



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
STRATEGIC MONITORING PROGRAM FIELD SHEET

January 2019

Data Qualified?

Yes / No

WIN Station Name: Mud Lake Slough @ SR 72

Date: 03/28/2019

WIN/ Field ID: G3SD0153

WBID: 1958

Latitude: 27.19348592

(Decimal Degrees)

County: Manatee

ORG ID:

Longitude: -82.15600261

(Decimal Degrees)

Receiving Body of Water: Peace River

RQ: 2019-03-25-64

Sampling Team Members					WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check
MARVANN DILYAN					☒	☒	☒	☒	☒
CHASE CONLEY					☒	☒	☒	☒	☒
RTENEN LOONE					☒	☒	☒	☒	☒

Sampling Equipment		
☒ Sample Container	☐ Van Dorn	☐ Pole
☐ Carboy	☒ Syringe	
☐ Dipper	☐ Other	
Depth Measured with <u>SECCHI</u>		
Equipment ID <u>3312B</u>		

Collection Method	
☒ Wading	☐ Canoe/Kayak
☐ From Shore	☐ Electric Motor
☐ Other	☐ Gasoline Motor

Water Level: Dry/ Pooled/ Low / Normal / High / Flooded
Photos: Yes / No / Flow: No Flow / Intertidal / Flowing / NA
Meter ID# SN4K Matrix: Fresh Marine / DI
Tide: Rising/ Falling/ Slack/ NA Tide Times: High NA Low NA

Time Zone	Time	Total Depth (m)	Sample Depth (m)	Secchi Disk (m)	DO (mg/L)	DO (%SAT)	pH	Salinity (PPT)	Sp COND (umhos/cm)	Temp. (C°)
EST	1100	0.3	0.15	0.3	8.02	86.1	7.77	0.21	437	18.7
CEN				S						

Biological Samples Collected: None HA SCI RPS Algae ID LVS LVI Other:

SBIO ID Numbers: SBIO-ID: HA-ID: RPS-ID: Macrophyte-ID: LIMS#:

Parameter Suite	Parameter Methods	Preservation	Lot#	Expiration	pH Check
Preserved Nutrients	☒ W-NH3 / W-NO2NO3 / W-TKN / W-TOC / W-S-A-TP	☒ Ice ☒ H ₂ SO ₄	SA8197090	07/16/19	☒ <2
Metals	☒ W-ICPMS ☒ W-ICP	☒ Ice ☒ HNO ₃	NA 8197080	07/16/19	☐ <2
Filtered Nutrients	☒ W-PO4-F ☒ Field Filtered 0.45 µm Filter	☒ Ice			
Chlorophyll	☒ CHLSUITE-W	☒ Ice			
Physical/Aggregate (Fresh)	☒ Alkalinity / W-F / W-TSS / TURBIDITY / W-CH-IC / W-COLOR / W-SO4-IC / W-TDS	☒ Ice			
Physical/Aggregate (Marine)	☐ Alkalinity / W-BR-IC / W-F / W-TSS / TURBIDITY	☐ Ice			
Macroinvertebrates	☐ MI-FW-QLDC	☐ Formalin			
Periphyton	☐ ALGAE-ID	☐ Ice			
Microbiology	☒ E Coll ☐ F Coll ☐ Enterococci	☒ Ice			
Molecular	☐ PCR-FILTER ☐ PCR-BacR ☐ PCR-GULL2 ☐ PCR-HF1.83 ☐ PCR-DG3 ☐ PCR-GFD	☐ Ice			
Tracers	☐ W-E8321-DI ☐ W-E8321-MS	☐ Ice			
Pesticides	☒ W-PSNP-TQ ☐ W-CT-CL-R ☒ W-E8321-DI ☐ W-PCL-SQ-R ☒ W-E8321-MS ☐ W-CARB-AA	☒ Ice			
Phytoplankton	☐ DTY-QN-C ☐ PKD-QN-C	☐ Ice			

Notes: *E. coli*

Field ID/WIN ID: G3SD0153

Location: Mud Lake Slough

Signature: *[Signature]* Date: 03/28/2019

LIMS EVENT ID: SD-DIST-2019-03-29-02 WIN Import ID:

Enter Field Parameters, Verify Station ID In LIMS DMT: QC Station ID, Field Parameters In LIMS DMT:

