

Site Name Panther Creek @ John Riley Barnhill Date 8/21/17

Field ID 33030042 storet 33030042

Visit ID ~~777865~~ 77885

RPS ID ~~877963~~ 8799

VPDB ID _____

HA ID 14784

☒ SCI

☐ RPS/LVS Only

☒ Sample Site Created in SBIO

☒ Phys/chem entered in SBIO

☒ HA entered in SBIO Initial FB

☐ Date and Initial QA: _____

☒ RPS entered in SBIO Initial FB

☐ Date and Initial QA: _____

☐ LVS entered in SBIO Initial _____

☐ Date and Initial QA: _____

☒ < 2 m² vegetation

☐ Plants getting verified

Date submitted: _____

☐ Plants verified

Date returned: _____



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
STRATEGIC MONITORING PROGRAM FIELD SHEET

March 2017

PAGE 1 OF

Data Qualified?
Yes / No

Location/STORET Station Name: Panther Ck @ John Riley Barnhill Rd. Ref.

Date: 08/21/2017
(mm/dd/yyyy)

STORET # 33030042

WBID: 27

Latitude: 30.868858

County: Okaloosa RQ - 2017-06-05-47

ORG ID: 21FLPNS

Longitude: -86.707533

(Decimal Degrees)

Receiving Body of Water: Blackwater R.

Field ID: 33030102 33030042

(Decimal Degrees)

Sampling Team Members				WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check	Sampling Equipment			
NATHAN MURPHY									☒ 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 / Normal / High / Flooded				Matrix: Fresh / Marine / DI								
Meter ID# 113529				Photos: Yes / No				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 (umhos/cm)	Temp. (C°)		
EST	1230	0.3		8.1	95	7.2	0.0		22	23.7		
CEN			0.6					V03				

Biological Samples Collected: None (HA) (SCI) (RPS) Algae ID LVS LVI Other
SBIO ID Numbers: SBIO-ID: 77885 RPS-ID: 87994 Macrophyte-ID: MIA LIMS#:

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	SA-7093010	04/03/18	☐ <2
Metals	☐ W-ICPMS ☐ W-ICP	☐ Ice ☐ HNO3	NA-6302040	10/28/17	☐ <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-CH-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 ☐ qPCR	☐ Ice			
Tracers	☐ W-SUC-AA-R ☐ 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 ☐ W-SUC-AA-R	☐ Ice ☐ Other			

Notes: PKD-QN-BV needs Lugol's Solution preservative at Lab. Reference Streams.

Location: Panther Creek
@ John Riley Barnhill Rd. Ref.
RQ-2017-06-05-47 (WBID 27)
Date:
Time: CST

33030042
Field ID ↑
STORET ↓
33030042

Signature: [Signature]

Date: 8/21/17

Field Parameters Entered into LIMS: (Initials/Date)

Field Parameters QC in LIMS: (Initials/Date)

Date Migrated to STORET: (Initials/Date)

Field Sheets Scanned/Saved: 8/21/17 (Initials/Date)

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

SAMPLE ID 77885 ORG ID 21FLPNS LATITUDE 30.868858
 COUNTY Okaloosa STORET # 33030042 LONGITUDE -86.707533
 DATE 8/21/17 TIME 1230 SAMPLING AGENCY FL DEP - NWROC
 SITE NAME Panther Ck. @ John Riley Barnhill Rd. Ref.
 FIELD ID/NAME 33030042 RECEIVING BODY OF WATER Blackwater River

