



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION STRATEGIC MONITORING PLAN FIELD SHEET

January 2020

Meter Passed End

of Day CCV

Yes / No

WIN Station Name: Packingham Slough @ 3 km S of SR 60

Date: 12/9/2021

WIN/Field ID: G4CE0186

WBID: 3186H

ENR: -

Latitude: 27.7789

County: POLK

Org ID: 21FLCEN

Longitude: -81.19

Receiving Body of Water: Kissimmee River

RQ- 2021-10-25-18

Sampling Team Members	WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check
☒ Terry Riordan	☒	☒	☒		
☒ Leif Boman		☒		☒	☒
☐					
☐					

Sampling Equipment	
☒ Sample Container	☐ Carboy
☐ Dipper	☐ Van Dorn
☒ Syringe	☐ Pole
Depth measured with: Secchi	
Secchi Equipment ID: Light	
Collection Method	
☐ Wading	☐ Canoe/Kayak
☐ From Shore	☐ Electric Motor
☐ Other	☒ Gasoline Motor

Water Level: ☒ Normal ☐ Low ☐ High ☐ Dry ☐ Pooled ☐ Flooded		Meter ID# SHRIMP TRAP	
Photos: Yes	Flow: FLOW	Tide:	Tide Times: High: Low:
Biological Samples Collected: ☐ None ☒ HA ☐ SCI ☒ RPS ☐ Algae ID ☒ LVS ☐ LVI Other:			
SBIO ID Numbers: SBIO 83661 RPS 9841		MACROPHYTE 12037 HA 17140 LIMS 2294546	
Notes: PARTLY CLOUDY			

Duplicate Sample

Time Zone: EST	Time:	Field ID: (WIN ID_DUP)
WIN DMT Activity ID:		

Blank

Time Zone:	Time:	Field ID: (Blank Type_DDDMMYYY)
DI Source:	Location:	
DI Type:	Equipment ID:	
DI Container (Name/ID):	DI Container Type:	

LIMS EVENT ID: CEN-DIST-2021-12-10-01

WIN Import ID: 30738

Enter Field Parameters, Verify Station ID In LIMS DMT: EB 1/7/22

(Initials/Date)

QC Station ID, Field Parameters In LIMS DMT: KWM 1/25/22

(Initials/Date)

Scan/Save Field Sheets Migrate Data to WIN: KWM 1/25/22

(Initials/Date)

(Initials/Date)

Verify Data In WIN:

(Initials/Date)



RQ-2021-10-25-18

Customer: WQAP

Project ID: SMP

Collected By: Terry Riordan, Leif Boman

Field Report Prepared By: Terry Riordan

Sampling Agency: FDEP

Place Label Here

WIN ID/Field ID:



G4CE0186

Location: Packingham Slough @ 3 km S of SR 60

Comments:

Matrix: Fresh

(Check one)