Scan/Save Field Sheets 4/04/2019 Migrate Data to WIN: Verify Data In WIN:

(Initials/Date)

(Initials/Date)

(Initials/Date)

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

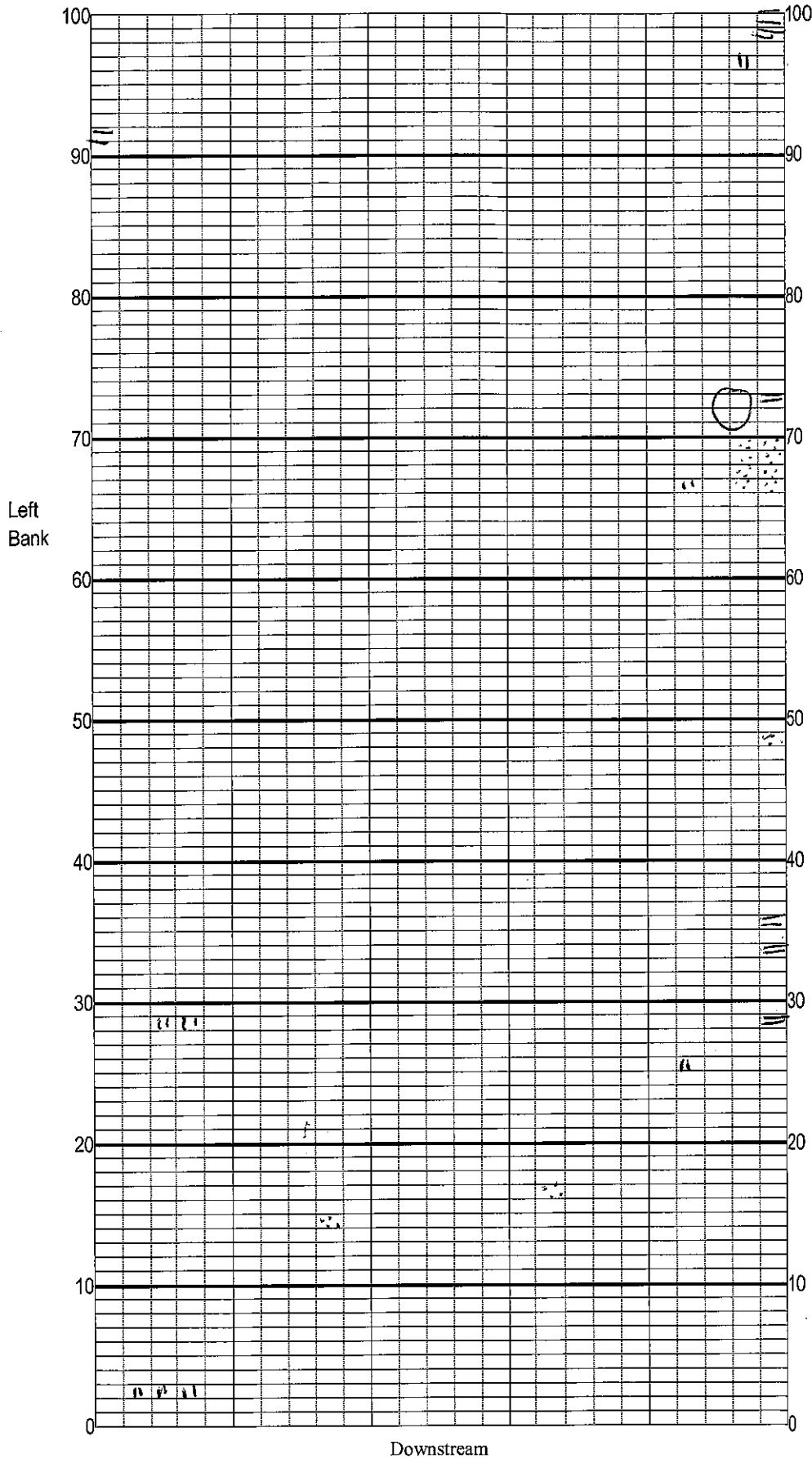
SAMPLING AGENCY: S ROC		STORET STATION NUMBER: G3S00153	DATE (MM/DD/YYYY): 09/28/2019	RECEIVING BODY OF WATER: PEACE RIVER
REMARKS:	COUNTY: MANATEE	LOCATION: MUD LAKE slough @ SR72	FIELD ID/NAME:	

