

Field Parameters Entered into LIMS: 28 10/14/16 (Initials/Date) Field Parameters QC in LIMS: _____
Date Migrated to STORET: _____ (Initials/Date) Field Sheets Scanned/Saved: NF 10/24/16 (Initials/Date)

2744A

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

76975

SAMPLING AGENCY: NE ROC		STORET STATION NUMBER: 20020132	DATE (MM/DD/YY): 10/12/16	RECEIVING BODY OF WATER:
REMARKS:	COUNTY: Alachua	LOCATION: River Styx e 346		FIELD ID/NAME:

Habitat Parameter	Optimal	Suboptimal	Marginal	Poor
Primary Habitat Components Substrate Diversity <u>2</u>	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 <u>2</u> 1
Substrate Availability <u>2</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> <u>2</u> 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 <u>14</u> 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>3</u> Primary Score <u>21</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). 10 9 8 7 6	Stable pools are absent. Most habitats affected by sand, silt, or algae accumulation. 5 4 <u>3</u> <u>2</u> 1
Secondary Habitat Components Artificial Channelization <u>12</u>	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 <u>12</u> 11	Straightened with trapezoidal cross section, but has a small degree of sinuosity developed within channelized area. 10 9 8 <u>7</u> <u>6</u>	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 <u>3</u> Right Bank <u>3</u> Left Bank <u>3</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. 5 4	Bankfull < 60% of bank height. Slope of bank > 60°. Bankfull is below the root zone with raw, eroded areas. <u>3</u> 2 1
Riparian Buffer Zone Width Right Bank <u>10</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 5 4	Less than 6 m of buffer zone due to intensive human activities 3 2 1
Riparian Zone Vegetation Quality Right Bank <u>10</u> Left Bank <u>10</u> Secondary Score <u>58</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. 5 4	Less than 25% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions). 3 2 1

