



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
STRATEGIC MONITORING PROGRAM FIELD SHEET

April 2018

Data Qualified?
Yes / No

WIN Station Name: Myrtle Slough @ Culvert Under Pine Island

Date: 08/16/2018
(mm/dd/yyyy)

WIN/ Field ID: G3SD0095

WBID: 1995

Latitude: 27.08419

County: DeSoto

ORG ID:

Longitude: -81.7623
(Decimal Degrees)

Receiving Body of Water: Peace River

RQ-2018-07-02-39
(Decimal Degrees)

Sampling Team Members					WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check	Sampling Equipment				
Nicole Reistad										☒ Sample Container	☐ Van Dorn	☐ Pole		
Maryann Dugan										☐ Carboy	☒ Syringe			
Steven (Cofone) / Gary Snare										☐ Dipper	☐ Other			
										Depth Measured with <u>Secchi disk</u>				
										Equipment ID <u>53122</u>				
										Collection Method				
										☐ Wading	☐ Canoe/Kayak			
										☒ From Shore	☐ Electric Motor			
										☐ Other	☐ Gasoline Motor			
Water Level: Dry/ Pooled/ Low / Normal / High / Flooded					Meter ID# <u>SNEX</u>					Matrix: <u>Fresh</u> Marine / DI				
Photos: Yes ☐ No ☒					Flow: No Flow / Intestinal / Flowing <u>NA</u>					Tide: Rising/ Falling/ Slack <u>NA</u>				
Tide Times: High Low														
Time Zone	Time	Total Depth (m)	Sample Depth (m)	Secchi Disk (m)	DO (mg/L)	DO (%SAT)	pH	Salinity (PPT)	Sp COND (µmhos/cm)	Temp. (C°)				
EST	1205	0.4	0.2	0.4	4.75	61.3	6.50	0.10	207.3	28.0				
CEN														
Biological Samples Collected: None <u>HA</u> <u>SCI</u> <u>RPS</u> <u>Algae ID</u> <u>LVS</u> <u>LVI</u> 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 <u>H2SO4</u>	<u>SA8085170</u>	<u>03/26/19</u>	<u>DO2</u>					
Metals	☒ W-ICPMS ☒ W-ICP					☒ Ice <u>HNO3</u>	<u>NA8080070</u>	<u>03/21/19</u>	<u>DO2</u>					
Filtered Nutrients	☒ W-PO4-F ☒ Field Filtered 0.45 µm Filter					☒ Ice								
Chlorophyll	☒ CHL SUITE-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-F / W-TSS / TURBIDITY					☐ Ice								
Macroinvertebrates	☐ MI-FW-QLDC					☐ Formalin								
Periphyton	☐ ALGAE-ID					☐ Ice								
Microbiology	☐ E Coli ☐ F Coli ☐ Enterococci					☐ Ice								
Molecular	☐ PCR-FILTER ☐ PCR-HF183 ☐ PCR-BacR ☐ PCR-GULL2 ☐ 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 ☐ Other								

Notes:

SBIO visit 78755 08/20/2018

Field ID/WIN ID



G3SD0095

Location



MyrtleSlough@PineIsland

Signature:

[Signature]

Date:

08/16/2018

Enter Field Parameters, Verify Station ID in LIMS DMT:

SAC 08/28/18

QC Station ID, Field Parameters in LIMS DMT:

Scan/Save Field Sheets

08/20/18

Migrate Data to WIN:

Verify Data in WIN:

(Initials/Date)

(Initials/Date)

(Initials/Date)

(Initials/Date)

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

SAMPLING AGENCY: S ROC		STORET STATION NUMBER: G3SD0095	DATE (MM/DD/YY): 08/16/2018	RECEIVING BODY OF WATER: PEACE RIVER
REMARKS:	COUNTY: DE Soto	LOCATION: Myrtle Slough (Culvert under Pine Island)	FIELD ID/NAME:	

