Site Name West Sandy Creek upstream of Kidd Rd Date: 2/26/19

Field ID G3NW0053 Storet G3NW0053 Project: SMP

Visit ID _____ RQ: 2019-02-25-12

RPS ID _____ LIMS ID: _____

VPDB ID _____

HA ID _____

☐ LVI

☐ RPS/LVS Only

☐ Sample Site Created in SBIO

☐ Phys/Chem entered in SBIO

☐ HA entered in SBIO Initial _____ ☐ Date and Initial QA: _____

☐ RPS entered in SBIO Initial _____ ☐ Date and Initial QA: _____

☐ LVI entered in SBIO Initial _____ ☐ Date and Initial QA: _____

☑ < 2 m^2 vegetation

☐ Plants getting verified Date submitted: _____

☐ Plants verified Date returned: _____

☐ RPS authorized in SBIO ☐ Date and Initial: _____

☐ RPS score: _____

☐ VPDB authorized in SBIO ☐ Date and Initial: _____

☐ VPDB score: _____

☐ SCI complete: _____ SCI Score: _____

☑ If SMP, scanned into database

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
STRATEGIC MONITORING PROGRAM FIELD SHEET

January 2019

Data Qualified? Yes / (No)

WIN Station Name: West Sandy Creek upstream of Kidd Rd **Date:** 02/26/2019 (mm/dd/yyyy)

WIN/ Field ID: G3NW0053 **WBID:** 269 **Latitude:** 30.77757 (Decimal Degrees)

County: Walton **ORG ID:** 21FLPNS **Longitude:** -86.07091 (Decimal Degrees)

Receiving Body of Water: Sandy Creek **RQ-2019-** 02-25-19

Sampling Team Members	WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check
NM	✓		✓		
JP	✓	✓		✓	

Sampling Equipment
- ☑ Sample Container ☐ Van Dorn ☐ Pole
- ☐ Carboy ☑ Syringe
- ☐ Dipper ☐ Other
- Depth Measured with
- Equipment ID

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

Water Level: Dry/ Pooled/ Low / (Normal) / High / Flooded **Meter ID#** 650T **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		0.4		VOB						
(CEN)	1040		0.2		9.53	94.9	6.34	0.01	30.5	15.6

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	810020	4/1/19	☐ <2
Metals	☑ W-ICPMS ☑ W-ICP	☑ Ice ☑ HNO_3	8344050	12/10/19	☐ <2
Filtered Nutrients	☑ W-PO4-F ☑ Field Filtered 0.45 µm Filter	☑ Ice	16570048		
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	☑ Ice			
Phytoplankton	☐ DTY-QN-C ☐ PKD-QN-C				

Place Preservative Sticker(s) Here (If Available)

Notes:

Field/WIN ID → G3NW0053

Location: West Sandy Creek upstream of Kidd Rd

Signature: [signature] **Date:** 2/26/19

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)

Scan/Save Field Sheets (Initials/Date) Migrate Data to WIN: (Initials/Date) Verify Data In WIN: (Initials/Date)

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

SAMPLE ID _____ ORG ID 21FLPNS LATITUDE 30.77757
COUNTY Walton STORET # 63NW0053 LONGITUDE 86.07091
DATE 2/26/19 TIME 1040 SAMPLING AGENCY NWROC
SITE NAME West Sandy Creek upstream of Kidd Rd.
FIELD ID/NAME 63NW0053 RECEIVING BODY OF WATER Sandy Creek

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)

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 : >18 Right Bank : >18

Hydrologic Modification Score (per FT 3101): _____

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

1/3 m/s	1/3 m/s	1/3 m/s
0.4 m deep	0.4 m deep	0.4 m deep

High Water Mark: (m) _____ + (above present water level) _____ = (present depth) _____ (above bed)

Artificially Impounded ☐ Yes ☑ No

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

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

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

	% Coverage	INVERT # Times Sampled	PERI # Times Sampled
Woody Debris (Snags)		1	
Undercut Banks / Roots		1	
Leaf Packs or Mat		1	
Aquatic Vegetation			
Rock or Shell Rubble..		3	
Sand.....		3	
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 :	0.2	5.6	6.34	9.53	94.9	30.5	0.01	
Mid:								☑ VOB
Bottom								TOTAL DEPTH

Meter ID: 155077 — TOTAL DEPTH: 0.4

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: _____ 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 ☐

