FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

STRATEGIC MONITORING PLAN Field Sheet

July 2022

Meter Passed End of Day CCV: Yes / No

WIN Station Name:	GEE CREEK AT SR HWY 419					**Sample Date:**	1/30/2024
WIN / Field ID:	G2CE0075	**ORG ID:**	21FLCEN	**ENR:**	-	**Latitude:**	28.70359
County:	SEMINOLE	**WBID:**	2994A	STREAM		**Longitude:**	-81.29054
Receiving Body of Water:	Lake Jesup					**RQ-**	2024-01-29-26

Sampling Team Members	WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check
Terry Riordan		x		x	x
Victoria Schwartz	x		x		

Sampling Equipment					
x	Sample Container		Carboy		
	Dipper		Van Dorn		
	Syringe		Pole		
Syringe Lot#	3066762 13		Filter Lot#	17769663	
Secchi Equipment ID:	Light				

Collection Method			
x	Wading		Canoe/Kayak
	From Shore		Electric Motor
			Gasoline Motor
Depth Measured With	Secchi		

Water Level:	*Normal*
Flow:	*Flowing*
Matrix:	*Fresh*
Tide Stage:	
High Tide:	
Low Tide:	
Photos:	*Yes*
Meter ID:	*Shrimp Trap*
Depth Gauge ID:	**depth_gauge**

Time Zone	Time	Total Depth (m)	Sample Depth (m)	DO (mg/L)	DO (%SAT)	Temp. (ºC)	pH	Secchi Disk (m)	Sp COND (µmhos/cm)	Salinity (PPTh)
EST	1302	0.5	0.25	8.86	90.2	16.2	6.97	0.5	252	0.12
								VOB (s)		

Biological Samples Collected: HA RPS SCI

SBIO Visit ID: 88454 **HA ID:** **RPS ID:** 10250 **Macrophyte ID:** **LIMS Sample ID In The Macrophyte Module:** 2464485

Parameter Suite	Parameter Methods (LIMS Test Codes)			Preservation Type		Lot#	Expiration Date	pH Check
Microbiology								
Chlorophyll	CHLSUITE-W			ICE				
Physical/Aggregate	ALKALINITY, TURBIDITY, W-F, W-TSS			ICE				
Nutrients	W-CL-IC, W-COLOR, W-SO4-IC, W-TDS			ICE				
Filtered Nutrients	W-PO4-F	Field Filtered 0.45 µm Filter		ICE		Syring Lot#:306676213; Filter Lot#:17769663		
Acid Preserved Nutrients	W-NH3 / W-NO2NO3 / W-TKN / W-TOC / W-S-A-TP			ICE	H2SO4*	*SA3340020*	*12/11/2024*	*H2SO4 pH<2*
Metals	W-ICPMS	W-ICP	W-HARD	ICE	HNO3**	NA3193130	07/27/2024	HNO3 pH<2
Organics (LC)	W-E8321-DI	W-E8321-MS			MCAA***			
Macroinvertebrates	MI-FW-QLDC			Formalin		8.280122TR		
Organics (GC)				Ice				
	W-PSNP-TQ							
Molecular								
Periphyton								
Phytoplankton								
BOD								
DOC								
Other(s)								

*2.0 ml of H2SO4 Used Unless Noted Otherwise
**2.0 ml of HNO3 Used Unless Noted Otherwise

SyringLot# FilterLot#

Field Comments:	Cool temps. Water samples collected at 50m / SCI Collection Time: 1330
Comments on COC:	
Relinquish Date:	01/30/2024
Signature:	

LIMS EVENT ID: CEN-DIST-2024-01-31-02 **WIN Import ID:** 46730

Enter Field Parameters, Verify Station ID In LIMS DMT: KWM 3/18/24 (Initials/Date)

QC Station ID, Field Parameters In LIMS DMT: VLS 4/4/24 (Initials/Date)

Save Field Sheets on Network: KWM 4/4/24 (Initials/Date)

Migrate Data to WIN: KWM 4/4/24 (Initials/Date)

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

SAMPLE ID _____ ORG ID _____ LATITUDE 28.7037319
COUNTY Seminole STORET # 21FLCEN 4IN G2CE0075 LONGITUDE -81.2896104
DATE 1/30/24 TIME 13:02 SAMPLING AGENCY 21FLCEN
SITE NAME Gee Creek
FIELD ID/NAME Gee Creek at SR Hwy 419 RECEIVING BODY OF WATER Lake Jesup

