



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
STRATEGIC MONITORING PROGRAM FIELD SHEET

PAGE 1 OF 1

Data Qualified?

Yes / No

January 2017

STORET Station Name: Unnamed Ditch @ 100m US of Date: 3/2/17

STORET Station ID: G5CE0092 WBID: 2666 Latitude: 29.14263

County: Volusia RQ-2017-02-27-59 ORG ID: 2IFL6N Longitude: -81.04497

Receiving Body of Water: _____ Field ID: G5CE0092

Sampling Team Members				WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check	Sampling Equipment			
<u>Terry Riordan</u> <u>Kate Williams</u>									☒ Sample Container	☐ Van Dorn	☐ Pole	
									☐ Carboy	☒ Syringe		
									☐ Dipper	☐ Other		
				Equipment ID _____								
									Collection Method			
									☒ Wading	☐ Via Boat		
									☐ From Shore	☐ Canoe/Kayak		
									☐ Other (note below)	☐ Electric Motor		
										☐ Gasoline Motor		

Water Level: Dry / Pooled / Low / <u>Normal</u> / High / Flooded				Matrix: <u>Fresh</u> / Marine / DI							
Meter ID# <u>Betty 67</u>				Photos: <u>Yes</u> / No				Tide Falling: Yes / No / <u>NA</u>			
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°)	
<u>EST</u>	<u>1125</u>	<u>0.3</u>	<u>0.5</u>	<u>0.80</u>	<u>9</u>	<u>7.2</u>	<u>0.30</u>	<u>0.5(s)</u>	<u>628</u>	<u>22.6</u>	
CEN											

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

SBIO ID Numbers: SBIO-ID: 17384 RPS-ID: 8585 Macrophyte-ID: 10360 LIMS#: 1877454

Parameter Suite	Parameter Methods	Preservation	Acid Lot#	Expiration	pH Check
Preserved Nutrients	☒ W-NH3 / W-NO2NO3 / W-TKN / W-TOC / W-S-A-TP	☒ Ice ☒ H2SO4			☐ <2
Metals	☐ W-ICPMS ☐ W-ICP	☐ Ice ☐ HNO3			☐ <2
Filtered Nutrients	☒ W-PO4-F ☒ Field Filtered 0.45 µm Filter	☒ Ice			
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-F / W-TSS / TURBIDITY	☐ Ice			
Macroinvertebrates	☐ MI-FW-QLDC	☐ Formalin			
Periphyton	☒ ALGAE-ID	☒ Ice			
Microbiology	☐ E Coli ☐ F Coli ☐ Enterococcus ☐ PCR-FILTER	☐ Ice			
Tracers	☐ W-SUC-AA-R ☐ W-UHERB-AA	☐ Ice			
Pesticides	☐ W-PSNP-TQ ☐ W-AHERB-AA ☐ W-PYR-AA-R	☐ Ice			
	☐ W-PCL-SQ-R ☐ W-UHERB-AA ☐ W-GLYPH	☐ Other			

Contains
1:1
Sulfuric Acid
SA-6302030
EXP: 10/28/17
Warning!
See SDS

Notes: _____

Unnamed Ditch @ 100m US of Madeline Avenue

Date: 03/02/2017
RQ-2017-02-27-59

Signature: K Williams

Date: 3/2/17

G5CE0092
Field ID ↑
STORET ↓
G5CE0092

Field Parameters Entered into LIMS: _____ (Initials/Date)

Date Migrated to STORET: _____ (Initials/Date)

Field Parameters QC in LIMS: 2/2 3/14/17 (Initials/Date)

Field Sheets Scanned/Saved: _____ (Initials/Date)