RIPARIAN ZONE / STREAM FEATURES

RQ: 2017-06-05-47

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								Typical Width (m) Depth (m)/Velocity (m/sec) Transect 6.5 m wide 1/5 m/s 1/5 m/s 1/5 m/s 0.5 m deep 0.5 m deep 0.5 m deep
Width of Riparian Vegetation (m) on Each Buffer Side Left Bank: <u>7/8</u> Right Bank: <u>7/8</u>				Hydrologic Modification Score (per FT 3101)				
High Water Mark: + <u>.7</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 ☐ BioRecon ☒ < 2 m ² SAV Woody Debris (Snags): <u>35</u> <u>5</u> <u>2.4</u> Undercut Banks / Roots: <u>35</u> <u>5</u> <u>2.4</u> Leaf Packs or Mat: <u>0.2</u> <u>5</u> <u>0.2</u> Aquatic Vegetation: <u>0.1</u> <u>3</u> <u>0.1</u> Rock or Shell Rubble: ☐ ☐ ☐ Sand: ☐ <u>2</u> <u>94.4</u> 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: <u>0.3</u> <u>23.7</u> <u>7.2</u> <u>8.1</u> <u>95</u> <u>22</u> <u>0.0</u> Mid: ☒ VOB Bottom: Meter ID: <u>113529</u> Meter verify? ☒ Yes ☐ No <u>0.5</u>					
ABUNDANCE Not Obs. Rare Common Abundant Periphyton: ☐ ☐ ☒ ☐ Fish: ☐ ☐ ☒ ☐ Aquatic Plants: ☐ ☒ ☐ ☐ Iron/Sulfur Bacteria: ☐ ☐ ☒ ☐			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 ☐		
System Type: Stream ☒ Lake ☐ Wetland ☐ Estuary ☐ Other (Specify)			AMBIENT FIELD CONDITIONS / NOTES: <u>SB10 ID 77875</u> ☒ The antecedent hydrologic conditions have been met to my best knowledge.					
SAMPLING TEAM <u>Nathan Malby / Mike King</u>			SIGNATURE: <u>Nathan Malby</u>			DATE: <u>8/21/17</u>		

DEP Form FD 9000-4 Stream/River Habitat Assessment Sketch Sheet

SBIO ID 7785-01
77825

Storet: 33030042
Location: Panther Ck. @ J.R. Barnhill Rd.
Date: 8/21/17
Sampler: Nathan Mulkey

100 m: Latitude _____
Longitude _____
0 m: Latitude 30.86890
Longitude 80.70750

Substrates: Code key, draw proportionate habitat abundance. 5.6 %

☒	Snags	14.4	4
☒	Roots/undercut banks	325	5
☒	Leaf Packs (or mats)	100	0.6
☒	Aquatic Macrophytes	50	0.1
☐	Pools	325	
		total # observed =	
		# range expected =	

Average width 6.5 m
Average depth 0.5 m

Velocity measured at 90 meter mark. 1.5

WQ & chemistry taken at _____ 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.

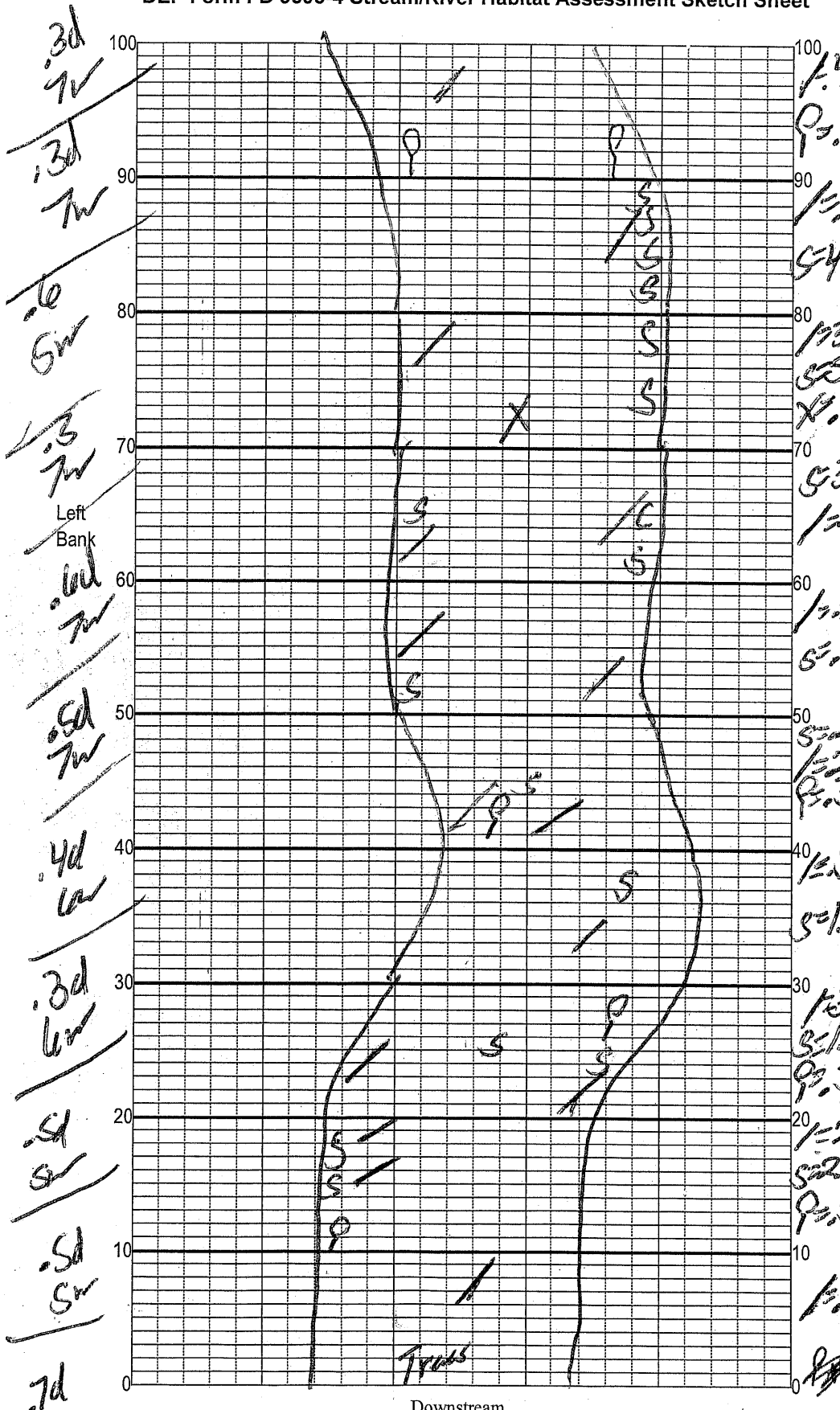
Riparian Buffer Width:
Note areas (on map) where natural vegetation is altered or eliminated.

