FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
STRATEGIC MONITORING PROGRAM FIELD SHEET

January 2019

Data Qualified? Yes / No

WIN Station Name: Five-Mile Creek @ Kirby Loop **Date:** 10/01/19 (mm/dd/yyyy)

WIN/ Field ID: G2SE0049 **WBID:** 3194D **Latitude:** 27.414944 (Decimal Degrees)

County: Saint Lucie **ORG ID:** 21FLWPB **Longitude:** 80.363695 (Decimal Degrees)

Receiving Body of Water: _____ **RQ-** 2019-09-30-77

Sampling Team Members	WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check
Kristere Taylor	✓	✓		✓	✓
Drew Liddick	✓		✓		

Sampling Equipment
- ✓ Sample Container ☐ Van Dorn ☐ Pole
- ☐ Carboy ☐ Syringe
- ☐ Dipper ☐ Other _____
- Depth Measured with YSI
- Equipment ID Hodor

Collection Method
- ☐ Wading ☐ Canoe/Kayak
- ✓ From Shore ☐ Electric Motor
- ☐ Other _____ ☐ Gasoline Motor

Water Level: Dry/ Pooled/ Low/ Normal / High / Flooded

Meter ID# Hodor

Matrix: Fresh / Marine / DI

Photos: Yes / No

Flow: No Flow / Intestital / Flowing / NA

Tide: Rising/ Falling/ Slack/ NA

Tide Times: High — Low —

Time Zone	Time	Total Depth (m)	Sample Depth (m)	Secchi Disk (m)	DO (mg/L)	DO (%SAT)	pH	Salinity (PPTh)	Sp COND (µmhos/cm)	Temp. (C°)
EST	15:10	0.9	0.3	0.5	5.77	73.0	7.42	0.71	1433	27.2
CEN										

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_2SO_4	SA9129100	05/09/20	☐ <2
Metals	☐ W-ICPMS ☐ W-ICP	☐ Ice ☐ HNO_3			☐ <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-Cl-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 Coli ☐ F Coli ☐ Enterococci	☐ Ice			
Molecular	☐ PCR-FILTER ☐ PCR-BacR ☐ PCR-GULL2 ☐ PCR-HF183 ☐ 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 ☐ WE8321-MS ☐ W-CARB-AA	☐ Ice			
Phytoplankton	☐ DTY-QN-C ☐ PKD-QN-C	☐ Ice			

Place Preservative Sticker(s) Here (If Available)

Notes:
H

Location: Five-Mile Creek @ Kirby Loop

WIN ID/Field ID: G2SE0049

Signature: Kristere Taylor **Date:** 10/01/19

LIMS EVENT ID: SE-DIST-2019-10-02-01 **WIN Import ID:** 15313

Enter Field Parameters, Verify Station ID In LIMS DMT: KT 10/09/19 (Initials/Date) **QC Station ID, Field Parameters In LIMS DMT:** DL 10/29/19 (Initials/Date)

Scan/Save Field Sheets KT 10/14/19 (Initials/Date) **Migrate Data to WIN:** DL 10/29/19 (Initials/Date) **Verify Data In WIN:** _____ (Initials/Date)

Tracker 10/03

Location: Five-Mile Creek @ Kirby Loop

visit# 80358
HA: 16329

WIN ID/Field ID: G2SE0049

ent Field Sheet

SAMPLING AGENCY:		DATE (MM/DD/YY):	RECEIVING BODY OF WATER:
REMARKS:	COUNTY:	LOCATION:	FIELD ID/NAME:

Habitat Parameter	Optimal	Suboptimal	Marginal	Poor
Primary Habitat Components **Substrate Diversity** 2	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 3	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 2	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 3 Primary Score 10	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** 1	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 or straightening 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 5 Left Bank 5	Bankfull > 60% of bank height. Slope of bank ≤ 60° from bankful to top of bank. Bankfull is within or above the woody 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 woody root zone with raw, eroded areas. 3 2 1
Riparian Buffer Zone Width Right Bank 3 Left Bank 3	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 3 Left Bank 3 Secondary Score 23	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