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)
15				40	45		

Landscape Development Intensity Index (LDI): _____

Local Watershed Erosion (select one): ☐ None ☐ Slight ☑ Moderate ☐ Heavy

Local Watershed NPS Pollution: ☐ No evidence ☐ Slight ☑ Moderate ☐ Heavy

Width of Riparian Vegetation (m) on Each Buffer Side: Left Bank: 13 Right Bank: >18

Hydrologic Modification Score (per FT 3101): 5

High Water Mark: 0.5 (m) + 0.8 (above present water level) = 1.3 (present depth) (above bed)

Artificially Impounded: ☐ Yes ☑ No

Typical Width (m) Depth (m)/Velocity (m/sec) Transect

4-5 secs — 3.5 m wide

_____ m/s	0.2 m/s	_____ m/s
_____ m deep	0.7 ~~0.5~~ m deep	~~0.7~~ (VS) m deep

Artificially Channelized: ☑ No ☐ Some recovery ☐ Mostly recovered, more sinuous ☐ 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

	None	Slight	Moderate	Severe
Sand Smothering:	☐	☑	☐	☐
Silt Smothering:	☐	☑	☐	☐
Algae Smothering:	☑	☐	☐	☐

SUBSTRATE TYPE (<2m²)

Assessment Tool: ☑ SCI ☑ RPS ☐ LVS ☐ LCI ☐ BioRecon

	% Coverage	INVERT # Times Sampled	PERI # Times Sampled
Woody Debris (Snags)	2.2		4
Undercut Banks / Roots	1.9		4
Leaf Packs or Mat	1.3		4
Aquatic Vegetation			
Rock or Shell Rubble..	1.4		(VS) ~~4~~
Sand... (minor)	100		4
Mud / Muck / Silt			
Other			
Other			

WATER QUALITY

	Depth (M)	Temp. (°C)	pH (SU)	D.O. (MG/L)	D.O. Sat (%)	Cond. (UMHO/CM)	Salinity (PPT)	SECCHI (M)
Top:	0.25	16.2	6.97	8.86	90.2	252	0.12	0.5
Mid:								☒ VOB
Bottom								TOTAL DEPTH
								0.5

Meter ID: Shimp Trap

Water Odors Normal ☑ Petroleum ☐ Sewage ☐ Chemical ☐ Other ☐

Water Surface Oils Normal ☑ Sheen ☐ Globs ☐ Slick ☐ Other ☐

Water Sample Taken? ☑ Yes ☐ No
Sample Preserved? ☑ Yes ☐ No
Lot Number: SA 3340020 Exp: 12/11/24

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 ☐

ABUNDANCE

	Not Obs.	Rare	Common	Abundant
Periphyton:	☑	☐	☐	☐
Fish:	☑	☐	☐	☐
Aquatic Plants:	☐	☑	☐	☐
Iron/Sulfur Bacteria:	☑	☐	☐	☐

System Type: Stream ☑ Lake ☐ Wetland ☐ Estuary ☐ Other(Specify) ☐ _____

AMBIENT FIELD CONDITIONS / NOTES:
* VS reported cables/metal structure in water to Seminole County
* No LVS → <2m² veg.

☑ The antecedent hydrologic conditions have been met to my best knowledge.

SAMPLING TEAM: Terry Riordan / Victoria Schwartz

SIGNATURE: _____ DATE: 1/30/24

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

SAMPLING AGENCY:		STORET STATION NUMBER:	DATE (MM/DD/YY):	RECEIVING BODY OF WATER:
21FLCEN		G2CE0075	1/30/24	Lake Jesup
REMARKS:	COUNTY: Seminole	LOCATION: Gee Creek at SR Hwy 419		FIELD ID/NAME: G2CE0075