☒ GRAB☐ COMPOSITE

Date	Time	DO (mg/L)	DO (%SAT)	Temp. (C°)	pH	Sample Depth (m)	Secchi Disk (m)	Total Depth (m)	Sp COND (µmhos/cm)	Salinity (PPT)		
	1249 EST	8.68	102.6	23.6	7.1	0.3	0.8 ☐ VOB (S)	8.5	167.6	0.08		
12/9/2021												
	1253 EST	1.29	14.2	18.3	6.32	8			173	0.08		
Parameter Suite		Parameter Methods				Preservation		pH Check	# Bottles sent to Lab	Bottle Group		
Preserved Nutrients (P-500ML) SBI		☒ W-NH3 / W-NO2NO3 / W-TKN / W-TOC / W-S-A-TP				☒ Ice ☒ H2SO4*		☐ <2	1	A		
		Lot #	SA1105060		Exp:	4/30/22						
Metals (P-500ML)		☒ W-ICPMS ☒ W-ICP ☒ W-HARD				☒ Ice ☒ HNO3*		☒ <2	1	A		
		Lot #	NA1105100		Exp:	6/7/22						
Filtered Nutrients (P125ML)		☒ W-PO4-F ☒ Field Filtered 0.45 µm Filter				☒ Ice			1	A		
		Filter Lot #	17135566									
		Syringe Lot #	1112035									
Chlorophyll (BP-1L)		☒ CHLSUITE-W				☒ Ice			1	A		
Physical/Aggregate (Fresh) (P-1L)		☒ Alkalinity / W-F / W-TSS / TURBIDITY / W-Cl-IC / W-COLOR / W-SO4-IC / W-TDS				☒ Ice			1	A		
Physical/Aggregate (Marine) (P-1L)		☐ Alkalinity / W-BR-IC / W-F / W-TSS / TURBIDITY				☐ Ice						
Macroinvertebrates (PJ-2L)		☐ MI-FW-QLDC	Formalin Lot #			☐ Formalin						
Periphyton (PT-50ML)		☐ ALGAE-ID				☐ Ice						
Microbiology (Contract Lab Bottle)		☒ E Coli ☐ F Coli ☐ Enterococci ☐ Contract Lab				☒ Ice			1	C		
Molecular (QPCR-P-500ML)		☐ PCR-HF183 ☐ PCR-BacR ☐ PCR-DG3 ☐ PCR-GULL2 ☐ PCR-GFD ☐				☐ Ice						
Tracers (BG-500ML)		☒ W-E8321-DI ☒ W-E8321-MS				☒ Ice			1	A		
Pesticides (BG-500ML) (BG-1L)		W-E8321-DI	WE8321-MS	☒	W-PSNP-TQ		W-CT-CL-R	☒ Ice	4	A		
Phytoplankton/Periphyton		W-PCL-TQ-R	W-CARB-AA (5 ml of MCAA** Buffer Solution)									
					DTY-QN-C							
					PKD-QN-BV			☐ Ice				
Name: Terry Riordan Leif Boman					Signature: Terry Riordan					Date: 12/9/2021		

*2.0 ml of Preservative used unless noted otherwise.

**MCAA: Monochloroacetic acid buffer solution

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

SAMPLE ID _____ ORG ID _____ LATITUDE _____
 COUNTY OSCEOLA STORET # _____ LONGITUDE _____
 DATE 12/09/2021 TIME _____ SAMPLING AGENCY _____
 SITE NAME PAULINGHAM Slough 3 km S of SR 60
 FIELD ID/NAME G4CE0186 RECEIVING BODY OF WATER _____