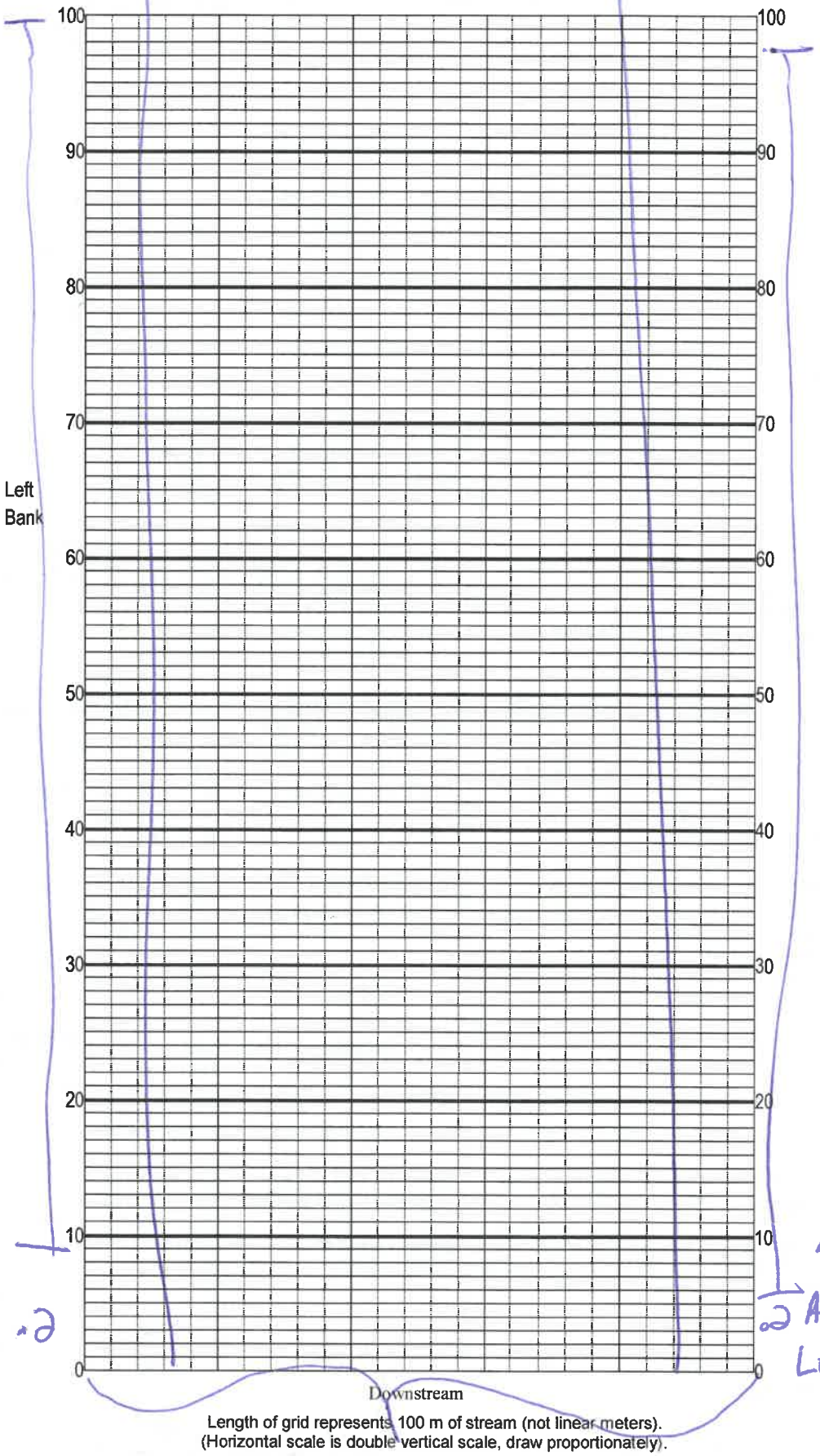
33 **TOTAL SCORE**

Date: 10/01/2019	Analyst: Drew Liddick	Signature:

62-160.800, F.A.C. ✓ uploaded

Revision Date: January 2017

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).

3m

V=4m

Location: G25E0049

Date: 10/01/2019

Sampler: Drew Liddle

100 m: Latitude	
Longitude	
0 m: Latitude	
Longitude	

Substrates: Code key, draw proportionate habitat abundance. %

☐	Snags	
☐	Roots/undercut banks	
☐	Leaf Packs (or mats)	
☑	Aquatic Macrophytes	
☐		
☐		
☐	Pools	total # observed =
		# range expected =

Average width 3.0 m

Average depth _____ m

Velocity measured at _____ meter mark.

