FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

STRATEGIC MONITORING PLAN Field Sheet

July 2022

Meter Passed End of Day CCV

Yes / No

WIN Station Name:	YELLOW RIVER					**Sample Date:**	12/6/2022
WIN / Field ID:	G4NW0031	**ORG ID:**	21FLPNS	**ENR:**		**Latitude:**	30.63554999
County:	Santa Rosa	**WBID:**	30B	STREAM	3F	**Longitude:**	-86.79691
Receiving Body of Water:	Blackwater Bay South Segment					**RQ-**	2022-11-14-17

Sampling Team Members	WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check
Nathan Mulkey	x		x		
Frank Butera		x		x	

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

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

Water Level:	*Low*
Flow:	*Flowing*
Matrix:	*Fresh*
Tide Stage:	
High Tide:	
Low Tide:	
Photos:	*Yes*
Meter ID:	*154179 (ProDSS)*
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)
CEN	935	1.3	0.3	8.62	89.9	17.8	6.08		42.9	0.02

Biological Samples Collected: None

SBIO Visit ID: 85875 **HA ID: 18052** **RPS ID: 10005** **Macrophyte ID: 12336** **LIMS Sample ID Entered Into The Macrophyte Module: 237449**

Parameter Suite	Parameter Methods (LIMS Test Codes)	Preservation Type		Lot#	Expiration Date	pH Check
Microbiology	E. coli / Contract Lab *UWF*	ICE				
Chlorophyll	CHLSUITE-W	ICE				
Physical/Aggregate Nutrients	ALKALINITY, TURBIDITY, W-F, W-TSS; W-CL-IC, W-COLOR, W-SO4-IC, W-TDS	ICE				
Filtered Nutrients				Syring Lot#:; Filter Lot#:		
Acid Preserved Nutrients	W-NH3 / W-NO2NO3 / W-TKN / W-TOC / W-S-A-TP	ICE	H2SO4*	*2145160*	*6/2/23*	
Metals						
Organics (LC)			MCAA***			
Macroinvertebrates						
Organics (GC)						
Molecular						
Periphyton						
Phytoplankton						
BOD						
DOC						
Other(s)						

*2.0 ml of H2SO4 Used Unless Noted Otherwise

SyringLot# FilterLot#

Field Comments:	Current too strong for sechi
Comments on COC:	Microbiology sample(s) submitted to contract laboratory.
Relinquish Date:	12/06/2022 **Signature:**

LIMS EVENT ID: _____ **WIN Import ID:** _____

Enter Field Parameters, Verify Station ID In LIMS DMT: _____ (Initials/Date)

QC Station ID, Field Parameters In LIMS DMT: _____ (Initials/Date)

Save Field Sheets on Network: _____ (Initials/Date)

Migrate Data to WIN: _____ (Initials/Date)

Site Name: Yellow River

Date: 12/06/2022

Field ID ~~G4NW00331~~ G4NW0031 WIN-ID G4NW0031

Project: SMP / TMDL Studies

Visit ID 85878

RQ: 2022-11-14-17

RPS ID 10005

LIMS ID: 237449

Macro ID 12336

WBID: 30B

HA ID 18052

- [x] SCI
- [ ] RPS/LVS Only
- [x] Sample Site Created in SBIO
- [x] Phys/Chem entered in SBIO
- [x] HA entered in SBIO — Initial FB, 12/19/22 — [x] Date and Initial QA: 12/21/22
- [x] RPS entered in SBIO — Initial FB, 12/19/22 — [x] Date and Initial QA: 12/21/22
- [x] LVS entered in SBIO — Initial FB, 12/19/22 — [x] Date and Initial QA: 12/21/22

[illegible] vegetation

- [x] Plants getting verified — Date submitted: In House
- [x] Plants verified — Date returned: In House

- [x] RPS authorized in SBIO — [x] Date and Initial: 1/4/23, FB
- [x] RPS score: 0
- [x] Macro authorized in SBIO — [x] Date and Initial: 1/4/23 FB
- [x] LVS Score: FLEPPC 0%, Avg C.C 3.5
- [ ] SCI complete: _____ SCI Score: _____

- [x] Add SBIO-ID, HA-ID, RPS-ID, MACROPHYTE-ID and LIMS# to field sheet in database

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

SAMPLE ID 85878 | ORG ID 21FLPNS | LATITUDE 30.63535

COUNTY Okaloosa | WIN ID/STORET # G4NW0031 | LONGITUDE 86.7971

DATE 12/06/2022 | TIME 9:35 CTZ | SAMPLING AGENCY FL DEP - NWROC

SITE NAME Yellow River | RQ-2022-11-14-17

FIELD ID/NAME G4NW0031 | RECEIVING BODY OF WATER. East Bay | WBID 30B | Project: SMP/TMDL studies

