



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
STRATEGIC MONITORING PROGRAM FIELD SHEET

PAGE _____ OF _____

February 2016

Data Qualified?
Yes / No

STORET Station Name: Santa Fe below Elie Rays

Date: 8/31/2016
(mm/dd/yyyy)

STORET Station ID: G3NE0855 GINE0855

Latitude: 29 53' 54.18"
(Decimal Degrees)

WBID: 3605Z RQ-2016-08-29-14

ORG ID: 21 FLA

Longitude: 82 52' 02.0"
(Decimal Degrees)

Receiving Body of Water: Sunshine

Field ID: _____

County: Gilchrist

Sampling Team Members					WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check
<u>J. Parrish</u>					☒	☒	☒	☒	☒
<u>B. Davis</u>					☒	☒	☒	☒	☒
					☐	☐	☐	☐	☐
					☐	☐	☐	☐	☐

Sampling Equipment		
☒ Sample Container	☐ Van Dorn	☐ Pole
☐ Carboy	☐ Syringe	
☐ Dipper	☐ Other	
Equipment ID		

Collection Method	
☐ Wading From	☐ Via Boat
☐ Shore	☐ Canoe/Kayak
☒ Other (note below)	☐ Electric
<u>DOCK</u>	☐ Motor

Water Level: Dry / Low / Normal / High / Flooded

Matrix: Fresh / Marine / DI

Meter ID# _____ Photos: Yes / No

Tide Falling: Yes / No / NA

Time	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	1115	0.3	2.3	5.40	64.1	7.57	0.18	1.5	386	23.8
CEN										

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

Parameter Suite	Parameter Methods	Preservation	Acid Lot#	Expiration	pH
Preserved Nutrients	☒ W-NH3 / W-NO2NO3 / W-TKN / W-TOC / W-S-A-TP	☒ Ice ☒ H2SO4	157449	12/19/16	☒ <2
Metals	☐ W-ICPMS ☐ W-ICP	☐ Ice ☐ HNO2			☐ <2
Filtered Nutrients	☒ W-PO4-F ☒ Field Filtered 0.45 µm Filter	☒ Ice	Place Preservative Sticker(s) Here (If Available)		
Chlorophyll	☒ CHLSUITE-W	☒ Ice			
BOD	☐ BOD-UNIN	☐ Ice			
Physical/Aggregate (Kit A)	☒ Alkalinity / W-F / W-TSS / TURBIDITY / W-CH-IC / W-COLOR / W-SO4-IC / W-TDS	☒ Ice			
Physical/Aggregate (Kit B)	☐ Alkalinity / W-F / W-TSS / TURBIDITY	☐ Ice			
Macroinvertebrates	☐ MI-FW-QLDC	☐ Formalin			
Microbiology	☐ E Coli ☐ F Coli ☐ Entero ☐ QPCR	☐ Ice			
Periphyton	☐ ALGAE-ID	☐ Ice			
Pesticides	☐ W-PSNP-TQ ☐ W-AHERB-AA ☐ W-PYR-AA-R ☐ W-PC-AA-SF ☐ W-UHERB-AA ☐ W-GLYPH	☐ Ice ☐ Other			

Notes: N 29 53 53.6 RPS
W 82 52 3.4 LVS
downstream of Trail Springs

Field ID: _____
Date: _____
Time: _____



Santa Fe below
Elie Rays

Storet: _____
G3NE0855

Signature: [Signature]

Date: 8/31/16

Field Parameters Entered into LIMS: J. Parrish 8/31/16
(Initials/Date)

Field Parameters QC in LIMS: _____
(Initials/Date)

Date Migrated to STORET: _____
(Initials/Date)

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

76 780 SK10

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site: Santa Fe Below Trail Springs County: G. Christ Date: 8/31/16 Investigators: B. Davis, J. Parrish
STORET Station Number: 61NE0855