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 3	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
Substrate Availability 1	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 14	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 12 Primary Score 30	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 or straightening 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 20	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
Bank Stability	Bankfull > 60% of bank height. Slope of bank ≤ 60° from bankfull to top of bank. Bankfull is within or above the woody root zone with few raw, eroded areas.	Only meets 2 of the 3 requirements for optimal bank stability.	Only meets 1 of the 3 requirements for optimal bank stability.	Bankfull < 60% of bank height. Slope of bank > 60°. Bankfull is below the woody root zone with raw, eroded areas.
Right Bank 9 Left Bank 9	10 9	8 7 6	5 4	3 2 1
Riparian Buffer Zone Width	Width of vegetation greater than 18 m	Width of vegetation >12 to 18m	Width of vegetation 6 to 12 m. human activities close to system	Less than 6 m of buffer zone due to intensive human activities
Right Bank 10 Left Bank 10	10 9	8 7 6	5 4	3 2 1
Riparian Zone Vegetation Quality	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.	>50% to 80% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions). Some disruption in community observed.	25% to 50% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions). Disruption obvious.	Less than 25% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions).
Right Bank 6 Left Bank 7 Secondary Score 71	10 9	8 7 6	5 4	3 2 1

101 TOTAL SCORE

Date: 04/09/2019	Analyst: MARYANN DUGAN, STEVEN AFONIE CHASE CONLEY	Signature: <i>Maryann Dugan</i>
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DEP Form FD 9000-4 Stream/River Habitat Assessment Sketch Sheet



Downstream

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

Location: Mud Lake Slough

Date: 03/28/2019

Sampler: MD, SC, CE

100 m: Latitude 27.194370
Longitude -82.156454

0 m: Latitude 27.193597
Longitude -82.156210

Substrates: Code key, draw proportionate habitat abundance.

II Snags 0.08 0.8 m²

III Roots/undercut banks 0.07 0.7

IV Leaf Packs (or mats) 0.1 1.0

M Aquatic Macrophytes 0 0

A ROCKS 0 0

0 Pools total # observed = 1
range expected = 0-2

Average width 10.0 m
Average depth 0.2 m

Velocity measured at 50 meter mark.

WQ & chemistry taken at 0 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:

1 box = .1 m²

5 s/m = 0.2 m/l

0.25%
HABITAT

Date: 04/09/19

County: Manatee

Waterbody: MUD LAKE

Signature: _____

STONCH

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. **bold is exotic invasive**

Section	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480	481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500	501	502	503	504	505	506	507	508	509	510
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[illegible]

Site: _____ County: _____ Date: _____ Investigators: _____

Transect (m)	Point 1=right 9=left	Algal Thickness Rank (N - 6)	Canopy Cover	Transect (m)	Point 1=right 9=left	Algal Thickness Rank (N - 6)	Canopy Cover	Transect (m)	Point 1=right 9=left	Algal Thickness Rank (N - 6)	Canopy Cover
0	1	22	7	40	1	22	96	80	1	22	96
	2	22			2	22					
	3	22			3	22					
	4	22			4	22					
	5	22			5	22					
	6	22			6	22					
	7	22			7	22					
	8	22			8	22					
	9	22			9	22					
10	1	22	96	50	1	22	94	90	1	22	96
	2	22			2	22					
	3	22			3	22					
	4	22			4	22					
	5	22			5	22					
	6	22			6	22					
	7	22			7	22					
	8	22			8	22					
	9	22			9	22					
20	1	22	96	60	1	22	91	100	1	22	96
	2	22			2	22					
	3	22			3	22					
	4	22			4	22					
	5	22			5	22					
	6	22			6	22					
	7	22			7	22					
	8	22			8	22					
	9	22			9	22					
30	1	22	96	70	1	22	96		1	22	96
	2	22			2	22					
	3	22			3	22					
	4	22			4	22					
	5	22			5	22					
	6	22			6	22					
	7	22			7	22					
	8	22			8	22					
	9	22			9	22					

Algal Thickness Rank

N rough, no algae; slimy; algae to 1 mm

3 >1mm - 6 mm

4 >6 - 20 mm

5 >20 mm -10 cm

6 >10 cm

Secchi depth: 0.3 S

Check accompanying data collected at same site/date.