WQ & chemistry taken at _____ 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:

Pennisetum purpureum
Schinus terebinthifolius
Alternanthera philoxeroides
Ludwigia leptocarpa

62-160.800, F.A.C

Revision Date: January 2017

RPS: 9458
Visit # 80358 uploaded

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site: G2SE0049 | County: St. Lucie | Date: 10/01/2019 | Investigators: Drew Liddick

STORET Station Number:

Transect (m)	Point 1=right 9=left	Algal Thickness Rank (N-6, X)	Estimated	Canopy Cover
0	1	N	✓	
	2			
	3			
	4			
	5			0
	6			
	7			
	8			
	9			
10	1	N	✓	
	2			
	3			
	4			
	5			0
	6			
	7			
	8			
	9			
20	1	N	✓	
	2			
	3			
	4			
	5			0
	6			
	7			
	8			
	9			
30	1	N	✓	
	2			
	3			
	4			
	5			0
	6			
	7			
	8			
	9			
40	1	N	✓	
	2			
	3			
	4			
	5			0
	6			
	7			
	8			
	9			
50	1	N	✓	
	2			
	3			
	4			
	5			0
	6			
	7			
	8			
	9			

Transect (m)	Point 1=right 9=left	Algal Thickness Rank (N-6, X)	Estimated	Canopy Cover
60	1	N	✓	
	2			
	3			
	4			
	5			0
	6			
	7			
	8			
	9			
70	1	N	✓	
	2			
	3			
	4			
	5			0
	6			
	7			
	8			
	9			
80	1	N	✓	
	2			
	3			
	4			
	5			0
	6			
	7			
	8			
	9			
90	1	N	✓	
	2			
	3			
	4			
	5			0
	6			
	7			
	8			
	9			
100	1	N	✓	
	2			
	3			
	4			
	5			0
	6			
	7			
	8			
	9			

Secchi depth	
Estimated?	✓
# points ranked 4-6	0
total points assessed	
% points ranked 4-6	

Check accompanying data collected at same site/date.	
Algal mat sample	
Linear Veg Survey	✓
Habitat Assessment	✓
SCI/Biorecon	
Water sample	✓
RQ- 2019-09-30-177	

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 followir points with a thickness rank of 4

Location: Five-Mile Creek @ Kirby Loop

62-160.800, F.A.C.

WIN ID/Field ID: G2SE0049

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

Waterbody: G2SE0049	Date: 10/1/2019	County: St. Lucie	Storet Number:
Analyst: Drew Liddick		Signature:	

Comments:

Instructions: Note taxa growing in the water with a checkmark if present, "D" if dominant, and "C" if codominant (dominance only if $1m^2$ 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 0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	Specimen collected (check)
Alternanthera philoxeroides	D	D	D	D	D	D	D	D	D	D	DL
Bacopa caroliniana											
Bacopa monneri											
Bidens mitis											
Boehmeria cylindrica											
Centella asiatica											
Ceratophyllum demersum											
Chara											
Cicuta maculata											
Cladium jamaicense											
Colocasia esculenta	✓	✓	✓	✓	✓						
Commelina diffusa											
Commelina virginica											
Crinum americanum											
Diodia virginiana											
Eichhornia crassipes											
Eleocharis (wispy viviparous)											
Hydrilla verticillata											
Hydrocotle											
Hygrophila polysperma											
Hymenocallis											
Lachnanthes caroliniana											
Landoltia punctata											
Lemna											
Limnophila sessiflora											
Ludwigia leptocarpa	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Ludwigia palustris											
Ludwigia peruviana											
Ludwigia repens											
Luziola fluitans											
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											
>25 and ≤50% Macrophyte Coverage											
> 50% Macrophyte Coverage											

HERBACEOUS SPECIES	Meter Mark 0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	Specimen collected (check)
Micranthemum glomeratum											
Micranthemum umbrosum											
Myriophyllum aquaticum											
Najas guadelupensis											
Nuphar luteum											
Orontium aquaticum											
Panicum hemitomon											
Panicum repens											
Panicum rigidulum											
Pistia stratioides											
Polygonum glabra											
Polygonum hydropiperoides											
Polygonum punctatum											
Pontedaria cordata											
Potamogeton illinoensis											
Ruellia simplex											
Sacciolepis striata											
Sagittaria kurziana											
Sagittaria lancifolia											
Sagittaria latifolia											
Salvinia minima											
Samolus parviflora											
Saururus cernuus											
Sparganium americanum											
Typha											
Vallisneria americana											
Zizania aquatica											
Pennisetum purpureum	D	D	D	D	D	D	D	D	D	D	
Schinus terebinthifolia	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	

Visit# 80358

macro ID 11504

62-160.800, F.A.C.

Location: Five-Mile Creek @ Kirby Loop

WIN ID/Field ID: G2SE0049

Revision Date:January 2017