

**FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION**

STRATEGIC MONITORING PLAN Field Sheet

July 2022

Meter
Passed End
of Day CCV

Yes / No

WIN Station Name:		Direct Runoff to Choctawhatchee Bay below Oregon Drive				Sample Date:		12/7/2022	
WIN / Field ID:	G3NW0001	ORG ID:	21FLPNS	ENR:		Latitude:	30.41739		
County:	Okaloosa	WBID:	874	STREAM	3F	Longitude:	-86.60062		
Receiving Body of Water:		Lake Earl				RQ-	2022-12-12-35		

Sampling Team Members	WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check
Nathan Mulkey	x		x		
Hannah Henning		x		x	x

Sampling Equipment			
x	Sample Container		Carboy
	Dipper		Van Dorn
x	Syringe		Pole
Syringe Lot#		Filter Lot#	
Secchi Equipment ID:			
Collection Method			
x	Wading		Canoe/Kayak
	From Shore		Electric Motor
			Gasoline Motor
Depth Measured With <i>Meter</i>			

Water Level:	Normal
Flow:	Flowing
Matrix:	Fresh
Tide Stage:	Falling
High Tide:	1216
Low Tide:	1046
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. (°C)	pH	Secchi Disk (m)	Sp COND (µmhos/cm)	Salinity (PPTth)
CEN	930	0.1	0.05	1.6	18.1	21.8	6.54	0.1	542	0.27
								VOB (s)		

Biological Samples Collected:

None

SBIO Visit ID: 85929

HA ID: 18080

RPS ID: 10027

Macrophyte ID: N/A

LIMS Sample ID Entered

Into The Macrophyte Module: 2374113

Parameter Suite	Parameter Methods (LIMS Test Codes)			Preservation				
				Type	Lot#	Expiration Date	pH Check	
Microbiology								
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	W-PO4-F	Field Filtered 0.45 µm Filter		ICE	Syringe Lot#; Filter Lot#:			
Acid Preserved Nutrients	W-NH3 / W-NO2NO3 / W-TKN / W-TOC / W-S-A-TP			ICE	H2SO4*	SA2145160	06022023	H2SO4 pH<2
Metals	W-ICPMS	W-ICP	W-HARD	ICE	HNO3**	2126030	06022023	HNO3 pH<2
Organics (LC)	W-E8321-DI	W-E8321-MS			MCAA***			
Macroinvertebrates								
Organics (GC)	W-PSNP-TQ	W-TR-SQ-R		Ice	*2.0 ml of H2SO4 Used Unless Noted Otherwise **2.0 ml of HNO3 Used Unless Noted Otherwise			
Molecular								
Periphyton								
Phytoplankton								
BOD								
DOC								
					SyringeLot#		FilterLot#	
Other(s)								
Field Comments:								
Comments on COC:								
Relinquish Date:	12/07/2022	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: Direct Runoff to Chetamatchee Bay below Oregon Dr Date: 12/7/22
Storet 63NW0001 Field ID 63NW0001 Project: SMP
Visit ID 85929 RQ: 2022-12-12-35
RPS ID 10027 LIMS ID: 2374113
Macro ID N/A WBID: 874
HA ID 18080

☐ SCI

☒ RPS/LVS Only

☒ Sample Site Created in SBIO

☒ Phys/Chem entered in SBIO

☒ HA entered in SBIO

Initial FB/01-4-23

☒ Date and Initial QA: 1/19/2023 BO

☒ RPS entered in SBIO

Initial FB/01-04-23

☒ Date and Initial QA: 1/19/2023 BO

☐ LVS entered in SBIO

Initial _____

☐ Date and Initial QA: _____

☒ < 2 m² vegetation

☐ Plants getting verified

Date submitted: _____

☐ Plants verified

Date returned: _____

☒ RPS authorized in SBIO

☒ Date and Initial: 1/23/23 FB

☒ RPS score: 0.0

☐ Macro authorized in SBIO

☐ Date and Initial: _____

☐ LVS Score: N/A

☐ SCI complete: _____

SCI Score: _____

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

☐ E. coli samples shipped to Tallahassee Lab for analysis.

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

SAMPLE ID 85929 ORG ID 21FLPNS LATITUDE 30.41739
 COUNTY Okaloosa WIN ID/STORET # G3NW0001 LONGITUDE -86.60062
 DATE 12/7/22 TIME 0930 CTZ SAMPLING AGENCY FL DEP - NWROC
 SITE NAME Direct Runoff to Choctawhatchee Bay below Oregon Drive RQ- 2022-11-21-04 12-12-35
 FIELD ID/NAME G3NW0001 RECEIVING BODY OF WATER Choctawhatchee Bay WBID 874 Project: SMP/ TMDL Studies

RIPARIAN ZONE / STREAM FEATURES

LIMS ID: 2374113

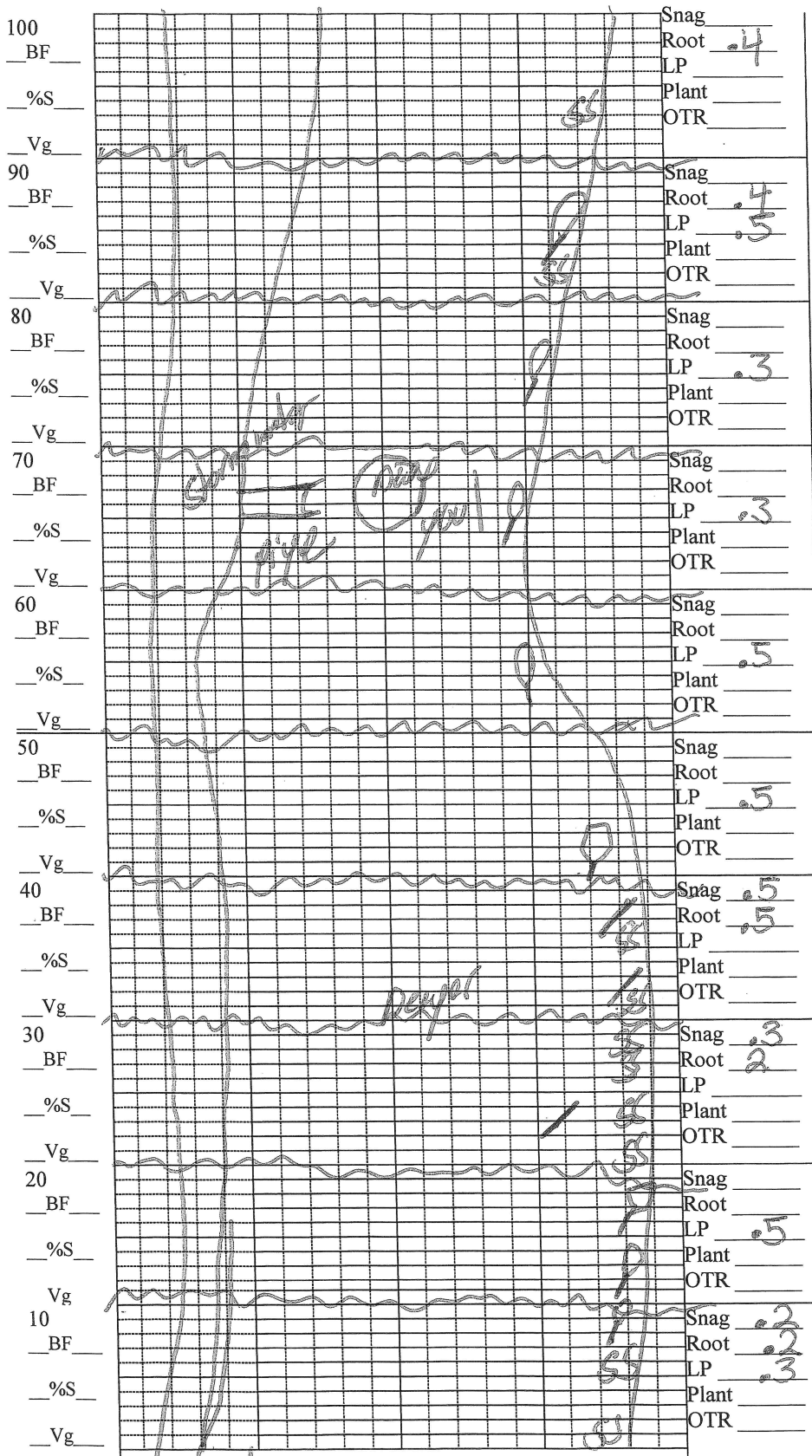
PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category) : Forest/Natural ☐ Silviculture ☐ Field/Pasture ☐ Agricultural ☐ Residential ☐ Commercial ☐ Industry ☐ Other (Specify) ☐						Landscape Development Intensity Index (LDI) <u>N/A</u>
Local Watershed Erosion (select one) : ☐ None ☒ Slight ☐ Moderate ☐ Heavy Local Watershed NPS Pollution : ☒ No evidence ☐ Slight ☐ Moderate ☐ Heavy						Typical Width (m) Depth (m)/Velocity (m/sec) Transect <u>4.0</u> m wide
Width of Riparian Vegetation (m) on Each Buffer Side Left Bank : <u><5</u> Right Bank : <u><5</u>			Hydrologic Modification Score (per FT 3101) <u>9-10</u>			
High Water Mark: ☐ + ☐ = ☐ (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) : <u></u>		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 Depth (M) Temp. (°C) pH (SU) D.O. (MG/L) D.O. Sat (%) Cond. (UMHO/CM) Salinity (PPT) SECCHI (M) Top : <u>0.1</u> <u>21.8</u> <u>6.54</u> <u>1.6</u> <u>18.1</u> <u>542</u> <u>0.27</u> <u>0.1</u> Mid : <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> Bottom : <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> Meter ID: <u>154179</u>			
Woody Debris (Snags) <u>.25</u> Undercut Banks / Roots <u>.88</u> Leaf Packs or Mat <u>.75</u> Aquatic Vegetation Rock or Shell Rubble.. Sand..... <u>98.12</u> Mud / Muck / Silt Other Other		Water Odors Normal ☐ Petroleum ☐ Sewage ☐ Chemical ☒ Other ☐ Water Sample Taken? ☒ Yes ☐ No Sample Preserved? ☒ Yes ☐ No Lot Number: _____ Exp: _____		Water Surface Oils Normal ☐ Sheen ☒ Globbs ☐ Slick ☒ Other ☐ Color Tannic ☐ Green (Algae) ☐ Clear ☒ Other (Specify) ☐	
ABUNDANCE Not Obs. Rare Common Abundant Periphyton: ☐ ☒ ☐ ☐ Fish: ☐ ☐ ☒ ☐ Aquatic Plants: ☐ ☒ ☐ ☐ Iron/Sulfur Bacteria: ☒ ☐ ☐ ☐		System Type: Stream ☒ Lake ☐ Wetland ☐ Estuary ☐ Other(Specify) ☒ <u>Ditch</u> AMBIENT FIELD CONDITIONS / NOTES: <u>NO SCI</u> <u>*HA/LVS/RPS</u> ☒ The antecedent hydrologic conditions have been met to my best knowledge.		Clarity Clear ☐ Slightly Turbid ☐ Turbid ☒ Opaque ☐	
SAMPLING TEAM: <u>Nathan Malky / Hannah Henning</u>		SIGNATURE : <u>[Signature]</u>		DATE : <u>12/7/22</u>	

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 G3NW0001

Substrates: Code key,
draw proportionate habitat
abundance.

Snags $\frac{1.0}{400} = 25\%$

Roots/undercut banks $\frac{3.5}{400} = 88\%$

Leaf Packs (or mats) $\frac{3.0}{400} = 75\%$

Macrophytes

Velocity:

Note where velocity
measures were taken. 10 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 4.0 m

Average depth 3 m

WQ & chemistry taken @ 8 m

Station Name: Direct runoff Chub. Bay
Oregon Dr.

Project. SMP / TMDL Studies

Sampled By/Date: 12/7/22

0 m Latt. 30.41713

0 m Long. 86.60101

100 m Latt. 30.41692

100 m Long. 86.60200

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

SAMPLING AGENCY: FL DEP DEAR NWROC 21FLPNS		STORET STATION NUMBER: G3NW0001	DATE (MMDDYY): 12/07/22	RECEIVING BODY OF WATER: Choctawhatchee Bay
REMARKS: WBID 874 <u>Ditch</u>	COUNTY: Okaloosa	LOCATION: Direct Runoff to Choctawhatchee Bay below Oregon Drive		FIELD ID/NAME: G3NW0001

Habitat Parameter	Optimal	Suboptimal	Marginal	Poor
Primary Habitat Components Substrate Diversity <u>6</u>	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 <u>2</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 3 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>6</u> ----- Primary Score <u>17</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 Artificial Channelization <u>2</u>	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 <u>3</u> Left Bank <u>4</u>	Bankfull > 60% of bank height. Slope of bank ≤ 60° from bankfull 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 <u>4</u> Left Bank <u>1</u>	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 <u>3</u> Left Bank <u>1</u> ----- Secondary Score <u>8</u>	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

35 TOTAL SCORE

Date: 12/17/22	Analyst: Nathan M. Iley	Signature: 
----------------	-------------------------	--

SBIO ID: 85929
62-160.800, F.A.C.

HA ID: 18080

Revision Date: March 1, 2014

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site: Direct Runoff to Choctawhatchee Bay
below Oregon Drive

County: Okaloosa

Date: 12/17/22

Investigators: Nathan Mulkey

STORET Station Number:
G3NW0001

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					2				
	3					3				
	4					4				
	5			38		5				84
	6					6				
	7					7				
	8					8				
	9					9				
10	1	N			70	1	N			
	2					2				
	3					3				
	4					4				
	5			62		5				80
	6					6				
	7					7				
	8					8				
	9					9				
20	1	N			80	1	N			
	2					2				
	3					3				
	4					4				
	5			90		5				82
	6					6				
	7					7				
	8					8				
	9					9				
30	1	N			90	1	N			
	2					2				
	3					3				
	4					4				
	5			74		5				76
	6					6				
	7					7				
	8					8				
	9					9				
40	1	N			100	1	N			
	2					2				
	3					3				
	4					4				
	5			76		5				70
	6					6				
	7					7				
	8					8				
	9					9				
50	1	N				1	N			
	2					2				
	3					3				
	4					4				
	5			70		5				
	6					6				
	7					7				
	8					8				
	9					9				

Secchi depth 0.1
Estimated?

points ranked 4-6
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- 2022-11-21-04

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: 85929

RPS ID: 10027

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: Direct Runnoff below Oregon Drive	Date: 12/7/22	County: Okaloosa	Storet Number: G3NW0001
--	---------------	------------------	-------------------------

County: Okaloosa	Storet Number: G3NW0001
------------------	-------------------------

Storet Number: G3NW0001

Analyst: <u>Nathan Miller</u>	Signature: <u>[Signature]</u>
-------------------------------	-------------------------------

Signature:

Comments: 2022 SAV

Instructions: Note taxa growing in the water with a checkmark if present, "D" if dominant, and "C" if codominant (dominance only if 1 m² 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										Specimen collected (check)		HERBACEOUS SPECIES	Meter Mark										Specimen collected (check)
	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100				0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	
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 hemitomom												
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												
Hydrocotyle												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"																								

Field ID: G3NW0001

RPS ID

SBIO ID 85929

MACRO ID

LIMS ID 237413