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site: Unnamed Ditch 2466

County: Volusia

Date: 3-2-17

Investigators: Terry Riordan

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		60	1	3	N	
	2	N				2	4		
	3	N				3	5		
	4	N				4	3		
	5	N		52		5	3		72
	6	N				6	N		
	7	N				7	N		
	8	N				8	N		
	9	N				9	3		
10	1	N			70	1	N		
	2	N				2	N		
	3	N				3	N		
	4	N				4	N		
	5	N		72		5	N		68
	6	N				6	3		
	7	N				7	N		
	8	N				8	N		
	9	N				9	N		
20	1	N			80	1	N		
	2	N				2	N		
	3	N				3	4		
	4	N				4	4		
	5	N		72		5	N		76
	6	N				6	N		
	7	N				7	N		
	8	N				8	3		
	9	N				9	3		
30	1	N			90	1	N		
	2	N				2	N		
	3	N				3	N		
	4	N				4	N		
	5	N		80		5	N		72
	6	N				6	N		
	7	N				7	N		
	8	N				8	N		
	9	N				9	N		
40	1	N			100	1	N		
	2	N				2	N		
	3	N				3	N		
	4	N				4	4		
	5	N		48		5	3		76
	6	N				6	4		
	7	N				7	4		
	8	N				8	N		
	9	N				9	N	N	
50	1	N			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%.				
	2	N							
	3	N							
	4	N							
	5	N		64					
	6	N							
	7	N							
	8	N							
	9	N							

STORET Station Number:
G-5CE 0092

Secchi depth 0.5
Estimated? N

points ranked 4-6 28
total points assessed 99
% points ranked 4-6 28

Check accompanying data collected at same site/date.

Algal mat sample	☒
Linear Veg Survey	☒
Habitat Assessment	☒
SCI/Biorecon	
Water sample	☒

RQ-2017-02-27-59

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

FDEP Algal Taxonomy Summary Report

Date Reported: 3/10/2017 Report sent by: Jennifer Walters, 850-245-8159, Jennifer.Walters@dep.state.fl.us
Request ID: RQ-2017-02-27-59 Collector: Terry Riordan
Event ID: CEN-DIST-2017-03-03-01 Date Collected: 3/2/2017 11:25:00 AM
LIMS Sample ID: 1877454 Date Received: 3/3/2017 9:55:00 AM
Analysis: ALGAL_ID Sample Container: Plastic Tube 50 mL
Site Location: Unnamed Ditch @ 100m US of Madeline Avenue Sample Preservation: ICE
Field ID: G5CE0092 Analyst: Isaura Lorenzo-Perez
Sample Notes: The sample contained a large algal mat in water with the following benthic, attached diatoms: *Eunotia* sp. and *Nitzschia* sp.

Result: The dominant taxon was *Spirogyra* sp.

Other Taxa Present: **Toxin Potential ***

Cyanophyceae

<i>Oscillatoria</i> sp.	Undetermined
<i>Phormidium</i> sp.	Undetermined

Chlorophyceae

Spirogyra sp.
Spirogyra crassa
Mougeotia sp.
Closterium sp.

* Information based on literature searches and personal communication; information is continually being updated. "Undetermined" refers to specimens for which the lowest practical level of taxonomic identification is genus and some, but not all, species within that genus have the potential to produce toxins or toxin information not available for the identified species but is available for genus level.

Waterbody: Unnamed Ditch

Date: 3/2/17

County: Volusia

Store Number: 6560092

Analyst: Katrina Williams

Signature: Kelley Jones

Comments: Lots of plants, lots of smothering

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.

		Meter Mark										Specimen collected (check)			Meter Mark										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		HERBACEOUS SPECIES		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 milis												Najas guadelupensis		X	/		/	/	/			/	/		
Boehmeria cylindrica												Nuphar luteum													
Centella asiatica												Orontium aquaticum													
Cephalanthus occidentalis												Panicum hemitomon													
Geratophyllum demersum		/	/	/	/	/	/	/	/	/	/	Panicum repens													
Chara												Panicum rigidulum													
Cicuta maculata												Pistia stratioides													
Cladium jamaicense												Polygonum glabra													
Colocasia esculenta												Polygonum hydropiperoides													
Crinum americanum												Polygonum punctatum													
Diodia virginiana												Pontedaria cordata													
Eichhornia crassipes												Potamogeton illinoensis													
Eleocharis (wispy viviparous)												Ruellia simplex													
Hydrilla verticillata		/	/	/	/	/	/	/	/	/	/	Sacciolepis striata		/					/		/	/	/		
Hydrocotle												Sagittaria kurziana													
Hygrophila polysperma												Sagittaria lancifolia													
Hymenocallis												Sagittaria latifolia													
Itea virginica												Salix caroliniana													
Lachnanthes caroliniana												Salvinia minima		/											
Landoltia punctata												Samolus parviflora													
Lemna		/	/	/	/	/	/	/	/	/	/	Saururus cernuus													
Limnophila sessiflora												Typha													
Ludwigia leptocarpa												Vallisneria americana													
Ludwigia palustris												Zizania aquatica													
Ludwigia peruviana																									
Ludwigia repens												Sacciolepis		/											
Luziola fluitans												Wolffia		/	/	/	/	/	/	/	/	/	/	/	
												Cammelia sp		/			/	/	/						
												diffusa													
If no Dominant or Co-Dominant were selected, indicate with an "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		/	/	/	/	/	/	/	/	/	/														