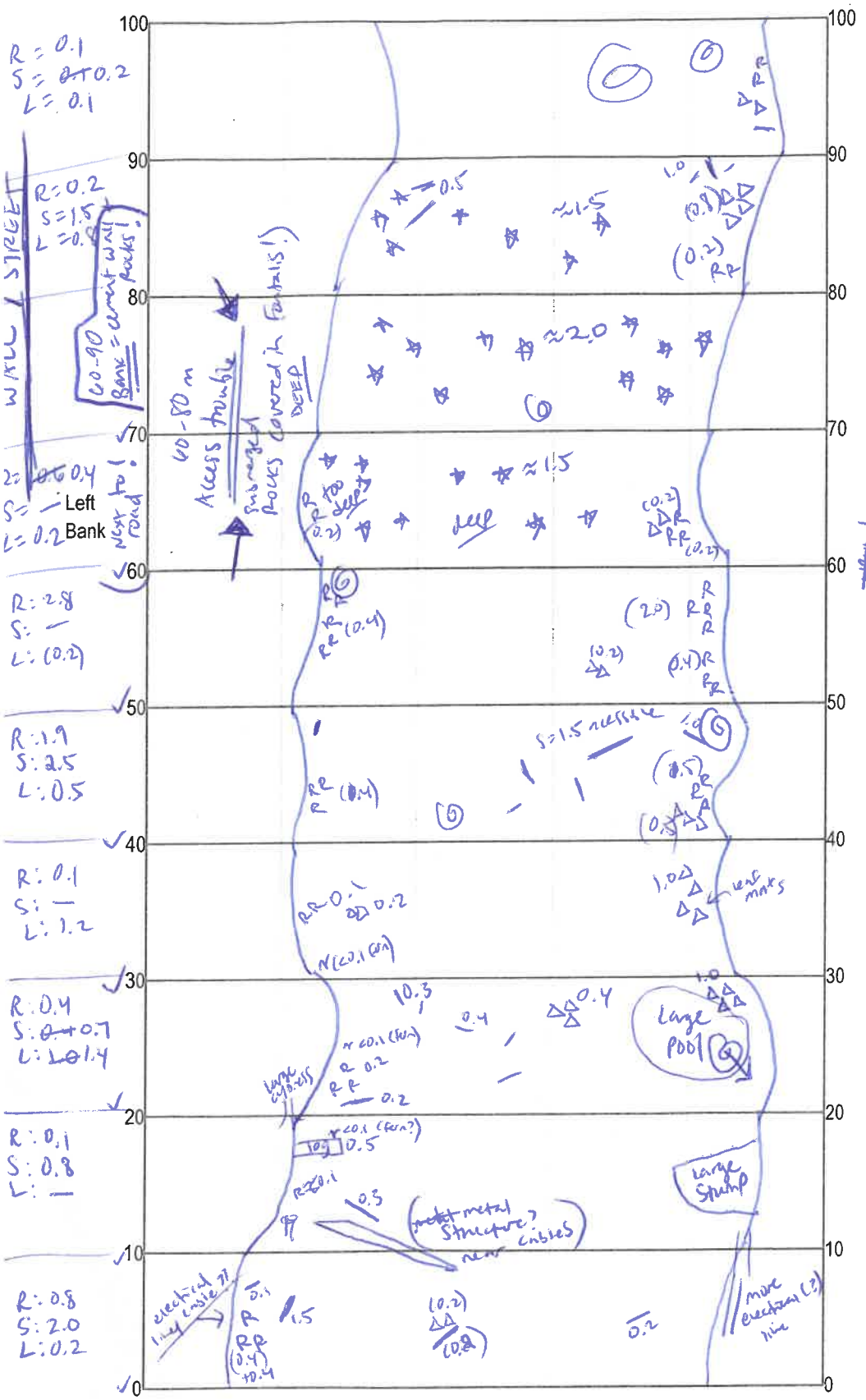
Habitat Parameter	Optimal	Suboptimal	Marginal	Poor
Primary Habitat Components **Substrate Diversity** 16	Four or more major productive habitats present [snags, tree roots, aquatic vegetation, leaf packs (partially decayed), rock] 20 19 18 17 16	Three major productive habitats present. Adequate habitat. 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 7	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 18 Primary Score 55	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** 19	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 6 Left Bank 8	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 9 Left Bank 6	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 7 Left Bank 6 Secondary Score 61	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

6.8-
9.7

116 **TOTAL SCORE**

Date:	Analyst:	Signature:
1/30/24	Terry Riordan / Victoria Schuetz	

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: Gee Creek

Date: 1/30/24

Sampler: Victoria Schwab

100 m:	Latitude	28.7037319
	Longitude	-81.2896104
0 m:	Latitude	28.7035037
	Longitude	-81.2903061

Substrates: Code key, draw proportionate habitat abundance.