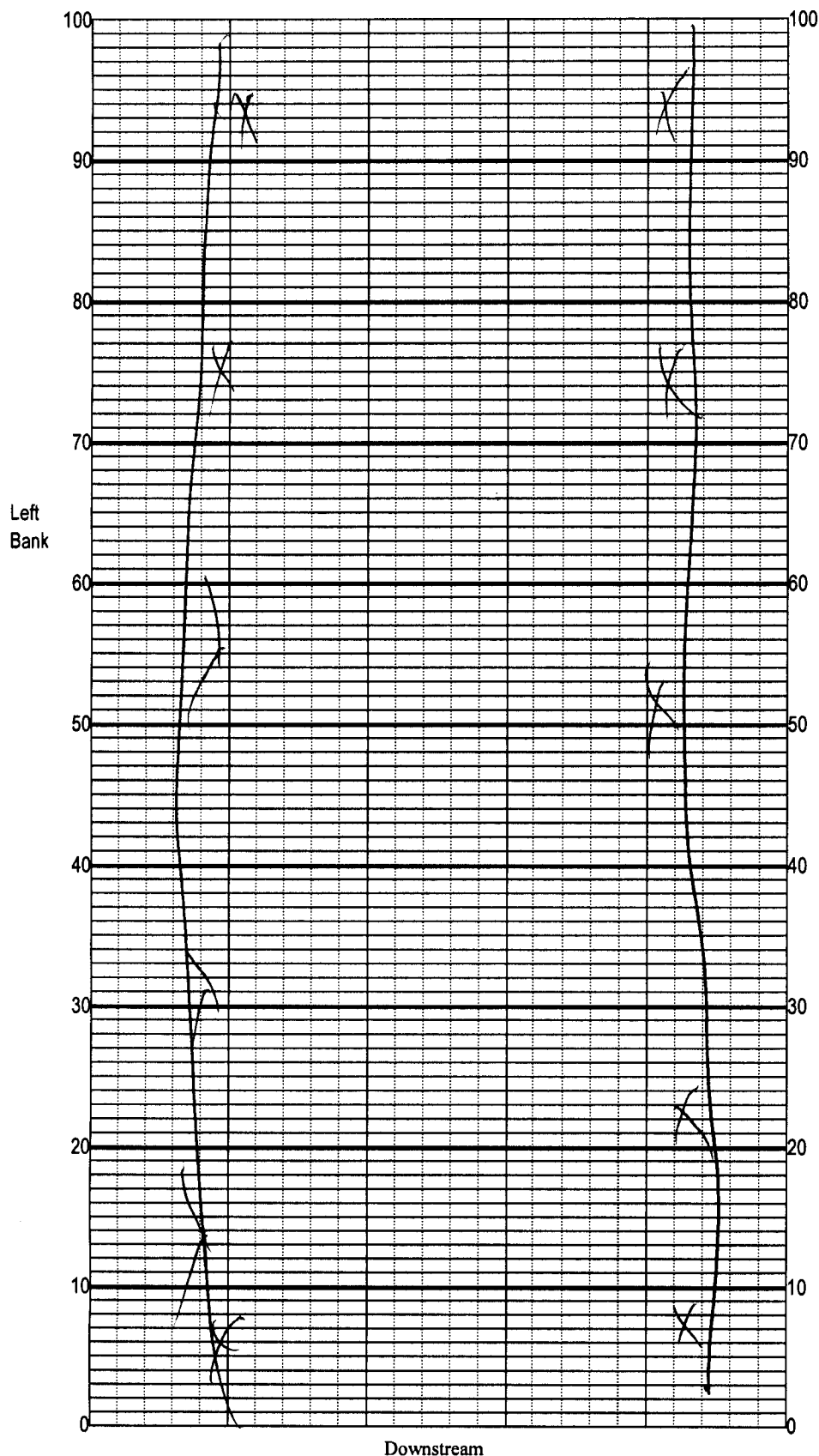
79 TOTAL SCORE

Date: 10/12/16	Analyst: Jeremy Pann	Signature: Jeremy Pann
-------------------	-------------------------	---------------------------

"It's a swamp"

Scanned 10/24/16

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: Rivestry 0346
Date: 10/12/16
Sampler: JRM

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

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

76 975

SAMPLE ID _____ ORG ID _____ LATITUDE _____
 COUNTY Alachua STORET # 20020132 LONGITUDE _____
 DATE 10/12/16 TIME 1135 SAMPLING AGENCY _____
 SITE NAME Riverway 346
 FIELD ID/NAME _____ RECEIVING BODY OF WATER _____