Algal mat sample ☒

Habitat Assessment ☒

Linear Veg. Survey ☒

SCI/Biorecon (circle 1) ☒

Water sample ☒

RO: 2019-03-25-64

points ranked 4-6 0

total points assessed 99

% points ranked 4-6 0

Record "N" for points deeper than the Secchi depth; algae are presumed absent. Record "X" for points shallower than Secchi depth for which substrate cannot be seen or reached with the hand. Note if thickness estimated for deep points which can be seen but not reached.

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 an 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%.

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

SAMPLE ID _____ ORG ID 8052 LATITUDE 27.194370
 COUNTY Manatee STORET # G3SD0153 LONGITUDE -82.186454
 DATE 03/28/2019 TIME 1100 SAMPLING AGENCY JROC
 SITE NAME MUD LAKE SWAMP
 FIELD ID/NAME " " " SR 72 RECEIVING BODY OF WATER PEACE 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) ☐ <u>20</u> <u>80</u>							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 <u>10.0</u> m wide
Width of Riparian Vegetation (m) on Each Buffer Side Left Bank : <u>200</u> Right Bank : <u>80</u>				Hydrologic Modification Score (per FT 3101) ☐		Typical Width (m) Depth (m)/Velocity (m/sec) Transect <u>0.2</u> m/s <u>0.2</u> m/s <u>0.2</u> m/s	
High Water Mark: <u>0.4</u> + <u>0.3</u> = <u>0.7</u> (m) (above present water level) (present depth) (above bed)				Artificially Impounded ☐ Yes ☒ No		Typical Width (m) Depth (m)/Velocity (m/sec) Transect <u>0.2</u> m deep <u>0.3</u> m deep <u>0.2</u> m deep	
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		WATER QUALITY Depth (M) Temp. (°C) pH (SU) D.O. (MG/L) D.O. Sat (%) Cond. (UMHO/CM) Salinity (PPT) SECCHI (M) Top : <u>0.15</u> <u>18.7</u> <u>7.77</u> <u>8.02</u> <u>86.1</u> <u>437</u> <u>0.21</u> <u>0.3</u> Mid : ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☒ VOB Bottom : ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ Meter ID: <u>ONEK</u> TOTAL DEPTH <u>0.3</u>			
Woody Debris (Snags) <u>0.08</u> Undercut Banks / Roots <u>0.07</u> Leaf Packs or Mat <u>0.1</u> Aquatic Vegetation <u>0</u> Rock or Shell Rubble.. <u>0</u> Sand..... Mud / Muck / Silt Other Other		Water Odors Normal ☒ Petroleum ☐ Sewage ☐ Chemical ☐ Other ☐		Water Surface Oils Normal ☒ Sheen ☐ Globbs ☐ Slick ☐ Other ☐ Color Tannic ☒ Green (Algae) ☐ Clear ☐ Other (Specify) ☐	
ABUNDANCE Not Obs. Rare Common Abundant Periphyton: ☒ ☐ ☐ ☐ Fish: ☐ ☐ ☒ ☐ Aquatic Plants: ☐ ☒ ☐ ☐ Iron/Sulfur Bacteria: ☒ ☐ ☐ ☐		Water Sample Taken? ☒ Yes ☐ No Sample Preserved? ☒ Yes ☐ No Lot Number: <u>SAB197090</u> Exp: <u>07/14/19</u> <u>NA8197080</u> <u>09/10/19</u> Algae Sample Taken? ☐ Yes ☒ No Sample Preserved? ☐ Yes ☐ No Lot Number: _____ Exp: _____		Clarity Clear ☒ Slightly Turbid ☐ Turbid ☐ Opaque ☐	
System Type: Stream ☒ Lake ☐ Wetland ☐ Estuary ☐ Other(Specify) ☐		AMBIENT FIELD CONDITIONS / NOTES: ☒ The antecedent hydrologic conditions have been met to my best knowledge.			

SAMPLING TEAM MARYANN DUGAN, STEVEN WOFONE, CHASE CONLEY SIGNATURE: Maryann Dugan DATE: 04/09/2019