Plants observed / other notes:

* many downed trees throughout stretch
* algae present
* iron sulfate
H₂SO₄

Chris ID

Revision Date: March 1, 2014



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

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

SAMPLING AGENCY: FL DEP - NWROC		STORET STATION NUMBER: 33030042	DATE (MM/DD/YY): 08/21/17	RECEIVING BODY OF WATER: Blackwater River
REMARKS: SBIO ID: 77885 77875	COUNTY: Okaloosa	LOCATION: Panther Ck. @ John Riley Barnhill Rd.		FIELD ID/NAME: 33030042

Habitat Parameter	Optimal	Suboptimal	Marginal	Poor
Primary Habitat Components	Four or more major productive habitats present (snags, tree roots, aquatic vegetation, leaf packs (partially decayed), rock)	Three major productive habitats present. Adequate habitat. Some substrates may be new fall (fresh leaves or snags)	Two major productive habitats present. Less than desirable habitat, frequently disturbed or removed	One or less major productive habitat. Lack of habitat is obvious, substrates unstable or smothered
Substrate Diversity <u>11</u>	20 19 18 17 16	15 14 13 12 11 (11)	10 9 8 7 6	5 4 3 2 1
Substrate Availability <u>86</u> (FS)	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 (FS)	Less than 5% major productive habitat 5 4 3 2 1
Water Velocity <u>14</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>14</u> ----- Primary Score <u>47</u> (45)	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	Expected sinuosity given the stream width. No evidence of dredging or artificial straightening. No spoil banks.	Good sinuosity within old channelized area. Evidence of dredging in the past (>25 yrs) but mostly recovered.	Straightened with trapezoidal cross section, but has a small degree of sinuosity developed within channelized area.	Straightened or engineered by dredging, has trapezoidal or box cut cross section, lacks required pools. May have spoil banks.
Artificial Channelization <u>16</u>	20 19 18 17 16 (16)	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
Bank Stability	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.	Only meets 2 of the 3 requirements for optimal bank stability.	Only meets 1 of the 3 requirements for optimal bank stability.	Bankfull < 60% of bank height. Slope of bank > 60°. Bankfull is below the root zone with raw, eroded areas.
Right Bank <u>8</u> Left Bank <u>8</u>	10 9	8 7 6	5 4	3 2 1
Riparian Buffer Zone Width	Width of vegetation greater than 18 m	Width of vegetation >12 to 18m	Width of vegetation 6 to 12 m. human activities close to system	Less than 6 m of buffer zone due to intensive human activities
Right Bank <u>10</u> Left Bank <u>10</u>	10 9	8 7 6	5 4	3 2 1
Riparian Zone Vegetation Quality	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.	>50% to 80% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions). Some disruption in community observed.	25% to 50% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions). Disruption obvious.	Less than 25% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions).
Right Bank <u>9</u> Left Bank <u>9</u> ----- Secondary Score <u>70</u>	10 9	8 7 6	5 4	3 2 1

47 (45) **TOTAL SCORE**

Date: 8/21/17	Analyst: Nathan Mulkey	Signature: <i>Nathan Mulkey</i>
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Habitat Assmt. ID: 14784

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site: Panther Ck. @ John Riley Barnhill Rd.