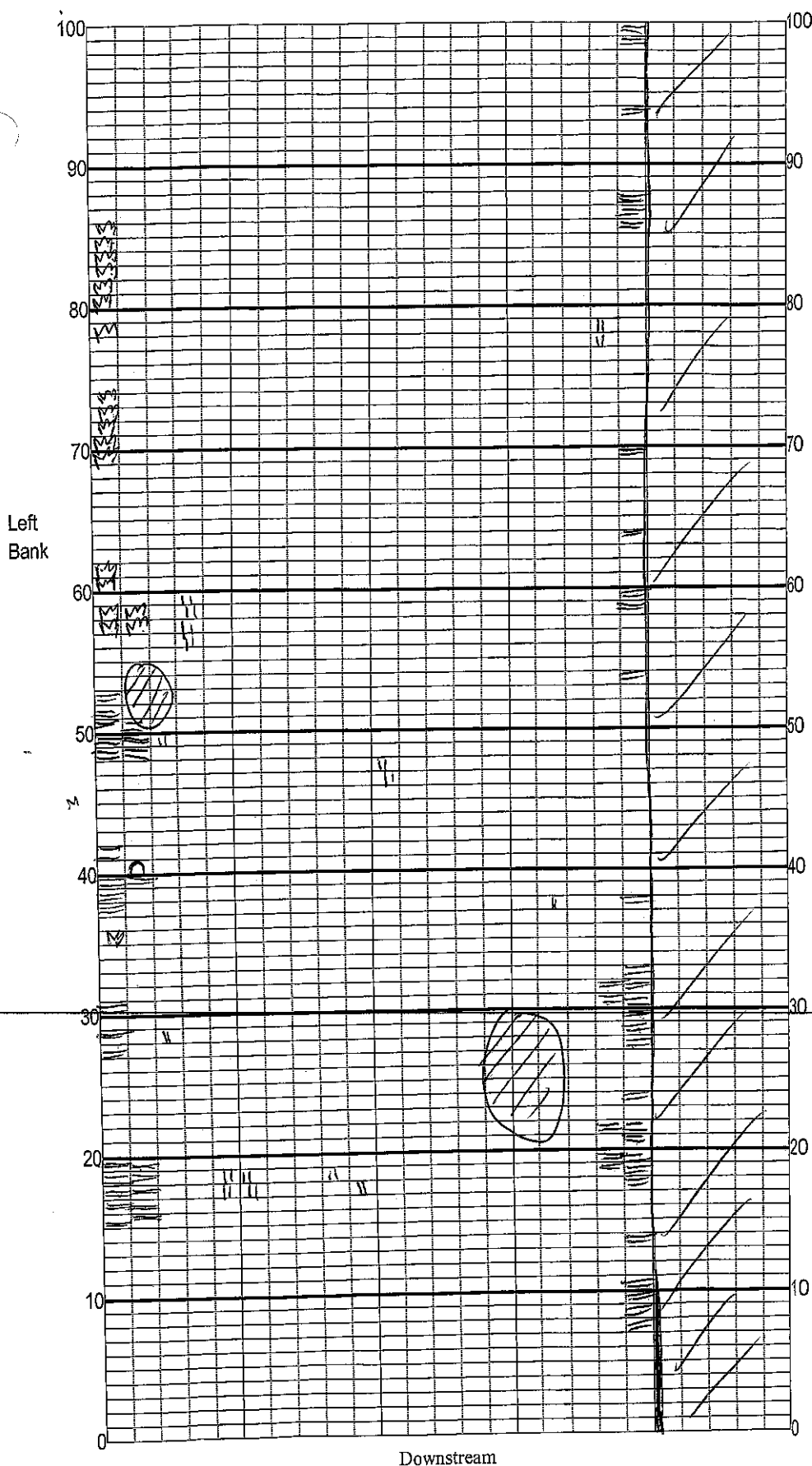
Habitat Parameter	Optimal	Suboptimal	Marginal	Poor
Primary Habitat Components	Four or more major productive habitats present [snags, tree roots, aquatic vegetation, leaf packs (partially decayed), rock]	Three major productive habitats present. Adequate habitat. Some substrates may be new fall (fresh 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 12	20 19 18 17 16	15 14 13 (12) 11	10 9 8 7 6	5 4 3 2 1
Substrate Availability 6	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 20	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 50	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 13	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 6 Left Bank 6	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 9 Left Bank 6	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 5 Left Bank 5 ----- Secondary Score 50	10 9	8 7 6	(5) 4	3 2 1