Mats of plants all tangled together and difficult to see under duckweed,
no dom or co-dom chosen. Hydrilla, Myriophyllum, & Ceratophyllum most common

FDEP FORM FD 9000-3: PHYSICAL/CHEMICAL CHARACTERIZATION FIELD SHEET

SAMPLE ID _____ ORG ID _____ LATITUDE 29.14263
 COUNTY Johnson STORET # 65CED092 LONGITUDE -81.04497
 DATE 3/2/17 TIME _____ SAMPLING AGENCY 2IFLCEN
 SITE NAME Unnamed Ditch
 FIELD ID/NAME Spence Creek RECEIVING BODY OF WATER _____

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) ☐ <u>10</u> <u>90</u>								Landscape Development Intensity Index (LDI) ☐	
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>5</u> m wide			
Width of Riparian Vegetation (m) on Each Buffer Side Left Bank: <u>718</u> Right Bank: <u>718</u>						Hydrologic Modification Score (per FT 3101) ☐			
High Water Mark: <u>0.5</u> + <u>0.5</u> = <u>1.0</u> (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): _____			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					
Invert ☐ PERI ☐ % Coverage # Times Sampled # Times Sampled			Depth (M) Temp. (°C) pH (SU) D.O. (MG/L) D.O. Sat (%) Cond. (UMHO/CM) Salinity (PPT) SECCHI (M)					
Woody Debris (Snags) ☐ ☐ ☐ Undercut Banks / Roots ☐ ☐ ☐ Leaf Packs or Mat ☐ ☐ ☐ Aquatic Vegetation ☐ ☐ ☐ Rock or Shell Rubble ☐ ☐ ☐ Sand ☐ ☐ ☐ Mud / Muck / Silt ☐ ☐ ☐ Other ☐ ☐ ☐ Other ☐ ☐ ☐			Top: <u>0.3</u> <u>22.6</u> <u>7.2</u> <u>0.80</u> <u>9</u> <u>628</u> <u>0.30</u> ☐ Mid: ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☒ VOB Bottom: ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ Meter ID: <u>Betty 67</u> TOTAL DEPTH <u>0.5</u>					
			Water Odors Normal ☒ Petroleum ☐ Sewage ☐ Chemical ☐ Other ☐			Water Surface Oils Normal ☒ Sheen ☐ Globbs ☐ 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) ☒ <u>canal</u>					
AMBIENT FIELD CONDITIONS / NOTES: ☒ The antecedent hydrologic conditions have been met to my best knowledge.								
SAMPLING TEAM <u>Kate Williams, Terry Riordan</u>				SIGNATURE: <u>K Williams</u>			DATE: <u>3/2/17</u>	