ABUNDANCE

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

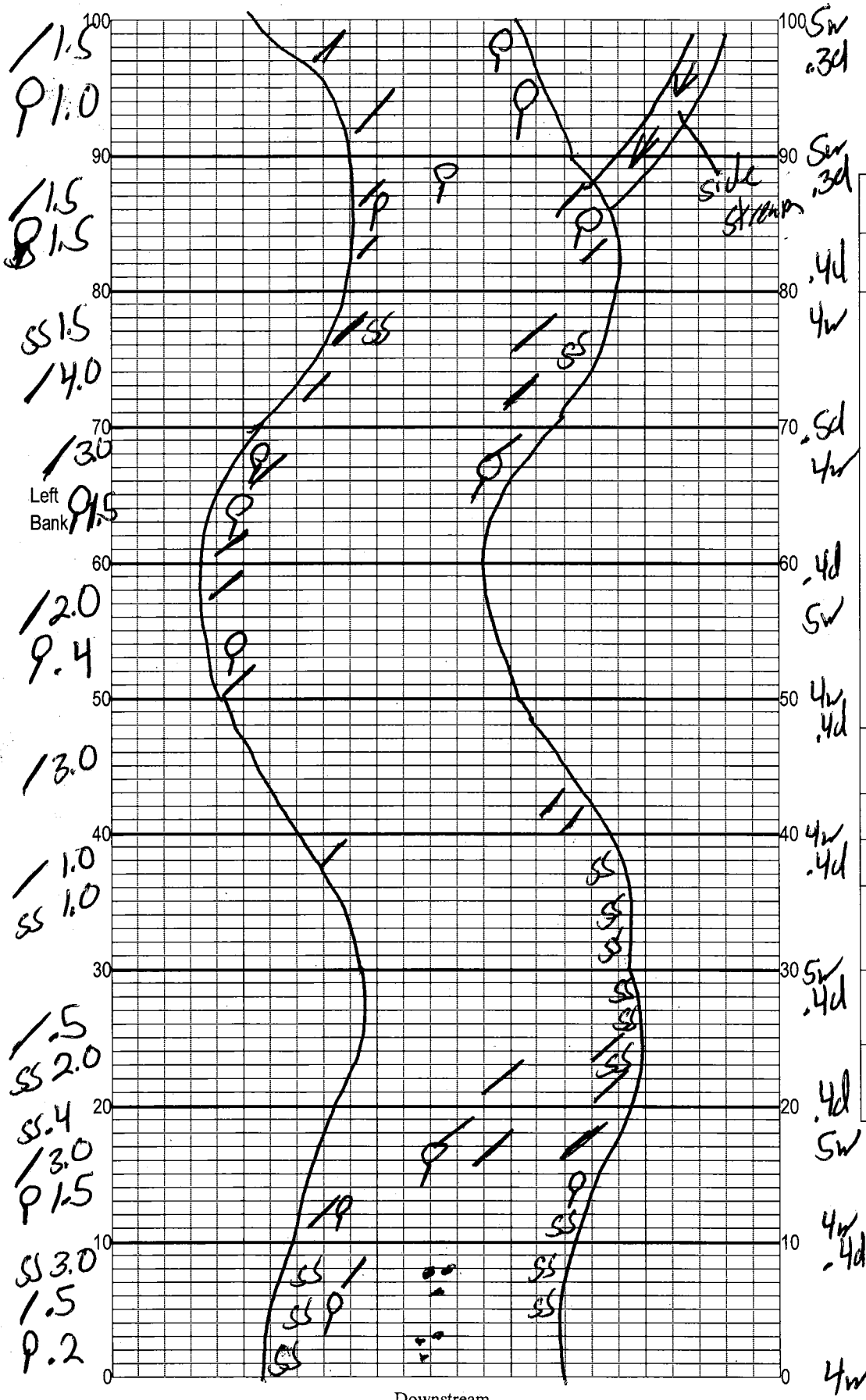
System Type: Stream ☑ Lake ☐ Wetland ☐ Estuary ☐ Other(Specify) ☐ _____

AMBIENT FIELD CONDITIONS / NOTES: WBID 269 West Sandy

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

SAMPLING TEAM Nathan Malkey / Sion Pitts — SIGNATURE : _____ — DATE : 2/26/19

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: West Sandy Creek

Date: 2/26/19

Sampler: Nathan Mulkey

100 m:	Latitude	30.77041
	Longitude	86.07182
0 m:	Latitude	30.77157
	Longitude	86.07089

Substrates: Code key, draw proportionate habitat abundance.