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 22 m wide ☐ n/s ☐ m deep ☐ 0.2 m/s ☐ 1.5 m deep ☐ m/s ☐ m deep
Width of Riparian Vegetation (m) on Each Buffer Side Left Bank: <u>>18m</u> Right Bank: <u>>18m</u>				Hydrologic Modification Score (per FT 3101) <u>3-4</u>				
High Water Mark: <u>0.5</u> + <u>1.5</u> = <u>2</u> (m) (above present water level) (present depth) (above bed)				Artificially Impounded ☐ Yes ☐ No				
Artificially Channelized: ☒ No ☐ 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 <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th>Depth (M)</th> <th>Temp. (°C)</th> <th>pH (SU)</th> <th>D.O. (MG/L)</th> <th>D.O. Sat (%)</th> <th>Cond. (UMHO/CM)</th> <th>Salinity (PPT)</th> <th>SECCHI (M)</th> </tr> </thead> <tbody> <tr> <td>Top:</td> <td><u>0.3</u></td> <td><u>21.08</u></td> <td><u>6.19</u></td> <td><u>0.7</u></td> <td><u>8.0</u></td> <td><u>104</u></td> <td><u>0.05</u></td> <td><u>0.5</u></td> </tr> <tr> <td>Mid:</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Bottom:</td> <td><u>1.5</u></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>							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>21.08</u>	<u>6.19</u>	<u>0.7</u>	<u>8.0</u>	<u>104</u>	<u>0.05</u>	<u>0.5</u>	Mid:									Bottom:	<u>1.5</u>							
	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>21.08</u>	<u>6.19</u>	<u>0.7</u>	<u>8.0</u>	<u>104</u>	<u>0.05</u>	<u>0.5</u>																																				
Mid:																																												
Bottom:	<u>1.5</u>																																											
Woody Debris (Snags) ☐ ☐ ☐ Undercut Banks / Roots ☐ ☐ ☐ Leaf Packs or Mat ☐ ☐ ☐ Aquatic Vegetation <u>21</u> ☐ ☐ Rock or Shell Rubble ☐ ☐ ☐ Sand ☐ ☐ ☐ Mud / Muck / Silt ☐ ☐ ☐ Other ☐ ☐ ☐ Other ☐ ☐ ☐			System Type: Stream ☒ Lake ☐ Wetland ☐ Estuary ☐ Other(Specify) <u>SWAMP</u> Water Odors Normal ☒ Petroleum ☐ Sewage ☐ Chemical ☐ 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: _____																																									
			Water Surface Oils Normal ☒ Sheen ☐ Globbs ☐ Slick ☐ Other ☐ Color Tannic ☒ Green (Algae) ☐ Clear ☐ Other (Specify) ☐ Clarity Clear ☐ Slightly Turbid ☒ Turbid ☐ Opaque ☐																																									
ABUNDANCE <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th>Not Obs.</th> <th>Rare</th> <th>Common</th> <th>Abundant</th> </tr> </thead> <tbody> <tr> <td>Periphyton:</td> <td>☐</td> <td>☐</td> <td>☒</td> <td>☐</td> </tr> <tr> <td>Fish:</td> <td>☐</td> <td>☐</td> <td>☒</td> <td>☐</td> </tr> <tr> <td>Aquatic Plants:</td> <td>☐</td> <td>☐</td> <td>☐</td> <td>☒</td> </tr> <tr> <td>Iron/Sulfur Bacteria:</td> <td>☐</td> <td>☒</td> <td>☐</td> <td>☐</td> </tr> </tbody> </table>				Not Obs.	Rare	Common	Abundant	Periphyton:	☐	☐	☒	☐	Fish:	☐	☐	☒	☐	Aquatic Plants:	☐	☐	☐	☒	Iron/Sulfur Bacteria:	☐	☒	☐	☐	AMBIENT FIELD CONDITIONS / NOTES: Swamp No defined channel 29 31 00.2 82 13 21.8 Hydrologic Disturbance Scoring ☒ 1-2 ☒ 3-4 ☐ 5-6 ☐ 7-8 ☐ 9-10 ☐ The antecedent hydrologic conditions have been met to my best knowledge.																
	Not Obs.	Rare	Common	Abundant																																								
Periphyton:	☐	☐	☒	☐																																								
Fish:	☐	☐	☒	☐																																								
Aquatic Plants:	☐	☐	☐	☒																																								
Iron/Sulfur Bacteria:	☐	☒	☐	☐																																								
SAMPLING TEAM <u>James B Davis</u>			SIGNATURE: <u>[Signature]</u>																																									

Scanned 10/24/16

1135

76975

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site: <u>River Styx 346</u>					County: <u>Alachua</u>		Date: <u>10/12/16</u>		Investigators: <u>J. P. Smith</u>	
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	STORET Station Number: <u>20020132</u>
0	1	<u>N 3</u>			60	1	<u>N 3</u>			Secchi depth <u>0.5</u> Estimated? <u>✓</u>
	2	<u>X</u>				2	<u>X</u>			
	3					3				
	4					4				
	5			<u>0</u>		5			<u>0</u>	
	6					6				
	7					7				
	8					8				
	9	<u>N 3</u>				9	<u>N 3</u>			
10	1	<u>N 3</u>			70	1	<u>N 3</u>			# points ranked 4-6 <u>0</u> total points assessed % points ranked 4-6
	2	<u>X</u>				2	<u>X</u>			
	3					3				
	4					4				
	5			<u>0</u>		5			<u>0</u>	
	6					6				
	7					7				
	8					8				
	9	<u>N 3</u>				9	<u>N 3</u>			
20	1	<u>N 3</u>			80	1	<u>N 3</u>			Check accompanying data collected at same site/date: Algal mat sample Linear Veg Survey Habitat Assessment SCI/Biorecon Water sample RQ-
	2	<u>X</u>				2	<u>X</u>			
	3					3				
	4					4				
	5			<u>0</u>		5			<u>0</u>	
	6					6				
	7					7				
	8					8				
	9	<u>N 3</u>				9	<u>N 3</u>			
30	1	<u>N 3</u>			90	1	<u>N 3</u>			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
	2	<u>X</u>				2	<u>X</u>			
	3					3				
	4					4				
	5			<u>0</u>		5			<u>0</u>	
	6					6				
	7					7				
	8					8				
	9	<u>N 3</u>				9	<u>N 3</u>			
40	1	<u>N 3</u>			100	1	<u>N 3</u>			
	2	<u>X</u>				2	<u>X</u>			
	3					3				
	4					4				
	5			<u>0</u>		5			<u>0</u>	
	6					6				
	7					7				
	8					8				
	9	<u>N 3</u>				9	<u>N 3</u>			
50	1	<u>N 3</u>			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	<u>X</u>								
	3									
	4									
	5			<u>0</u>						
	6									
	7									
	8									
	9	<u>N 3</u>								