RIPARIAN ZONE / STREAM FEATURES

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category): Forest/Natural <u>10</u> Silviculture _____ Field/Pasture <u>90</u> 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 _____ m wide _____ m/s <u>0.03</u> m/s _____ m/s				
Width of Riparian Vegetation (m) on Each Buffer Side Left Bank: <u>18</u> Right Bank: <u>18</u>				Hydrologic Modification Score (per FT 3101) _____				
High Water Mark: <u>.2</u> + <u>8.5</u> = <u>8.7</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			WATER QUALITY <table border="1"> <thead> <tr> <th></th> <th>Depth (M)</th> <th>Temp. (°C)</th> <th>pH (SU)</th> <th>D.O. (MG/L)</th> <th>D.O. Sat (%)</th> <th>Cond. (UMHO/CM)</th> <th>Salinity (PPT)</th> <th>SECCHI (M)</th> </tr> </thead> <tbody> <tr> <td>Top:</td> <td>_____</td> <td>_____</td> <td>_____</td> <td>_____</td> <td>_____</td> <td>_____</td> <td>_____</td> <td><u>0.8</u></td> </tr> <tr> <td>Mid:</td> <td>_____</td> <td>_____</td> <td>_____</td> <td>_____</td> <td>_____</td> <td>_____</td> <td>_____</td> <td>☐ VOB</td> </tr> <tr> <td>Bottom:</td> <td>_____</td> <td>_____</td> <td>_____</td> <td>_____</td> <td>_____</td> <td>_____</td> <td>_____</td> <td>TOTAL DEPTH</td> </tr> </tbody> </table>							Depth (M)	Temp. (°C)	pH (SU)	D.O. (MG/L)	D.O. Sat (%)	Cond. (UMHO/CM)	Salinity (PPT)	SECCHI (M)	Top:	_____	_____	_____	_____	_____	_____	_____	<u>0.8</u>	Mid:	_____	_____	_____	_____	_____	_____	_____	☐ VOB	Bottom:	_____	_____	_____	_____	_____	_____	_____	TOTAL DEPTH				
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			Water Sample Taken? ☒ Yes ☐ No Sample Preserved? ☒ Yes ☐ No Lot Number: _____ Exp: _____			Color Tannic ☒ Green (Algae) ☐ Clear ☐ Other (Specify) ☐																																										
			Algae Sample Taken? ☐ Yes ☒ No Sample Preserved? ☐ Yes ☐ No Lot Number: _____ Exp: _____			Clarity Clear ☒ Slightly Turbid ☐ Turbid ☐ Opaque ☐																																										
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AMBIENT FIELD CONDITIONS / NOTES: ☒ The antecedent hydrologic conditions have been met to my best knowledge.																																																

SAMPLING TEAM

Terry Kiordan ; Leif Bonan

SIGNATURE :

Leif Bonan

DATE :

12/09/2021

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site: Packingham Sloughs of SR60 ^{3km} County: Osceola Date: 12/9/21 Investigators: Terry Riordan, Zelf Boman

STORET Station Number: WIN G4CE0186

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

Secchi depth 0.8
Estimated?

points ranked 4-6 0
total points assessed 99
% points ranked 4-6 0

Check accompanying data collected at same site/date.
Algal mat sample
Linear Veg Survey ☒
Habitat Assessment ☒
SCI/Biorecon
Water sample ☒
RQ- 2021-10-25-18

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

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

Comments:

[illegible]