		%
/	Snags 20/400	5%
SS	Roots/undercut banks 8/400	2%
L	Leaf Packs (or mats) 6/400	1.5%
	Aquatic Macrophytes	
:	Gravel	
	Pools total # observed = ____ # range expected = ____	

Average width 4.0 m

Average depth 0.4 m

Velocity measured at 100 meter mark.

WQ & chemistry taken at 0 meter mark. 1/3

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:

*gravel throughout

*algae present

8.5%

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

SAMPLING AGENCY:		STORET STATION NUMBER:	DATE (MM/DD/YY):	RECEIVING BODY OF WATER:
FDEP NWROC		63NW0053	02/26/19	Sandy Creek
REMARKS:	COUNTY: Walton	LOCATION: West Sandy Creek		FIELD ID/NAME: 63NW0053

Habitat Parameter	Optimal	Suboptimal	Marginal	Poor
Primary Habitat Components **Substrate Diversity** 14	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 8	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 1/3 ≥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 60	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** 15	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 9 Left Bank 9	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 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 9 Left Bank 9 Secondary Score 71	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

131 **TOTAL SCORE**

Date: 2/26/19	Analyst: Nathan Malkey	Signature: Nathan Malkey

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site: West Sandy Creek | County: Walton | Date: 2/26/19 | Investigators: Nathan Mullaney

STORET Station Number: 21FLW0053

Transect (m)	Point 1=right 9=left	Algal Thickness Rank (N-6, X)	Estimated	Canopy Cover
0	1	N		
	2			
	3			
	4			
	5			62
	6			
	7			
	8			
	9			
10	1	N		
	2	3		
	3	3		
	4	N		
	5			52
	6			
	7			
	8			
	9			
20	1	N		
	2			
	3			
	4			
	5			78
	6			
	7			
	8			
	9			
30	1	N		
	2			
	3			
	4			
	5			60
	6			
	7			
	8			
	9			
40	1	N		
	2			
	3			
	4			
	5			60
	6			
	7			
	8			
	9			
50	1	N		
	2	3		
	3	3		
	4	N		
	5			50
	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			48
	6			
	7			
	8			
	9			
70	1	N		
	2			
	3			
	4			
	5			55
	6			
	7			
	8			
	9			
80	1	N		
	2			
	3			
	4			
	5			55
	6			
	7			
	8			
	9			
90	1	N		
	2			
	3			
	4			
	5			60
	6			
	7			
	8			
	9			
100	1	N		
	2			
	3			
	4	N		
	5	3		60
	6	3		
	7			
	8			
	9			

Secchi depth	0.4
Estimated?	

# points ranked 4-6	0
total points assessed	97
% points ranked 4-6	0

Check accompanying data collected at same site/date.	
Algal mat sample	
Linear Veg Survey	X
Habitat Assessment	X
SCI/Biorecon	X
Water sample	X

RQ-2019-02-25-12

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 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: West Sandy Creek | Date: 2/6/19 | County: Walton | Storet Number: 63WW0053

Analyst: Nathan [illegible] | Signature: [signature]

Comments: < 2m² ~ SAV

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	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	Specimen collected (check)	HERBACEOUS SPECIES	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												Micranthemum glomeratum											
Bacopa caroliniana												Micranthemum umbrosum											
Bacopa monneri												Myriophyllum aquaticum											
Bidens mitis												Najas guadelupensis											
Boehmeria cylindrica												Nuphar luteum											
Centella asiatica												Orontium aquaticum											
Ceratophyllum demersum												Panicum hemitomon											
Chara												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											
Diodia virginiana												Potamogeton illinoensis											
Eichhornia crassipes												Ruellia simplex											
Eleocharis (wispy viviparous)												Sacciolepis striata											
Hydrilla verticillata												Sagittaria kurziana											
Hydrocotle												Sagittaria lancifolia											
Hygrophila polysperma												Sagittaria latifolia											
Hymenocallis												Salvinia minima											
Lachnanthes caroliniana												Samolus parviflora											
Landoltia punctata												Saururus cernuus											
Lemna												Sparganium americanum											
Limnophila sessiflora												Typha											
Ludwigia leptocarpa												Vallisneria americana											
Ludwigia palustris												Zizania aquatica											
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																							