwigia leptocarpa</i>												<i>Vallisneria americana</i>												
<i>Ludwigia palustris</i>												<i>Zizania aquatica</i>												
<i>Ludwigia peruviana</i>																								
<i>Ludwigia repens</i>																								
<i>Luziola fluitans</i>																								

SITE NAME: Chipola RiverDATE: 10/2/19 TIME 1100 (EST) CST DEPTH: 0.1 ft FIELD ID: chipo*Ref
(military)

SAMPLING TEAM MEMBERS	WQ MEASUREMENTS	DOCUMENTATION	SAMPLE COLLECTION	PRESERVATION	PRESERVATION CHECK
S. Noble			X	X	
A. O'Neal	X				X
N. Wellendorf					
J. Patronis					

SAMPLING EQUIPMENT	
☒ Sample Container	☐ Tubing type: _____
☐ Pole	☐ Other _____
☐ Pump ID#: _____	☐ Other _____
WATER QUALITY MEASUREMENTS	
Instrument ID: <u>154185</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	S W	☒ Ice ☒ H2SO4		☒ <2	1
Filtered Nutrients	☒ oP ☐ Other: _____	S W	☒ Ice ☒ .45 um Filter			1
Unpreserved Nutrients	☐ NO2 ☐ NO3 ☐ SO4 ☐ Other: _____	W	☐ Ice			
Physical/Aggregate Properties	☒ TDS ☒ TSS ☐ TS ☒ Turbidity ☒ Alk ☒ Color	S W	☒ Ice			1
Chlorophyll	☒ CHL-PPTN-W	S W	☒ Ice			1
BOD	☐ BOD-INHB ☐ BOD-UNIN	W	☐ Ice			1
Microbiology	MF: ☐ E coli ☒ T Coli ☐ F Coli ☐ Entero ☐ F Strep	S W	☒ Ice			
Macroinvertebrates	☒ MI-FW-QLDC ☐ MI-FW-QLBR ☐ MI-FW-QNNC	S W	☒ Formalin			3
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	S W	☒ HNO3		☒ <2	1
Filtered Metals	☐ W-ICP-F ☐ W-FIAS-F ☐ W-ICPMS-F ☐ W-ICP-Tr-F	W	☐ HNO3 ☐ .45 um Filter		☐ <2	
Mercury	☐ W-HG-AF	W				
BaseNeutral / Acid Extractable	☐ W-BNA ☐ W-AE ☐ W-BN ☐ W-PAH	W	☐ Ice			
	☐ W-FL-PRO ☐ W ☐ Other: _____	W	☐ Ice ☐ H2SO4		☐ <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 ☐ H2SO4			
	☐ 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:

• PCR-BACR, PCR-GFD, PCR-HF183 SW ice 1 bottle

• W-E8321-DI/MS SW ice 1 bottle

• W-PSNP-TQ SW ice 1 bottle

HNO3 NA9189080 exp. 7/8/20; H2SO4 SA9129100 exp. 5/9/20

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)