100

TOTAL SCORE

Date: 08/16/2018	Analyst: Alayam Jagan	Signature: Alayam Jagan
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DEP Form FD 9000-4 Stream/River Habitat Assessment Sketch Sheet



Location: Myrtle Slough @ Culver
under pine island
 Date: 08/14/2018
 Sampler: Maryann Dugan

100 m: Latitude 27.0848520
 Longitude -81.7617382

0 m: Latitude 27.0842410
 Longitude -81.7622029

Substrates: Code key, draw proportionate habitat abundance. %

	Snags	<u>1</u>	<u>4.2</u> m ²
	Roots/undercut banks	<u>3.75</u>	<u>15</u> m ²
	Leaf Packs (or mats)	<u>0</u>	<u>0</u>
	Aquatic Macrophytes	<u>1.19</u>	<u>4.75</u> m ²
	ROCKS	<u>.06</u>	<u>.25</u> m ²
	Pools	total # observed = <u>2</u> # range expected = <u>2-3</u>	

Average width 4 m
 Average depth 0.7 m

Velocity measured at 0 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 = .25 m²
6 %

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

SAMPLE ID G38D0095 ORG ID _____ LATITUDE 27.08419
 COUNTY De Soto STORET # _____ LONGITUDE -81.7623
 DATE 08/16/2018 TIME 1205 SAMPLING AGENCY S RC
 SITE NAME MURKIN SLUGG (2) Culvert Under Pine Island
 FIELD ID/NAME _____ RECEIVING BODY OF WATER PEACE RIVER

RIPARIAN ZONE / STREAM FEATURES

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category): Forest/Natural <u>20</u> Silviculture _____ Field/Pasture <u>60</u> Agricultural <u>20</u> Residential _____ Commercial _____ Industry _____ Other (Specify) _____								Landscape Development Intensity Index (LDI) <u> </u>
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>4.0</u> m wide		
Width of Riparian Vegetation (m) on Each Buffer Side Left Bank: <u>13</u> Right Bank: <u>18+</u>				Hydrologic Modification Score (per FT 3101) <u> </u>		0.5 m/s 0.5 m/s 0.5 m/s		
High Water Mark: <u>0.3</u> + <u>0.7</u> = <u>1.0</u> (m) (above present water level) (present depth) (above bed)				Artificially Impounded ☐ Yes ☐ No		0.7 m deep 1.0 m deep 0.7 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 % Coverage INVERT # Times Sampled PERI # 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>0.2</u> <u>28.0</u> <u>6.50</u> <u>4.75</u> <u>61.3</u> <u>2073</u> <u>0.10</u> <u>0.4</u> Mid: _____ Bottom: _____ Meter ID: _____		
Woody Debris (Snags) _____ Undercut Banks / Roots _____ Leaf Packs or Mat _____ Aquatic Vegetation _____ Rock or Shell Rubble _____ Sand _____ Mud / Muck / Silt _____ Other _____ Other _____			Water Odors: Normal ☒ Petroleum ☐ Sewage ☐ Chemical ☐ Other ☐ Water Sample Taken? ☒ Yes ☐ No Sample Preserved? ☒ Yes ☐ No Lot Number: _____ Exp: _____ Algae Sample Taken? ☐ Yes ☒ No Sample Preserved? ☐ Yes ☐ No Lot Number: _____ Exp: _____		
ABUNDANCE Not Obs. Rare Common Abundant Periphyton: ☒ ☐ ☐ ☐ Fish: ☐ ☒ ☐ ☐ Aquatic Plants: ☐ ☒ ☐ ☐ Iron/Sulfur Bacteria: ☒ ☐ ☐ ☐			Water Surface Oils: Normal ☒ Sheen ☐ Globbs ☐ Slick ☐ Other ☐ Color Tannic ☐ Green (Algae) ☐ Clear ☒ Other (Specify) _____ 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