County:
Walton

Date:
8/21/17

Investigators:
Nathan M. Kelly

STORET Station Number:
33030042

Transect t (m)	Point 1=right 9=left	Algal Thickness Rank (N-6, X)	Estimated	Canopy Cover	Transect t (m)	Point 1=right 9=left	Algal Thickness Rank (N-6, X)	Estimated	Canopy Cover	
0	1	N	N		60	1	N	N		
	2					2				
	3					3				
	4					4				
	5			70		5			70	
	6					6				
	7					7				
	8					8				
	9					9				
10	1	N	N		70	1	N	N		
	2					2				
	3					3				
	4					4				
	5			78		5			74	
	6					6				
	7					7				
	8					8				
	9					9				
20	1	N	N		80	1	N	N		
	2					2				
	3					3				
	4					4				
	5			88		5			80	
	6					6				
	7					7				
	8					8				
	9					9				
30	1	N	N		90	1	N	N		
	2					2				
	3					3				
	4					4				
	5			56		5			80	
	6					6				
	7					7				
	8					8				
	9					9				
40	1	N	N		100	1	N	N		
	2					2				
	3					3				
	4					4				
	5			60		5			80	
	6					6				
	7					7				
	8					8				
	9					9				
50	1	N	N			1	N	N		
	2					2				
	3					3				
	4					4				
	5			60		5				
	6					6				
	7					7				
	8					8				
	9					9				

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%.

Secchi depth
Estimated? W/S

points ranked 4-6
total points assessed 41
% points ranked 4-6 1

Check accompanying data
collected at same site/date

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

RQ- 2017-06-05-47

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 ID: 77875 77885
RPS ID: 8799

Storet Number: 33030042

Signature: _____

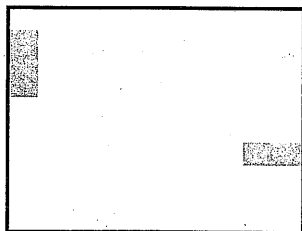
Comments: RQ-2017-06-05-47, Insufficient veg. (<2m²) NO WS

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.

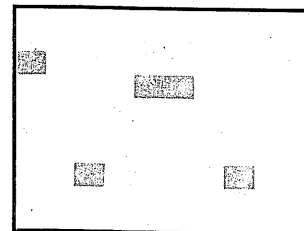
[illegible]

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

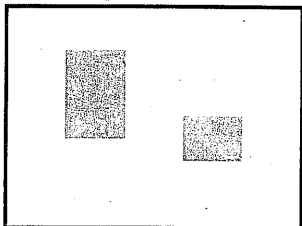
5% Macrophyte Coverage



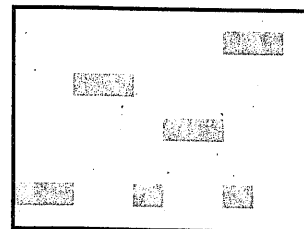
5% Macrophyte Coverage



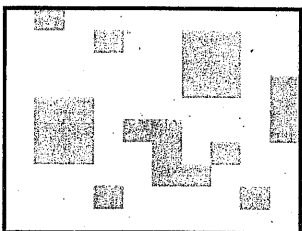
10% Macrophyte Coverage



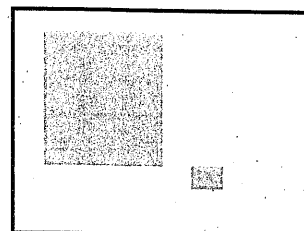
10% Macrophyte Coverage



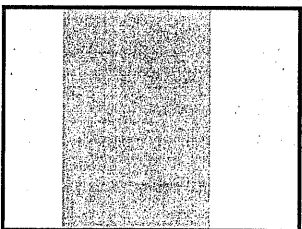
25% Macrophyte Coverage



25% Macrophyte Coverage



50% Macrophyte Coverage



50% Macrophyte Coverage