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
180 40 50	1	3	N		Plants Y.M 60 40	1	3	N	
	2	3				2	N		
	3	4				3	X		
	4	X				4	X		
	5	X		0		5	X		0
	6	X				6	X		
	7	N				7	N		
	8	3				8	N		
	9	3				9	4		
40 90	1	4			70 30	1	3		
	2	3				2	3		
	3	3				3	X		
	4	X				4	X		
	5	X		0		5	X		0
	6	X				6	X		
	7	N				7	X		
	8	N				8	N		
	9	N				9	5		
20 80	1	4			80 20	1	3		
	2	5				2	N		
	3	5				3	4		
	4	X				4	X		
	5	X		0		5	X		0
	6	X				6	X		
	7	N				7	X		
	8	N				8	N		
	9	N				9	N		
30 70	1	4			40 10	1	6		
	2	4				2	6		
	3	X				3	3		
	4	X				4	X		
	5	X		0		5	X		0
	6	X				6	X		
	7	N				7	N		
	8	N				8	N		
	9	N				9	3		
40 60	1	4			100 0	1	6		
	2	4				2	6		
	3	X				3	X		
	4	X				4	X		
	5	X		0		5	X		0
	6	X				6	X		
	7	N				7	N		
	8	N				8	N		
	9	N				9	N		
50	1	4			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	3							
	3	N							
	4	X							
	5	X		0					
	6	X							
	7	N							
	8	N							
	9	5							

Secchi depth 1.5
Estimated? NO

points ranked 4-6 20
total points assessed 59
% points ranked 4-6 ~34%

Check accompanying data collected at same site/date.
Algal mat sample ☐
Linear Veg Survey ☒
Habitat Assessment ☒
SCI/Biorecon ☐
Water sample ☐
RQ: 2016-08-29-14

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

L=44

76740gh10
DEP Form FD 9000-3 Physical/Chemical Characterization Field Sheet

SAMPLE ID _____ ORG ID _____ LATITUDE 29 53' 54.17"
 COUNTY Gilchrist STORET # G1NE0855 LONGITUDE 82 52' 02.0"
 DATE 8/31/16 TIME 1115 SAMPLING AGENCY DEAR NEP
 SITE NAME Santa Fe River Below Tuck Springs
 FIELD ID/NAME _____ RECEIVING BODY OF WATER Savannah

RIPARIAN ZONE / STREAM FEATURES

Meter ID: _____

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 45 m wide _____ m/s 0.3 m/s _____ m/s _____ m deep 2.3 m deep _____ m deep
Width of Riparian Vegetation (m) on Each Buffer Side Left Bank: <u>>18</u> Right Bank: <u><6M</u>				Hydrologic Modification Score (per FT 3101) ☐				
High Water Mark: <u>2.0</u> + <u>2.3</u> = <u>4.3</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 Invert PERI % # Times # Times Coverage Sampled Sampled Woody Debris (Snags) <u><1</u> <u>N/A</u> <u>N/A</u> Undercut Banks / Roots <u><1</u> ☐ ☐ Leaf Packs or Mat ☐ ☐ ☐ Aquatic Vegetation <u><1</u> ☐ ☐ Rock or Shell Rubble.. <u><1</u> ☐ ☐ Sand..... ☐ ☐ ☐ 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>0.5</u> <u>23.87</u> <u>7.57</u> <u>5.40</u> <u>64.1</u> <u>386</u> <u>0.18</u> <u>1.5</u> Mid: _____ _____ _____ _____ _____ _____ _____ _____ Bottom: _____ _____ _____ _____ _____ _____ _____ _____ System Type: Stream ☐ Lake ☐ Wetland ☐ Estuary ☐ Other (Specify) <u>Springs Run</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: <u>157449</u> Exp: <u>12/19/16</u>			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: ☒ ☐ ☐ ☐

AMBIENT FIELD CONDITIONS / NOTES:

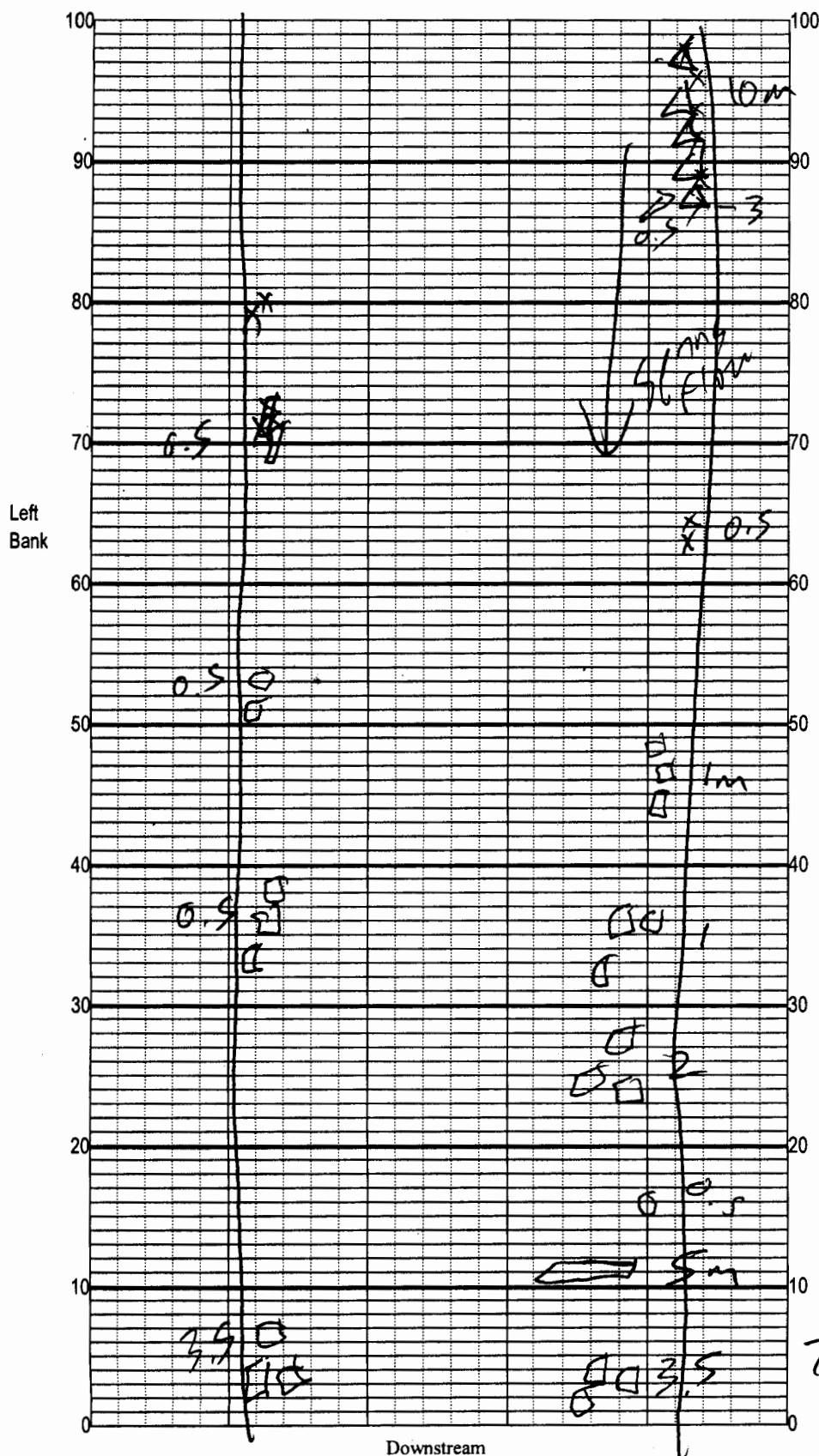
Hydrologic Disturbance Scoring ☐ 1-2 ☒ 3-4 ☒ 5-6 ☐ 7-8 ☐ 9-10
☐ The antecedent hydrologic conditions have been met to my best knowledge.

SAMPLING TEAM

SIGNATURE: _____

8/31/16

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: Santa Rosa Trail Springs
Date: 8/31/16
Sampler: B. Lewis, J. Parrish

100 m: Latitude _____ Longitude _____
0 m: Latitude _____ Longitude _____
Substrates: Code key, draw proportionate habitat abundance. %
 Snags < 1
 Roots/undercut banks _____
 Leaf Packs (or mats) _____
 Aquatic Macrophytes < 1
 Rocks < 1
 _____
 _____
total # observed = _____ # range expected = _____
Average width <u>4.5</u> m
Average depth <u>2.3</u> m
Velocity measured at <u>10</u> meter mark.
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:

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

7m Rock
4500

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

SAMPLING AGENCY: NE ROC		STORET STATION NUMBER: <u>G1NE0855</u>	DATE (MM/DD/YY): <u>8/31/16</u>	RECEIVING BODY OF WATER: <u>Sunwahee</u>
REMARKS:	COUNTY: <u>Gilchrist</u>	LOCATION: <u>Santa Fe Below Trail Springs</u>		FIELD ID/NAME:

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 <u>11</u>	10 9 8 7 6	5 4 3 2 1
Substrate Availability <u>3</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 <u>3</u> 2 1
Water Velocity <u>20</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>11</u> Primary Score <u>45</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 <u>11</u>	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>20</u>	Expected sinuosity given the stream width. No evidence of dredging or artificial straightening. No spoil banks. <u>20</u> 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>5</u> Left Bank <u>5</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. <u>5</u> 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>10</u>	Width of vegetation greater than 18 m <u>10</u> 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>5</u> Left Bank <u>10</u> Secondary Score <u>60</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. <u>10</u> 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. <u>5</u> 4	Less than 25% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions). 3 2 1

105 TOTAL SCORE

Date: <u>8/31/16</u>	Analyst: <u>[Signature]</u>	Signature: _____
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Analyst: <u>B. Davis, J. Parrish</u>	Signature: <u>B. Davis</u>
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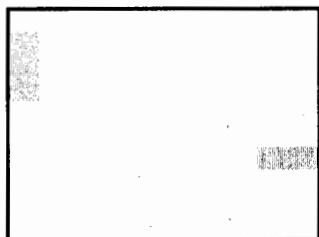
Instructions: Note taxa growing in the water with a checkmark if present, "D" if dominant, and "C" if codominant (dominance only if 1 m² of taxa present). Note in the boxes below if no dominant are selected, and note total macrophyte abundance rank for each section. Only the most common taxa are listed, so use blank spaces for additional taxa names.

Revision Date: March 1, 2014

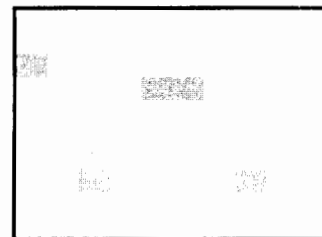
FDEP FORM FD 9000-32 LINEAR VEGETATION SURVEY FIELD SHEET

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

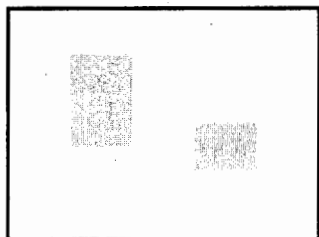
5% Macrophyte Coverage



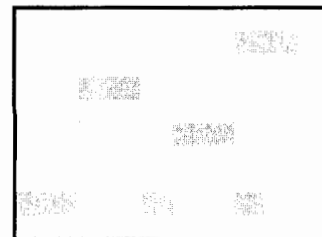
5% Macrophyte Coverage



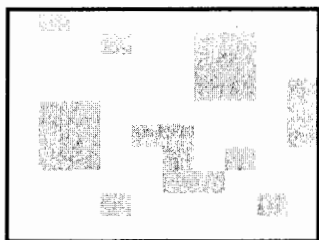
10% Macrophyte Coverage



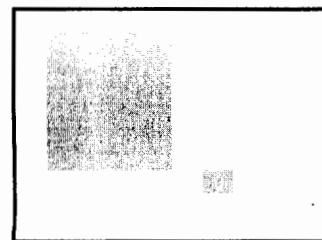
10% Macrophyte Coverage



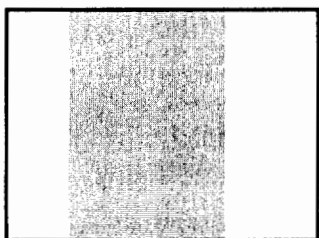
25% Macrophyte Coverage



25% Macrophyte Coverage



50% Macrophyte Coverage



50% Macrophyte Coverage