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

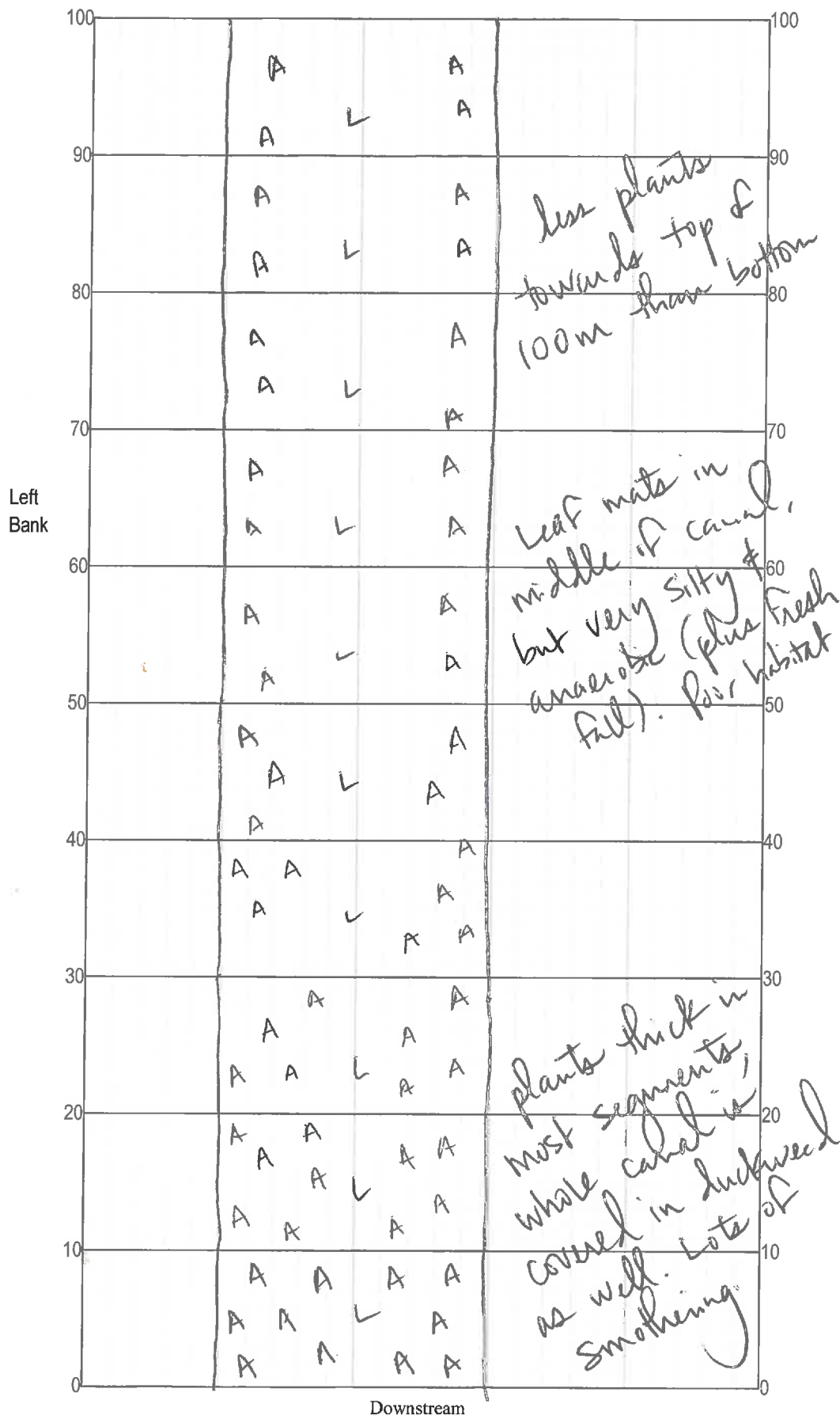
SAMPLING AGENCY:		STORET STATION NUMBER: 05CE0092	DATE (MM/DD/YY): 3/2/17	RECEIVING BODY OF WATER:
REMARKS:	COUNTY: Volusia	LOCATION: Unnamed Ditch	FIELD ID/NAME: 05CE0092	

Habitat Parameter	Optimal	Suboptimal	Marginal	Poor
Primary Habitat Components Substrate Diversity 3	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 14	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 2.3	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 2 ----- Primary Score 2324	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 2	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 6 Left Bank 6	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 9 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 7 Left Bank 7 ----- Secondary Score 4247	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

2371 TOTAL SCORE

Date: 3/2/17	Analyst: Katie Williams	Signature: KWilliams
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DEP Form FD 9000-4 Stream/River Habitat Assessment Sketch Sheet



Location: Unnamed Ditch
 Date: 3/2/17
 Sampler: Katie Williams

100 m: Latitude _____	Longitude _____
0 m: Latitude _____	Longitude _____
Substrates: Code key, draw proportionate habitat abundance. %	
☒ S	Snags _____
☒ R	Roots/undercut banks _____
☒ L	Leaf Packs (or mats) _____
☒ A	Aquatic Macrophytes _____
☐	_____
☐	_____
☐	total # observed = _____
☐	# range expected = _____
Average width <u>10.5</u> m	
Average depth <u>0.5</u> m	
Velocity measured at <u>50</u> meter mark.	
WQ & chemistry taken at <u>0</u> 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:

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