		%
/	Snags	2.2
R	Roots/undercut banks	1.9
Δ	Leaf Packs (or mats)	1.3
V	Aquatic Macrophytes	<1
☆	Cement Rocks (60-90 m)	≈ 1.4-4.3
G	Pools	total # observed = 5; # range expected = 2-5

Average width 3.5 m

Average depth 0.7-1.0 m

Velocity measured at 50 meter mark.

WQ & chemistry taken at 50 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:

- Hydrocotyl
- Aquatic moss (?) on snags + ↳ Fontalis + taxodium + roots
- taxodium
  ↳ Reported to Seminole Co.
- (*) What are the cables/electrical lines sec. 0-20?!
- → Slight silt/sand smothering
- → good flow

62-160.800, F.A.C

ROAD

Roots: 6.8/350 = 1.9
Snags: 7.7/350 = 2.2
Leaves: 4.6/350 = 1.3
Rocks: 5/350 = 1.4

Revision Date: March 1, 2014

- Fontalis covered most rocks but was not ≥15 cm so was not sampled as veg.

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site: Gee Creek | County: Seminole | Date: 1/30/24 | Investigators: Victoria Schwartz

STORET Station Number: WIN 62CE0075

Transect (m)	Point 1=right 9=left	Algal Thickness Rank (N-6, X)	Estimated	Canopy Cover
0	1	N		
	2	N		
	3	N		
	4	N		
	5	N		75
	6	N		
	7	N		
	8	N		
	9	N		
10	1	N		
	2	N		
	3	N		
	4	N		
	5	N		82
	6	N		
	7	N		
	8	N		
	9	N		
20	1	(3) X N	✓	
	2	N	✓	
	3	N	✓	
	4	N	✓	
	5	N	✓	(none taken)
	6	N	✓	
	7	N		
	8	N		
	9	N		
30	1	N		
	2	N		
	3	N		
	4	N		
	5	N		62
	6	N		
	7	N		
	8	N		
	9	N		
40	1	N	✓	
	2	N	✓	
	3	N	✓	
	4	N	✓	
	5	N	✓	
	6	N		84
	7	N		
	8	N		
	9	N		
50	1	N		
	2	N		
	3	N		
	4	N		
	5	N		63
	6	N		
	7	N		
	8	N		
	9	N		

Transect (m)	Point 1=right 9=left	Algal Thickness Rank (N-6, X)	Estimated	Canopy Cover
60	1	N		
	2	N		
	3	N		
	4	N	✓	≈ 70
	5	N	✓	
	6	N	✓	
	7	N	✓	
	8	N	✓	
	9	N	✓	
70	1	|	|	
	2	|	|	
	3	|	|	
	4	|	|	
	5	N	✓	(none taken)
	6	|	|	
	7	|	|	
	8	|	|	
	9	|	|	
80	1	|		
	2	|		
	3	|		
	4	|		
	5	N		90
	6	|		
	7	|		
	8	|		
	9	|		
90	1	|	|	
	2	|	|	
	3	|	|	
	4	|	|	
	5	N	|	81
	6	|	|	
	7	|	|	
	8	|	|	
	9	|	|	
100	1	|	✓	
	2	|	✓	
	3	|	✓	
	4	|	✓	
	5	N	✓	(none taken)
	6	|	✓	
	7	|	✓	
	8	|		
	9	|		

Secchi depth	0.5 (VOB)
Estimated?	

# points ranked 4-6	0
total points assessed	94
% 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- 2024-01-29-26	

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

- transect 60/70 - gets too deep to access but is visible from shore
- Estimated positions too deep

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%.

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

Waterbody: Gee Creek	Date: 4/30/24	County: Seminole	WIN Storet Number: G2CE0075
Analyst: Victoria Schwartz / Terry Riordan		Signature: VSS TRF	
Comments: <2 m² veg. – NO LVS			

Instructions: Note taxa growing in the water with a checkmark if present, "D" if dominant, and "C" if codominant (dominance only if 1m² 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											
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											