RIPARIAN ZONE / STREAM FEATURES WBID: 30B | LIMS ID: 237449

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category):

Forest/Natural	Silviculture	Field/Pasture	Agricultural	Residential	Commercial	Industry	Other (Specify)
X							AFB

Landscape Development Intensity Index (LDI): N/A

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

100m — 30 m wide

m/s	.33 m/s	m/s
m deep	1.3 m deep	m deep

Width of Riparian Vegetation (m) on Each Buffer Side Left Bank: 7/8 Right Bank: 7/8

Hydrologic Modification Score (per FT 3101): 1-2

High Water Mark: 1.0 + 2.1 = 3.1
(m) (above present water level) (present depth) (above bed)

Artificially Impounded ☐ Yes ☒ No

Artificially Channelized: ☒ No ☐ Some recovery ☐ Mostly recovered, more sinuous ☐ Recent, severe

Canopy Cover % ☒ Open ☐ Heavily Shaded ☐ Lightly Shaded (11-45%) ☐ 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 NO

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

	% Coverage	INVERT # Times Sampled	PERI # Times Sampled
Woody Debris (Snags)	5.7	4	
Undercut Banks / Roots	3.2	4	
Leaf Packs or Mat	0.5	4	
Aquatic Vegetation	8.3	4	
Rock or Shell Rubble			
Sand	90.6	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:	0.3	17.8	6.08	8.62	89.9	42.9	0.02	N/A (1.5 est.)
Mid:								☐ VOB
Bottom								TOTAL DEPTH 1.3

Meter ID: 154 179

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: SA2145160 Exp: 6/2/2023

Color Tannic ☑ Clear ☐ Green (Algae) ☐ 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) ☐

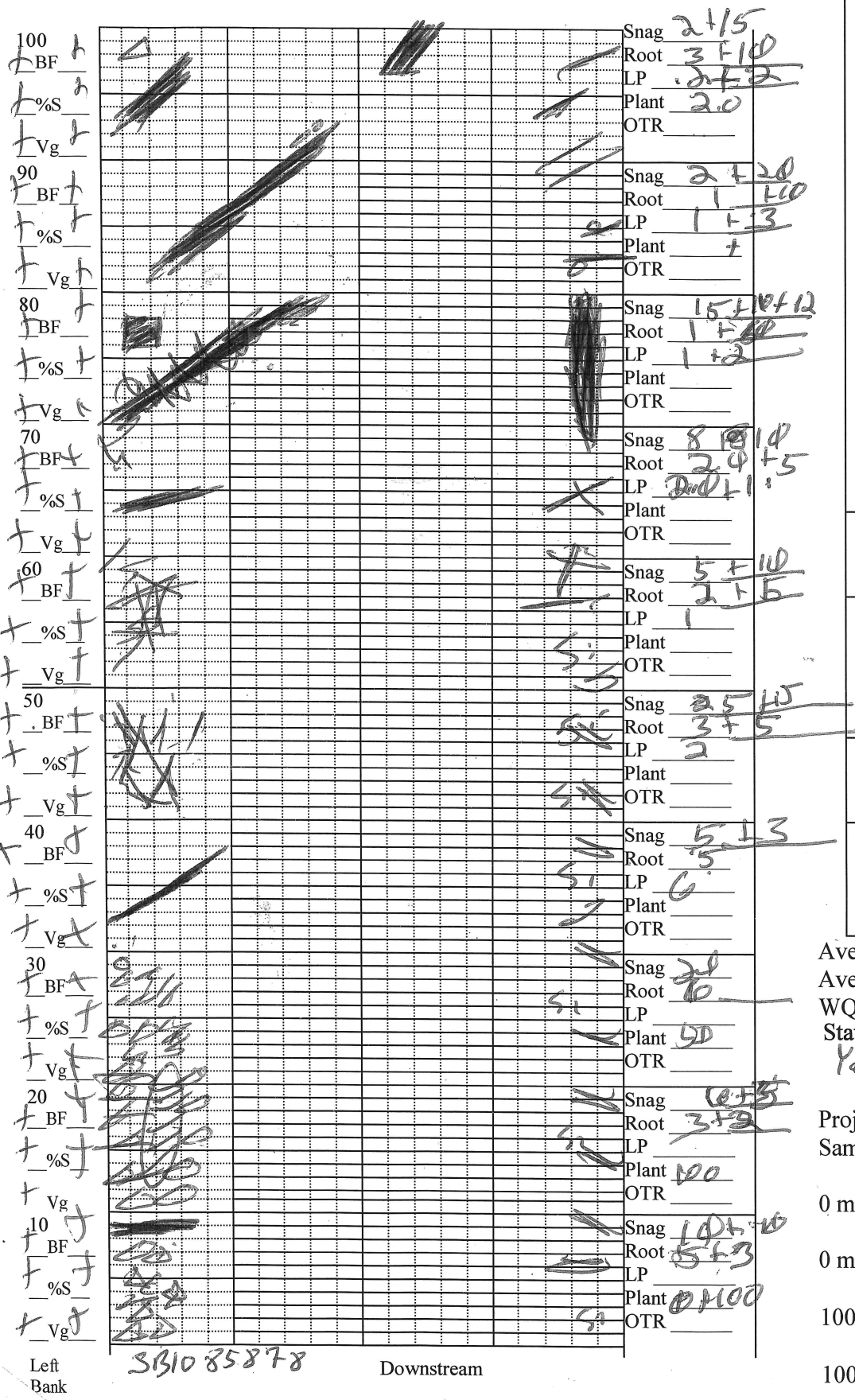
AMBIENT FIELD CONDITIONS / NOTES:
H2O @ 30.63535 86.7971 Secchi estimated.
H2O level down about 1 meter