SIGNATURE:

DATE:

MARYANN DALGAN, NICOLE REIDTAD, STEVEN CUFONE,
 GARY SNOOKER

[Signature]

08/16/2018

G35D0095

DEP FORM FD 9000-32: LINEAR VEGETATION SURVEY FIELD

Storet Number: ^ put sticker here

Date: 8/16/08

County: DESOTO

Waterbody: MYRTLE

Analyst: MARYANN DUGAN, NICOLE REISTAD, STEVEN COFORD, GARY SINGER

Signature: Maryann Dugan

Slough @ Culvert

PINE ISLAND

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**

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	X	X	X	X	X	X	X					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 sp.												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											
Cyperus												Potamogeton illinoensis											
Diodia virginiana												Ruellia simplex											
Eichhornia crassipes												Sacciolepis striata											
Eleocharis (wispy viviparous)												Sagittaria kurziana											
Hydrilla verticillata												Sagittaria lancifolia											
Hydrocotyle sp.	X	X	X	X	X	X	X	X	X	X		Sagittaria latifolia											
Hygrophila polysperma												Salvinia minima											
Hymenachne amplexicaulis												Samolus parviflora											
Hymenocallis												Saururus cernuus											
Lachnanthes caroliniana												Sparganium americanum											
Landoltia punctata												Sphagneticola trilobata (Wedelia)											
Lemna sp.												Typha sp.											
Limnophila sessiflora												Urochloa mutica (Brachiaria)											
Ludwigia leptocarpa												Vallisneria americana											
Ludwigia palustris												Zizania aquatica											
Ludwigia peruviana												Salix carolinia	X	X	X								
Ludwigia repens																							
Luziola fluitans																							
If no Dominant or Co-Dominant were selected, indicate with "X"																							
Indicate % cover macrophytes per section																							
0-5% Macrophyte Coverage	X	X	X	X	X	X	X	X	X	X													
>5 and ≤10% Macrophyte Coverage																							
>10 and ≤25% Macrophyte Coverage																							
>25 and ≤50% Macrophyte Coverage																							
> 50% Macrophyte Coverage																							

LVS ID: 11026

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
0	1			40	1		
	2				2		
	3				3		
	4				4		
	5				5		
	6				6		
	7				7		
	8				8		
	9				9		
10	1			50	1		
	2				2		
	3				3		
	4				4		
	5				5		
	6				6		
	7				7		
	8				8		
	9				9		
20	1			60	1		
	2				2		
	3				3		
	4				4		
	5				5		
	6				6		
	7				7		
	8				8		
	9				9		
30	1			70	1		
	2				2		
	3				3		
	4				4		
	5				5		
	6				6		
	7				7		
	8				8		
	9				9		

Transect (m)	Point 1=right 9=left	Algal Thickness Rank (N - 6)	Canopy Cover
80	1		
	2		
	3		
	4		
	5		
	6		
	7		
	8		
	9		
90	1		
	2		
	3		
	4		
	5		
	6		
	7		
	8		
	9		
100	1		
	2		
	3		
	4		
	5		
	6		
	7		
	8		
	9		

Algal Thickness Rank	Algal Thickness
1	rough, no algae; slimy; algae to 1 mm
2	>1mm - 6 mm
3	>6 - 20 mm
4	>20 mm - 10 cm
5	>10 cm
6	>10 cm

# points ranked 4-6	total points assessed	% points ranked 4-6

Secchi depth:

Check accompanying data collected at same site/date.
Algal mat sample
Habitat Assessment
Linear Veg. Survey
SCI/Bioecon (circle 1)
Water sample
RO:

(This fits with paper margins and orientation.)

User Defined Space. Location, directions, samplers, whatever...

Date: 1/2/34

Field ID

STREET

1234567890123456

8706: 01 588

CALIBRATION AND VERIFICATION LOG (FDEP SOP FT 1000-FT 1500, FD 1000-FD 4000)

Boldly "X" this box if there are qualified data on this page.