76975
ELD SHEET 2002013

Storet Number: ~~6142~~ 0125

Signature: J. L. Smith

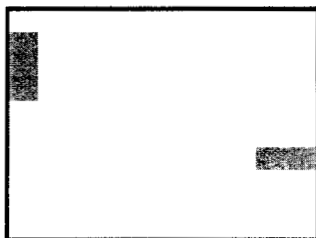
Instructions: Note taxa growing in the water with a checkmark if present, "D" if dominant, and "C" if codominant (dominance only if 1 m² of taxa present). Note in the boxes below if no dominant are selected, and note total macrophyte abundance rank for each section. Only the most common taxa are listed, so use blank spaces for additional taxa names.

HERBACEOUS SPECIES	Meter Mark										Specime n collected (check)	HERBACEOUS SPECIES	Meter Mark										Specime n collected (check)
	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100			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 mitis												Najas guadelupensis											
Boehmeria cylindrica												Nuphar luteum	✓					✓	✓				
Centella asiatica	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		Orontium aquaticum											
Ceratophyllum demersum	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		Panicum hemitomon	DDDD	✓	✓	✓	✓	✓	✓	✓	✓	✓	
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											
Hydrocotyle	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		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												T. xodium											
Ludwigia repens												polygon											
Luziola fluitans												Sampuncus sp											
Lithobium	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		Sclix											
Cepha lanthus Occidentalis																							
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	X	X	X	X	X	X	X	X	X	X													
>25 and ≤50% Macrophyte Coverage	X	X	X	X	X	X	X	X	X	X													
> 50% Macrophyte Coverage																							

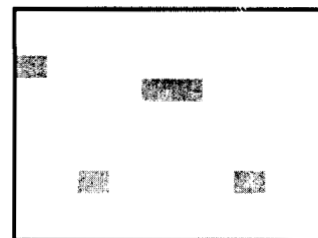
Scanned 10/24/16

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

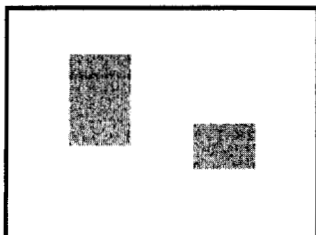
5% Macrophyte Coverage



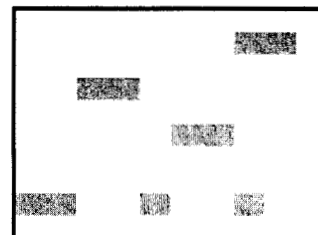
5% Macrophyte Coverage



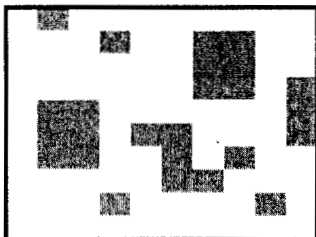
10% Macrophyte Coverage



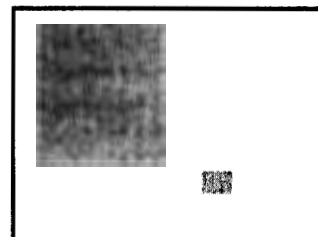
10% Macrophyte Coverage



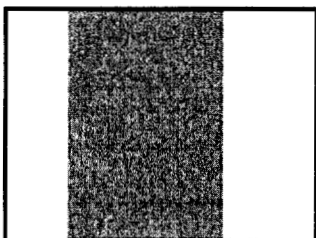
25% Macrophyte Coverage



25% Macrophyte Coverage



50% Macrophyte Coverage



50% Macrophyte Coverage