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

SAMPLING TEAM: Nathan Mulkey, Frank Butera

SIGNATURE: [signature] | DATE: 12/06/22

Stream/River Habitat Sketch Sheet, Form FD 9000-4 (June 1, 2001)_
Length of grid represents 100 m of stream (not linear meters).
(Horizontal scale is double vertical scale, draw proportionately).



WIN ID 64NW0031

Substrates: Code key, draw proportionate habitat abundance.

- 1 Snags 172/3000 = 5.7%
- S Roots/undercut banks 96/3000 = 3.2%
- O Leaf Packs (or mats) 15.2/3000 = 0.5
- △ Macrophytes 250/3000 = 8.3%
- ☐ _____
- ☐ _____
- ☐ _____

Velocity: 0.33 m/s
Note where velocity measures were taken. 100 m

Habitat Smothering:
Note areas (on map) where sand or silt is something 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.

Average width 30 m
Average depth 1.5 m
WQ & chemistry taken @ 0 m
Station Name: Yellow River

Project. SMP
Sampled By/Date: 12/6/22

0 m Latt. 30.63535
0 m Long. 86.79711
100 m Latt 30.63614
100 m Long 86.79617

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

SAMPLING AGENCY: DEAR-NWROC. 21FLPNS		STORET STATION NUMBER: 64NW0031	DATE (MM/DD/YY): 12/6/22	RECEIVING BODY OF WATER: East Bay
REMARKS: WBID 30B	COUNTY: Okaloosa	LOCATION: Yellow River		FIELD ID/NAME: 64NW0031

Habitat Parameter	Optimal	Suboptimal	Marginal	Poor
Primary Habitat Components **Substrate Diversity** 18	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 16	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 13 Primary Score 67	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** 20	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 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 10 Left Bank 10	Bankfull > 60% of bank height. Slope of bank ≤ 60° from bankful to top of bank. Bankfull is within or above the 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 root zone with raw, eroded areas. 3 2 1
Riparian Buffer Zone Width Right Bank 10 Left Bank 10	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 10 Left Bank 10 Secondary Score 80	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

147 **TOTAL SCORE**

Date: 12/06/2022	Analyst: F Buteau	Signature: Fra J.

SBIO ID: 35878 HA ID: 18052

62-160.800, F.A.C.

Revision Date: March 1, 2014

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site: Yellow River | County: Okaloosa | Date: 12/6/2022 | Investigators: F. Burton, N. Mullaney

STORET Station Number: 21FLNWD031

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

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	N		
	9	N		
70	1	N		
	2	N		
	3			
	4			
	5			0
	6			
	7	N		
	8	N		
	9	N		
80	1	N		
	2			
	3			
	4			
	5			0
	6			
	7			
	8	N		
	9	N		
90	1	N		
	2	N	Y	
	3	N		
	4	N		
	5	N		0
	6	N		
	7	N		
	8	N		
	9	N		
100	1	N		
	2			
	3			
	4			
	5			0
	6			
	7			
	8	N		
	9	N		

Secchi depth	1.5
Estimated?	Y

# 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- 2022-11-14-17

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

SBIO Visit ID. 85878

RPS ID. 10005

WBID 3413

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: Yelow River	Date: 12/06/2022	County: Okaloosa	Storet Number: G4NW0031
Analyst: F. Buten		Signature:	

Comments:

Instructions: Note taxa growing in the water with a checkmark if present, "D" if dominant, and "C" if codominant (dominance only if 1 m^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											
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"				X	X	X	X	X	X		
Indicate % cover macrophytes per section											
0-5% Macrophyte Coverage				X	X	X	X	X	X		
>5 and ≤10% Macrophyte Coverage											
>10 and ≤25% Macrophyte Coverage			X								
>25 and ≤50% Macrophyte Coverage	X	X									
> 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~~ sp.	D	D	D							P	
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											

Field ID: G4NW0031	RPS ID 10005	SBIO ID 85878	VPDB ID 12336
LIMS ID 037449			