Meter ID: **SNEK**

RQ:

Project: **SMP & ALGAE**

- Notes: (1) Always wait for meter to stabilize before recording any readings.
 (2) Report all digits displayed. Do not round before reporting measurements. (See special instructions for depth).
 (3) For Calibrations, record calibrated meter reading. Do not record initial meter reading before calibration.

Temperature (Quarterly) FT 1400

Date of Last Temperature Verification **06/19/2018**

DO DEP SOP FT 1500	Name	Date	Time CT-ET	Temp °C	Baro-meter mmHg	D.O. Chart mg/L	Meter D.O. mg/L	% DO	Probe Charge	Probe Gain	Pass / Fail	Lab / Field
Calibr.	Maryann Dugan	08/16/18	0704	24.4	764.3	8.41	8.40	100.1			P/F	L/F
ICV	"	"	0708	24.4	764.3	8.41	8.40	100.1			P/F	L/F
CCV	N. Reistad	08/16/18	1551	27.5	763.6	7.95	7.90	100.2			P/F	L/F
CCV											P/F	L/F

DO Acceptance criteria from Table ± 0.3 mg/L.

Rapid-Pulse Sensors: DO Gain Range 0.7 to 1.4; DO Charge Range 25-75.

Optical: DO gain range 0.85 to 1.15 (Pro DSS 0.75 to 1.50); DO charge N/A. Steady-state & Galvanic Sensors: DO Gain & Charge N/A.

Spec. Cond. FT 1200	Name	Date	Time CT-ET	Lot #	Expir. Date	Standard μ mhos/cm	Meter Reading μ mhos/cm	Pass / Fail	Lab / Field
Calibr.	Maryann Dugan	08/16/18	0709	180321A	04/19	500	500	P/F	L/F
ICV	"	"	0712	180321C	04/19	100	101.5	P/F	L/F
CCV	N. Reistad	08/16/18	1555	171211A	12/18	10,000	10,115	P/F	L/F
CCV								P/F	L/F

Conductivity Acceptance criteria $\pm 5\%$

pH DEP SOP FT 1100	Name	Date	Time CT-ET	Lot #	Expir. Date	pH Buffer SU	Temp °C	Meter reading SU	mV	Pass / Fail	Lab / Field
Calibr.	Maryann Dugan	08/16/18	0714	180084	02/20	6.977	25.2	7.0	-8.0	P/F	L/F
Calibr.	"	"	0717	181456	04/20	4.011	25.5	4.01	173.10	P/F	L/F
Calibr.	"	"	0720	181282	05/20	10.01	25.1	10.01	-198.20	P/F	L/F
ICV	"	"	0725	181282	05/20	10.01	25.1	10.03		P/F	L/F
CCV	N. Reistad	08/16/18	1558	181456	04/20	4.010	24.9	3.95		P/F	L/F
CCV										P/F	L/F

pH Acceptance criteria ± 0.2 SU; mV pH 7 Range 0 ± 50 ;

mV pH 4 Range $+180 \pm 50$;

mV pH 10 Range -180 ± 50 ;

If mV are recorded: slope from 7 to 10 _____, slope from 4 to 7 _____ (both must be between 165 and 180 mV)

Does meter have a depth sensor that will be used to measure total depth & sample depth? YES **NO** / NA (not surf. water project)

If YES, complete daily Calibr. & ICV below and list date of last quarterly depth verification: _____

If NO, what will be used? (circle one) **Secchi Disk Line** / Sonar Unique ID: _____; Date of last verification: _____

Depth Sensor (Daily Calibration & ICV)	Name	Date	Time CT-ET	Calibrated Value (0.00 or Offset), meters	ICV Value, meters	Pass / Fail	Lab / Field
Pressure mode in air						P/F	L/F

Report two decimal places. Round numbers ≤ 4 down, ≥ 5 up. ICV acceptance criteria $\pm 5\%$ or ± 0.05 m, whichever is greater.

COMMENTS: