F ENVIRONMENTAL PROTECTION
RING PROGRAM FIELD SHEET

January 2017

Data Qualified? Yes / No

Field Id 20030568 04242017

Mill Cr 300m
AB SR 16

storet ID 20030568

Date: 4 - 24 - 2017 (mm/dd/yyyy)

WBID: 2460 Latitude: 29.967167 (Decimal Degrees)

County: St Johns RQ - 2017-04-24-25 ORG ID: 21 FLA Longitude: 81.49580556 (Decimal Degrees)

Receiving Body of Water: St Johns R Field ID:

Sampling Team Members	WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check
B. Davis		X		X	X
A. Kalmbacher	X		X		

Sampling Equipment

- [X] Sample Container
- [ ] Carboy
- [ ] Dipper
- [ ] Van Dorn
- [ ] Syringe
- [ ] Other
- [ ] Pole

Equipment ID Ortho Kit #

Collection Method

- [X] Wading
- [ ] From Shore
- [ ] Other (note below)

Via Boat
- [ ] Canoe/Kayak
- [ ] Electric Motor
- [ ] Gasoline Motor

Water Level: Dry / Pooled / (Low) / Normal / High / Flooded

Meter ID# YSI 9

Photos: Yes / No

Matrix: (Fresh) / Marine / DI

Tide Falling: Yes / No / (NA)

Time Zone	Time	Sample Depth (m)	Total Depth (m)	DO (mg/L)	DO (%SAT)	pH	Salinity (ppt)	Secchi Disk (m)	Sp COND (µmhos/cm)	Temp. (C°)
~~EST~~ DST	0945	0.1	0.1	5.22	62.8	7.54	0.49	0.15	1002	24.6
CEN										

Biological Samples Collected: (None) HA SCI RPS Algae ID LVS LVI Other

SBIO ID Numbers: SBIO-ID: (RPS-ID:) Macrophyte-ID: LIMS#:

Parameter Suite	Parameter Methods	Preservation	Acid Lot#	Expiration	pH Check
Preserved Nutrients	[X] W-NH3 / W-NO2NO3 / W-TKN / W-TOC / W-S-A-TP	[X] Ice [X] H_2SO_4	63020536	10/28/17	[X] <2
Metals	[ ] W-ICPMS [ ] W-ICP	[ ] Ice [ ] HNO_2			[ ] <2
Filtered Nutrients	[X] W-PO4-F [X] Field Filtered 0.45 µm Filter	[X] Ice			
Chlorophyll	[X] CHLSUITE-W	[X] Ice			
Physical/Aggregate (Fresh)	[X] Alkalinity / W-F / W-TSS / TURBIDITY / W-Cl-IC / W-COLOR / W-SO4-IC / W-TDS	[X] 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 [ ] Entero [ ] PCR-FILTER	[ ] Ice			
Tracers	[ ] W-DOCC [ ] W-UHERB-AA [ ] W-AHERB-AA	[ ] Ice			
Pesticides	[ ] W-PSNP-TQ [ ] W-AHERB-AA [ ] W-PYR-AA-R [ ] W-PCL-SQ-R [ ] W-UHERB-AA [ ] W-GLYPH	[ ] Ice [ ] Other			

Place Preservative Sticker(s) Here (If Available)

Notes:

Place Label Here (If Available)

Signature: A Kalmbacher Date: 4-24 - 2017

Field Parameters Entered into LIMS: AK 4/28/17 (Initials/Date) Field Parameters QC in LIMS: (Initials/Date)

Date Migrated to STORET: Field Sheets Scanned/Saved:

WBID 2460

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

AK 77557

SAMPLE ID _____ ORG ID 21 FLA _____ LATITUDE 29.967167

COUNTY St. Johns STORET # 20030568 LONGITUDE 81.49380556

DATE 4-24-2017 TIME 10:00 SAMPLING AGENCY NE ROC

SITE NAME Mill Creek @ SR16

FIELD ID/NAME _____ RECEIVING BODY OF WATER Six Mile Creek → St. Johns R

RIPARIAN ZONE / STREAM FEATURES

Meter ID: YSI 4

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

Forest/Natural	Silviculture	Field/Pasture	Agricultural	Residential	Commercial	Industry	Other (Specify)
15	20	10		40		5	10

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 : 12 Right Bank : 15

Hydrologic Modification Score (per FT 3101): _____

High Water Mark: 1 (m) + 0.2 (above present water level) = 1.2 (present depth) (above bed)

Artificially Impounded: ☐ Yes ☒ No

Typical Width (m) Depth (m)/Velocity (m/sec) Transect: 2.0 m wide

m/s	.25 m/s	m/s
m deep	.20 m deep	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

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

	% Coverage	INVERT # Times Sampled	PERI # Times Sampled
Woody Debris (Snags)	4.5		
Undercut Banks / Roots	5		
Leaf Packs or Mat			
Aquatic Vegetation	0.5		
Rock or Shell Rubble..			
Sand.....			
Mud / Muck / Silt			
Other			
Other			

ABUNDANCE

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

WATER QUALITY

	Depth (M)	Temp. (°C)	pH (SU)	D.O. (MG/L)	D.O. Sat (%)	Cond (UMHO/CM)	Salinity (PPT)
Top :							
Mid:	0.1	24.6	7.54	5.22	62.8	1002	0.49
Bottom							

SECCHI (M): 0.2

TOTAL DEPTH: 0.2

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

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 ☐

AMBIENT FIELD CONDITIONS / NOTES:

Hydrologic Disturbance Scoring ☐ 1-2 ☐ 3-4 ☐ 5-6 ☐ 7-8 ☐ 9-10

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

SAMPLING TEAM B. Davis / A. Kalmbacher

SIGNATURE _____

Already keyed off SH07757

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site: Mill Creek @ SR 16 | County: St. Johns | Date: 4-24-2017 | Investigators: B. Davis / A. Kalmbacher

STORET Station Number: 20030568

Transect (m)	Point 1=right	Algal Thickness Rank (N-6, X)	Estimated	Canopy Cover
0	1	N		
	2			
	3			
	4			
	5			96
	6			
	7			
	8			
	9			
10	1	N		
	2			
	3			
	4			
	5			95
	6			
	7			
	8			
	9			
20	1	N		
	2			
	3			
	4			
	5			90
	6			
	7			
	8			
	9			
30	1	N		
	2			
	3			
	4			
	5			96
	6			
	7			
	8			
	9			
40	1	N		
	2			
	3			
	4			
	5			92
	6			
	7			
	8			
	9			
50	1	N		
	2			
	3			
	4			
	5			96
	6			
	7			
	8			
	9			

Transect (m)	Point 1=right	Algal Thickness Rank (N-6, X)	Estimated	Canopy Cover
60	1	N		
	2			
	3			
	4			
	5			32
	6			
	7			
	8			
	9			
70	1	N		
	2			
	3			
	4			
	5			78
	6			
	7			
	8			
	9			
80	1	N		
	2			
	3			
	4			
	5			96
	6			
	7			
	8			
	9			
90	1	N		
	2			
	3			
	4			
	5			93
	6			
	7	5		
	8	5		
	9	N		
100	1	N		
	2			
	3			
	4	5		
	5	5		85
	6	N		
	7			
	8			
	9			

Secchi depth	0-2.5
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	N/A ✓
Habitat Assessment	✓
SCI/Biorecon	
Water sample	✓
RQ-2017-24-25	

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 9000-5 Stream/River Habitat Assessment Field Sheet

AR 97557

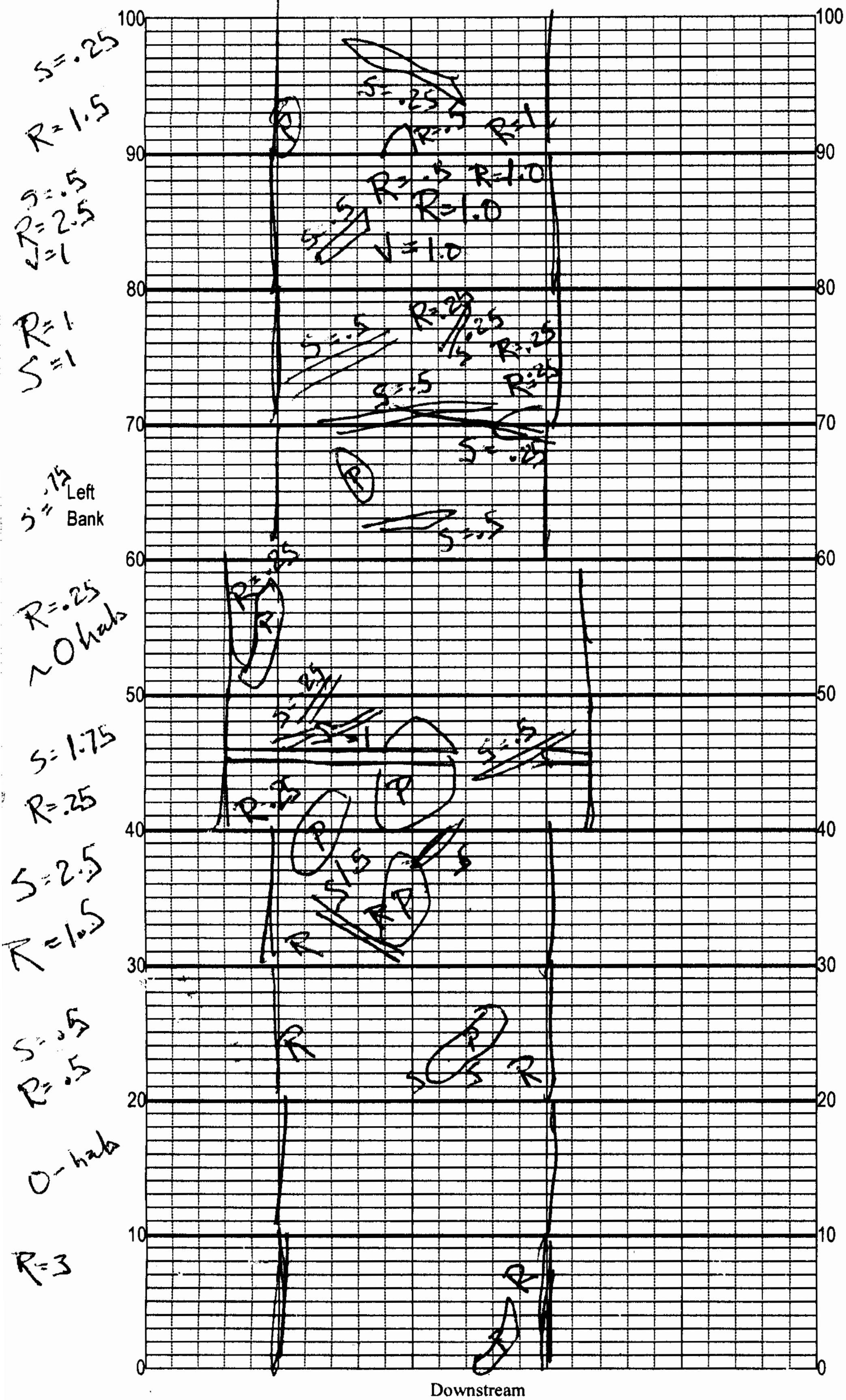
SAMPLING AGENCY: NE ROC		STORET STATION NUMBER: 20030568	DATE (MMDDYY): 4-24-17	RECEIVING BODY OF WATER: St. Johns R
REMARKS:	COUNTY: St Johns	LOCATION: Mill Creek @ SR16		FIELD ID/NAME:

Habitat Parameter	Optimal	Suboptimal	Marginal	Poor
Primary Habitat Components **Substrate Diversity** 10	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 15	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 11 Primary Score ~~44~~ 44	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 8 Left Bank 8	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 8 Left Bank 8	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 70	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

114 **TOTAL SCORE**

Date: 4-24-2017	Analyst: B. Davis / A. Kalbacher	Signature: A. Kalbacher

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: Mill Creek @ SR 16

Date: 4-24-2017

Sampler: B. Davis / A. Kalmbacher

100 m: Latitude	
Longitude	
0 m: Latitude	
Longitude	

Substrates: Code key, draw proportionate habitat abundance. %

Code	Substrate	%
S	Snags	~4.5
R	Roots/undercut banks	~5
	Leaf Packs (or mats)	
✓	Aquatic Macrophytes	.5
9	Pools	total # observed = 9; # range expected = 4

Average width 2 m

Average depth 0.2 m

Velocity measured at 100 meter mark.

WQ & chemistry taken at 0 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:

<2 M of Macrophytes was observed while doing the LVS? YES (circled) or NO

8.25 - R
7.25 = S
1 = V

62-160.800, F.A.C

Revision Date: March 1, 2014

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

Waterbody: Mill Creek @ SR 16 Date: 4-24-17 County: St. Johns Storet Number: 20030568

Analyst: B. Davis / A. Kalmbacher Signature: A Kalmbacher

Comments:

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.

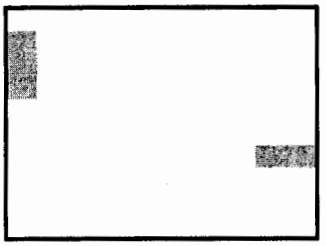
HERBACEOUS SPECIES	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	Specimen collected (check)	HERBACEOUS SPECIES	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	Specimen collected (check)
Alternanthera philoxeroides												Micranthemum glomeratum											
Bacopa caroliniana												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																							

LESS THAN 2 sq. Meters veg.

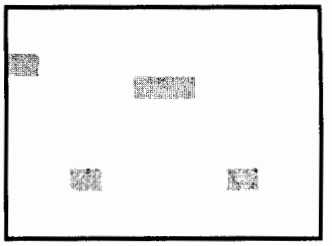
FDEP FORM FD 9000-32 LINEAR VEGETATION SURVEY FIELD SHEET

Percent Cover Categories for macrophytes in a 10 m segment of a stream 5 m wide

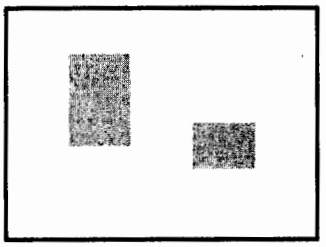
5% Macrophyte Coverage



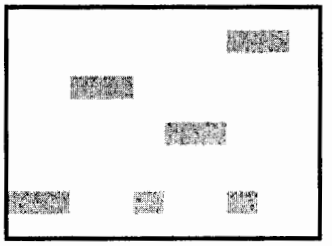
5% Macrophyte Coverage



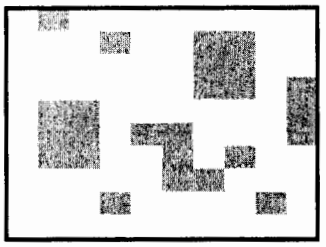
10% Macrophyte Coverage



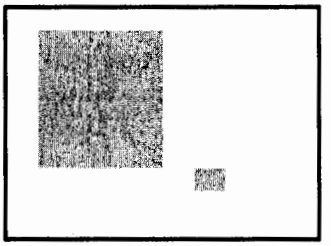
10% Macrophyte Coverage



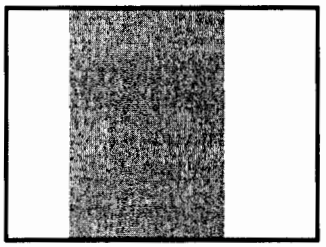
25% Macrophyte Coverage



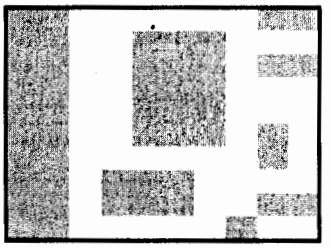
25% Macrophyte Coverage



50% Macrophyte Coverage



50% Macrophyte Coverage



6

904-825-7432 Richard

CALIBRATION AND VERIFICATION LOG (FDEP SOP FT 1000-FT 1500, FD 1000-FD 4000) LSJR South

Boldly "X" this box if there is qualified data on this page.

Meter YSI 4 RQ- 2017-04-24-25 Project Mill Creek

Notes: (1) Numbers ≤4, are rounded down; numbers ≥ 5 are rounded up (e.g., 5.15 becomes 5.2).
(2) Always wait for meter to stabilize before recording any readings.
(3) For Calibrations, record calibrated meter reading. Do not record initial meter reading before calibration.

Circle/Fill In: (Lab Calibration) or Calibration/Verification on Site _____

Temperature (Quarterly) FT 1400 Date of Last Temperature Verification 2/9/17

DO DEP SOP FT 1500	Name	Date	Time CT-ET	Temp	D.O. Chart mg/L	Meter D.O. mg/L	% DO	Probe Charge	Probe Gain	Pass / Fail	Lab / Field
Calibr.	B Davis	4/24/17	759	23.16	8.56	8.55	100	57.4	0.97	P	L
ICV	↓		800	23.2	8.56	8.55	100	57.4	0.97	P	L
CCV	AKalmbacher	4-24-17	1240	22.8	8.61	8.64	100.4	57.4	0.97	P	L
CCV											

Report DO mg/L with one decimal figure and DO % saturation as a whole number with no decimals.
DO Acceptance criteria from Table ±0.3 mg/L. **Rapid-Pulse Sensors:** DO Gain Range 0.7 to 1.4; DO Charge Range 25-75.
Optical: DO gain range 0.85 to 1.15; DO charge N/A. **Steady-state & Galvanic Sensors:** DO Gain & Charge N/A.

Spec. Cond. FT 1200	Name	Date	Time CT-ET	Lot #	Expir. Date	Standard µmhos/cm	Meter Reading µmhos/cm		Pass / Fail	Lab / Field
Calibr.	B Davis	4/24/17	803	161101A	11/17	1000	1000		P	L
ICV	↓	4/24/17	805	21472017	12/17	147	150		P	L
CCV	AKalmbacher	4-24-17	1245	161101A	11/17	1000	1027		P	L
CCV										

Report specific conductance as a whole number with no decimal figure. Conductivity Acceptance criteria ± 5%

pH DEP SOP FT 1100	Name	Date	Time CT-ET	Lot #	Expir. Date	pH Buffer SU	Meter reading SU	mV	Pass / Fail	Lab / Field
Calibr.	B Davis	4/24/17	810	2702C47	2/19	7.0	7.00	-14.6	P	L
Calibr.	↓	↓	815	2610F42	8C/18	4.0	4.00	165.6	P	L
Calibr.			819	2608E55	2/18	10.0	9.99	-187.8	P	L
ICV	↓	↓	822	2702C47	2/19	7.0	7.03	-14.5	P	L
CCV	AKalmbacher	4-24-17	1247	2702C47	2/19	7.0	7.04	-15.4	P	L
CCV										

Report pH with one decimal place; pH Acceptance criteria ±0.2 SU; mV pH7 Range 0±50; mV pH 4 Range +180±50;
mV pH 10 Range -180±50; Slope from 7 to 10 and 4 to 7 must be between 165 and 180 mV

Depth (Quarterly) Date of Last Depth Verification 2/9/17

Depth Sensor (Daily)	Name	Date	Time CT-ET	Zero the Sensor	ICV Value	Pass / Fail	Lab / Field
Pressure mode in air				0.000			

ICV acceptance criteria ±5 % or ±0.05m, whichever is greater

NF 5/2/17