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

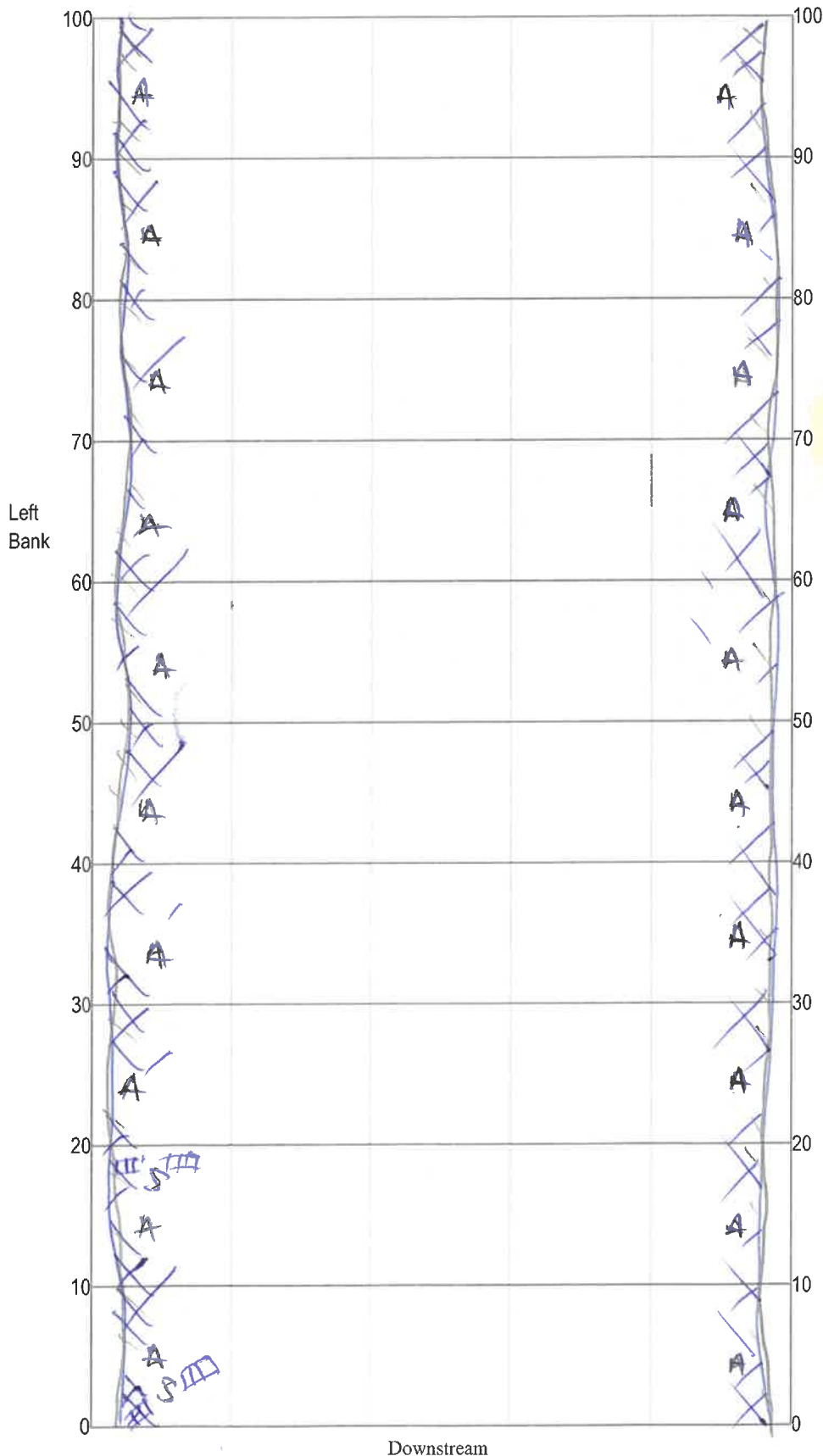
SAMPLING AGENCY: <u>FDPR - CORON</u>		STORET STATION NUMBER:	DATE (MM/DD/YY): <u>12/02/21</u>	RECEIVING BODY OF WATER:
REMARKS:	COUNTY: <u>OSCEOLA</u>	LOCATION: <u>RAVENHAM Slough</u> <u>3km S of S260</u>	FIELD ID/NAME: <u>G4CED186</u>	

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>5</u>	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
Substrate Availability <u>3</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 <u>3</u> 2 1
Water Velocity <u>3</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>9</u> ----- Primary Score <u>20</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 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 <u>2</u>	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 <u>10</u> Left Bank <u>10</u>	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 <u>9</u> Left Bank <u>10</u>	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 <u>8</u> Left Bank <u>8</u> ----- Secondary Score <u>57</u>	10 9	8 7 6	5 4	3 2 1

77 **TOTAL SCORE**

Date: <u>12/09/2021</u>	Analyst: <u>Leif Boman, Terry Rorden</u>	Signature: <u>[Signature]</u>
----------------------------	---	----------------------------------

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: Parkette Stream
3 km S of Saco

Date: 12/09/2021

Sampler: Lif Boman, Terry
Kiordan

100 m: Latitude _____
Longitude _____

0 m: Latitude _____
Longitude _____

Substrates: Code key, draw proportionate habitat abundance. %

☒ S Snags 0.025

☐ Roots/undercut banks _____

☐ Leaf Packs (or mats) _____

☒ A Aquatic Macrophytes 3.666

☐ _____

☐ _____

☐ Pools total # observed = _____
range expected = _____

Average width 6.0 m

Average depth 8.5 m

Velocity measured at 0.50 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: