



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION STRATEGIC MONITORING PROGRAM FIELD SHEET

January 2018

Data Qualified?

Yes / ☒ No

Location/STORET Station Name: Mill Creek upstream of Bayshore Dr

Date: 04/24/2018

(mm/dd/yyyy)

WIN ID G3NW0141

WBID: 644

Latitude: 30.51998

County: Okaloosa RQ - 2018-04-09-35

ORG ID: 21FLPNS

Longitude: -86.48907

(Decimal Degrees)

(Decimal Degrees)

Receiving Body of Water: Boggy Bayou

Field ID: G3NW0141

Sampling Team Members				WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check	Sampling Equipment			
Jimmy Pitts									☒ Sample Container	☐ Van Dorn	☐ Pole	
F. BUTORA									☐ Carboy	☒ Syringe		
									☐ Dipper	☐ Other		
									Equipment ID N/A			
									Collection Method			
									☒ Wading	SCI	☐ Canoe/Kayak	
									☐ From Shore		☐ Electric Motor	
									☐ Other		☐ Gasoline Motor	
Water Level: Dry / Low / ☒ Normal / Above Normal / Flooded				Meter ID# 32237				Matrix: Fresh / Marine / DI				
Photos: Yes / ☒ No				Flow: No Flow / Intestinal / ☒ 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 (PPT)	Sp COND (µmhos/cm)	Temp. (C°)		
EST	03:10		03		6.52	72.8	6.51	0.03	63	20.84		
CEN	9:57	0.63	0.62									
Biological Samples Collected: None ☒ HA ☒ SCI ☒ RPS Algae ID ☒ LVS LVI Other:												
SBIO ID Numbers: SBIO-ID: 78338 HA-ID: 15109 RPS-ID: 8976 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 ☐ H2SO4		SA7341020	12/07/2018	☐ <2			
Metals	☐ W-ICPMS ☐ W-ICP				☐ Ice ☐ HNO3				☐ <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-CI-IC / ☐ W-COLOR / ☐ W-SO4-IC / ☐ W-TDS				☐ Ice							
Physical/Aggregate (Marine)	☐ Alkalinity / ☐ 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-HF183 ☐ PCR-BacR ☐ PCR-GULL2 ☐ PCR-GFD				☐ Ice							
Tracers	☐ W-SUC-AA-R ☐ W-UHERB-AA ☐ W-AHERB-AA				☐ Ice							
Pesticides	☐ W-PSNP-TQ ☐ W-UHERB-AA ☐ W-AHERB-AA ☐ W-CARB-AA				☐ Ice							
	☐ W-PCL-SQ-R ☐ W-PYR-AA-R ☐ W-GLYPH ☐ W-SUC-AA-R				☐ Other							

Notes: 2nd Vegetation, No LVS

Field/WIN ID



G3NW0141

Location:

Mill Creek upstream of Bayshore Dr

Signature:

Frank Pitts

Date:

04/24/2018

Enter Field Parameters, Verify Station ID In LIMS DMT:

QC Station ID, Field Parameters In LIMS DMT:

Scan/Save Field Sheets

(Initials/Date)

Migrate Data to WIN:

(Initials/Date)

Verify Data In WIN:

(Initials/Date)

(Initials/Date)

(Initials/Date)

320
05/5

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

SAMPLE ID 72338 ORG ID 21FLPNS LATITUDE 30.51998
 COUNTY Ocala WIN ID/STORE # G3NW0141 LONGITUDE -86.48907
 DATE 04/24/2018 TIME 9:57 CTZ SAMPLING AGENCY FL DEP - NWROC
 RQ-2018-04-09-35
 SITE NAME Mill Creek upstream Bayshore Dr.
 FIELD ID/NAME G3NW0141 RECEIVING BODY OF WATER Boggy Bayou WBID 644 Project SMP- TMDL Studies

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)

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: 1.8 Right Bank: 1.2

Hydrologic Modification Score (per FT 3101) 9-10

High Water Mark: 1.5 + 0.9 = 2.4
 (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%)

Landscape Development Intensity Index (LDI)

Typical Width (m) Depth (m)/Velocity (m/sec) Transect
40 m 3 m wide
.33 m/s .33 m/s 0.33 m/s
0.3 m deep 0.4 m deep 0.3 m deep

SEDIMENT / SUBSTRATE

Sediment Oils
☐ Absent ☒ Slight
☐ Moderate ☐ Profuse

Sediment Odors
☐ Normal ☐ Sewage ☐ Petroleum
☐ Chemical ☒ Anaerobic
☐ Other (Specify):

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

	% Coverage	INVERT # Times Sampled	PERI # Times Sampled
Woody Debris (Snags)	<u>17.7</u>	<u>5</u>	
Undercut Banks / Roots	<u>5.5</u>	<u>5</u>	
Leaf Packs or Mat	<u>0.3</u>	<u>21</u>	
Aquatic Vegetation	<u>0.5</u>	<u>2</u>	
Rock or Shell Rubble	<u>0.9</u>	<u>5</u>	
Sand	<u>76.4</u>	<u>1</u>	
Mud / Muck / Silt			
Other <u>Gravel</u>	<u>0.5</u>	<u>1</u>	
Other			

WATER QUALITY

	Depth (M)	Temp. (°C)	pH (SU)	D.O. (MG/L)	D.O. Sat (%)	Cond. (UMHO/CM)	Salinity (PPT)	SECCHI (M)
Top	<u>0.3</u>	<u>20.84</u>	<u>6.51</u>	<u>6.52</u>	<u>72.8</u>	<u>63</u>	<u>0.03</u>	<u>0.9</u>
Mid								☒ VOB
Bottom	<u>0.62</u>							<u>0.9</u>

Meter ID: 132237

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:

Algae Sample Taken? ☐ Yes ☒ No
 Sample Preserved? ☐ Yes ☐ No
 Lot Number: Exp:

Color Tannic ☐ Green (Algae) ☐
 Clear ☒ Other (Specify) ☐

Clarity Clear ☐ Slightly Turbid ☐
 Turbid ☒ Opaque ☐

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

ABUNDANCE

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

AMBIENT FIELD CONDITIONS / NOTES: Popcorn Trees dominate Overstory.
Chinese Pistat co-Dominates shrubs/understory.

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

SAMPLING TEAM: Frank Butera, Jimmy Pitts

SIGNATURE:

Frank Butera

DATE:

04/27/2018

Length of grid represents 100 m of stream (not linear meters).
(Horizontal scale is double vertical scale, draw proportionately).

Substrates: Code key, draw proportionate habitat abundance. | *T. subul* 1° H₂O

Snags

$$58.5 / 330 = 17.7\%$$

Roots/undercut banks

$$\frac{18.4}{330} = 5.5\%$$

Leaf Packs (or mats)

$$\frac{1.1}{330} = 0.3\%$$

Macrophytes

$$\frac{1.8}{320} = 0.5\%$$

Concrete rule

$$\frac{3.1}{330} = 0.9\%$$

Gravel

$$\frac{1.5}{230} = 0.5\%$$

Velocity:

Note where velocity measures were taken 30 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 3.3 m

Average depth 0.4 m

WQ & chemistry taken @ Ψ m

Mill Ck Upstream Bayshore
Drive

Project TMDL Studies

Sampled By/Date: 4 / 24 / 2018

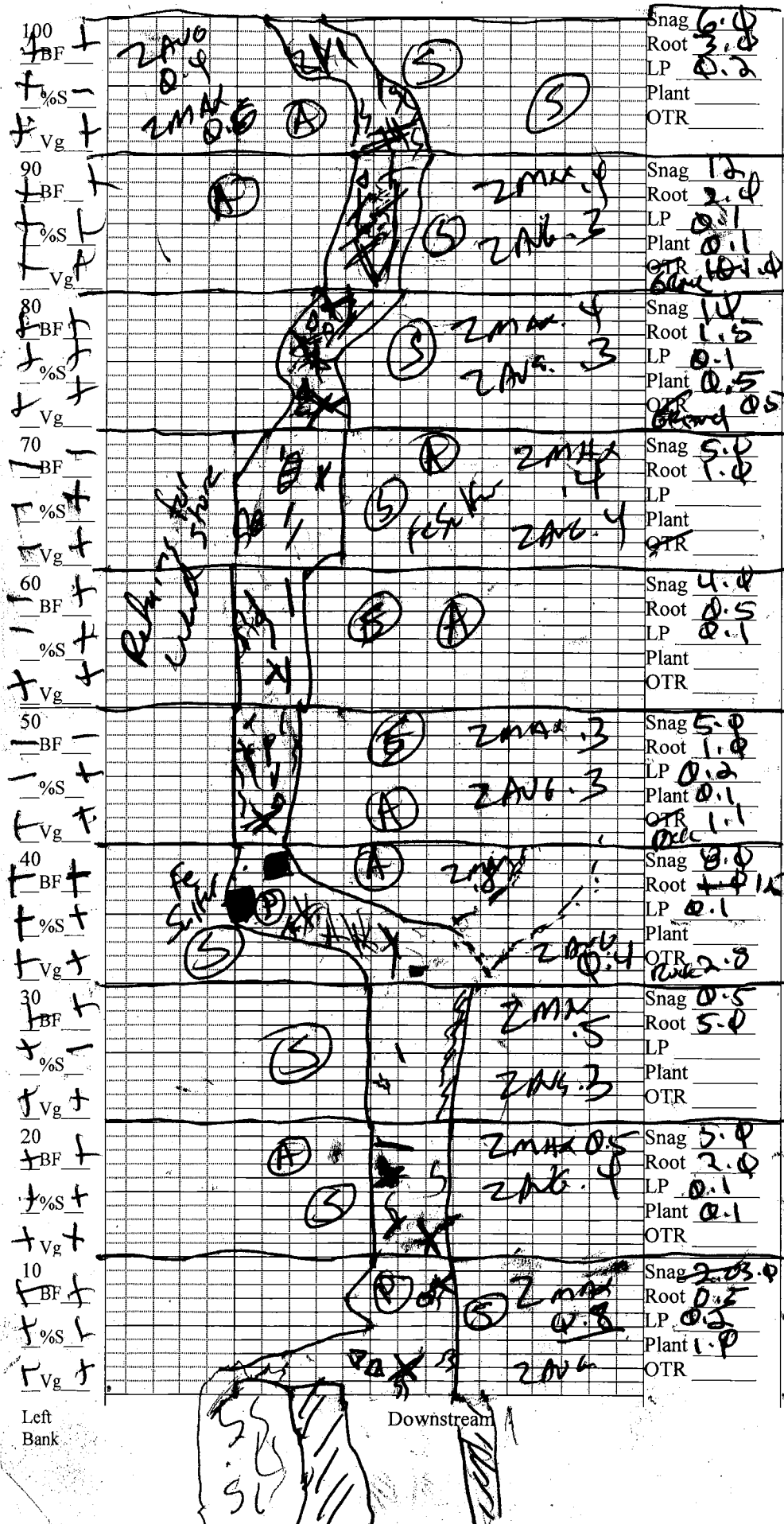
FL

0 m Latt. 30.52447

0 m Long. 86.4891 W

100 m Latt 30.52073

100 m Long *YL 48856*

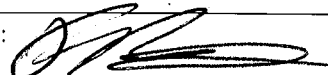


DEP Form FD 9000-5 Stream/River Habitat Assessment Field Sheet

SAMPLING AGENCY: 21FLPNS		STORET STATION NUMBER: G3NW0141	DATE (MM/DD/YY): 4/24/18	RECEIVING BODY OF WATER: Boggy Bayou
REMARKS: WBID 644	COUNTY: Okaloosa	LOCATION: Mill Creek upstream of Bayshore Dr.	FIELD ID/NAME: G3NW0141	

Habitat Parameter	Optimal	Suboptimal	Marginal	Poor
Primary Habitat Components Substrate Diversity <u>14</u> 15 (15)	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 <u>14</u> 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>14</u>	Greater than 30% major productive habitat present at site 20 19 18 17 16	16% to 30% major productive habitat, by aerial extent <u>24.1%</u> 15 <u>14</u> 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>16</u> (16) <u>24</u>	Max. observed at typical transect: > 0.25 m/sec. But < 1 m/sec ≥0.33 0.31 0.29 0.27 >0.25 <u>20</u> 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>14</u> ----- Primary Score <u>58</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). <u>10</u> 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>16</u>	Expected sinuosity given the stream width. No evidence of dredging or artificial straightening. No spoil banks. 20 19 18 17 <u>16</u>	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>7</u> Left Bank <u>8</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. <u>8</u> <u>7</u> 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>5</u> Left Bank <u>5</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 <u>5</u> 4	Less than 6 m of buffer zone due to intensive human activities 3 2 1
Riparian Zone Vegetation Quality Right Bank <u>6</u> Left Bank <u>6</u> ----- Secondary Score <u>53</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 <u>6</u>	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

111 TOTAL SCORE

Date: <u>4/24/18</u>	Analyst: <u>F Butler</u>	Signature: 
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SBIO ID: 78338 HA ID: 15109

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site: Mill Creek upstream of Bayshore Dr.

County:
Okaloosa

Date:
4/24/18

Investigators:
F. Burton J. P. H. S.

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	N	93	60	1	N	N	96
	2								
	3								
	4								
	5								
	6								
	7								
	8								
	9								
10	1	N	N	96	70	1	N	N	96
	2								
	3								
	4								
	5								
	6								
	7								
	8								
	9								
20	1	N	N	96	80	1	N	N	96
	2								
	3								
	4								
	5								
	6								
	7								
	8								
	9								
30	1	N	N	96	90	1	N	N	96
	2								
	3								
	4								
	5								
	6								
	7								
	8								
	9								
40	1	N	N	96	100	1	N	N	96
	2								
	3								
	4								
	5								
	6								
	7								
	8								
	9								
50	1	N	N	96		1	N	N	
	2								
	3								
	4								
	5								
	6								
	7								
	8								
	9								

STORET Station Number:
G3NW0141

Secchi depth
Estimated?

points ranked 4-6 ⁹³ 99
total points assessed 99
% points ranked 4-6 9

Check accompanying data collected at same site/date.
Algal mat sample
Linear Veg Survey
Habitat Assessment
SCI/Biorecon
Water sample
RQ-2018-04-09-35
SCI

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. 78338

RPS ID 8976

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

Mill Creek Upstream Bayshore Drive

Date: 4/24/2018

County: Okaloosa

Storet Number: G3NW0141

Analyst: F. Butera

Signature: [Signature]

Comments: Insufficient Vegetation for LUS (<2m²) LUS not appropriate

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.

SBIO ID:		Meter Mark										Specimen collected (check)	Macro ID:		Meter Mark										Specimen collected (check)
SPECIES	HERBACEOUS	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100		SPECIES	HERBACEOUS	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	
Alternanthera philoxeroides		1											Micranthemum glomeratum												
Bacopa caroliniana													Micranthemum umbrosum												
Bacopa monnieri <i>Galium</i>		1	1		1								Myriophyllum aquaticum												
Bidens mitis													Najas guadelupensis												
Boehmeria cylindrica													Nuphar luteum												
Centella asiatica		1											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		1											Pontedaria cordata												
Diodia virginiana													Potamogeton illinoensis												
Eichhornia crassipes													Ruellia simplex												
Eleocharis (wispy viviparous)													Sacciolepis striata												
Hydrilla verticillata													Sagittaria kurziana												
Hydrocotyle		1											Sagittaria lancifolia												
Hygrophila polysperma													Sagittaria latifolia												
Hymenocallis													Salvinia minima												
Lachnanthes caroliniana													Samolus parviflora												
Landoltia punctata													Saururus cernuus	1							1	1			
Lemna													Sparganium americanum												
Limnophila sessiflora													Typha												
Ludwigia leptocarpa													Vallisneria americana												
Ludwigia palustris													Zizania aquatica												
Ludwigia peruviana													Sagittaria <i>Sagittaria</i>	1											
Ludwigia repens													Poison Sumac	1										✓	
Luziola fluitans													Rubus	1								1			
Leptochloa fusca		1											Sagittaria foetida <i>minor</i>	1											
American Beach Berry		1											Nymphoides	1											
Asian Coral		1											Rubus	1											
Boehmeria		1	1										Trachium virginianum												
Eleo													Baccharis												
If no Dominant or Co-Dominant were selected, indicate with "X"		X	X	X	X	X	X	X	X	X	X		Eleocharis ballou												
Indicate % cover macrophytes per section																									
0-5% Macrophyte Coverage		X	X	X	X	X	X	X	X	X	X														
>5 and ≤10% Macro Coverage																									
>10 and ≤25% Macro Coverage																									
>25 and ≤50% Macro Coverage																									
> 50% Macrophyte Coverage																									