



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
STRATEGIC MONITORING PROGRAM FIELD SHEET

January 2019

Data Qualified?

Yes / No

WIN Station Name: Shoal River abv Laird Road

Date: 07/31/19
(mm/dd/yyyy)

WIN/ Field ID: G4NW0375

WBID: 160

Latitude: 30.78495

County: Walton

ORG ID: 21FLPNS

Longitude: -86.38103
(Decimal Degrees)

Receiving Body of Water: Yellow River

RQ-2019-03-24-18 03-18-24
(Decimal Degrees)

Sampling Team Members					WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check
S. Slater									
M. Mulkey									

Sampling Equipment		
☒ Sample Container	☐ Van Dorn	☐ Pole
☐ Carboy	☒ Syringe	
☐ Dipper	☐ Other	
Depth Measured with _____		
Equipment ID _____		

Collection Method		
☒ Wading	☐ Canoe/Kayak	
☐ From Shore	☐ Electric Motor	
☐ Other	☐ Gasoline Motor	

Water Level: Dry/ Pooled/ Low Normal / High / Flooded
Photos: Yes / No Flow: No Flow / Intestinal / Flowing / NA
Meter ID# 154179 Matrix: Fresh / Marine / DI
Tide: Rising/ Falling/ Slack/ NA Tide Times: High Low

Time Zone	Time	Total Depth (m)	Sample Depth (m)	Secchi Disk (m)	DO (mg/L)	DO (%SAT)	pH	Salinity (PPT _h)	Sp COND (µmhos/cm)	Temp. (C°)
EST	1150	0.6	0.3	0.6	973	8.12	5.63	0.01	22.7	24.8
<u>CEN</u>				VOB						

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

SBIO ID Numbers: SBIO-ID: HA-ID: RPS-ID: Macrophyte-ID: LIMS#:

Parameter Suite	Parameter Methods	Preservation	Lot#	Expiration	pH Check
Preserved Nutrients	☒ W-NH3 / W-NO2NO3 / W-TKN / W-TOC / W-S-A-TP	☒ Ice ☐ H ₂ SO ₄	9010030	4/10/19	☐ <2
Metals	☒ W-ICPMS ☒ W-ICP	☒ Ice ☐ HNO ₃	9099030	4/1/19	☐ <2
Filtered Nutrients	☒ W-PO4-F ☐ Field Filtered 0.45 µm Filter	☒ Ice	15159049		
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-BR-IC / W-F / W-TSS / TURBIDITY	☐ Ice			
Macroinvertebrates	☐ MI-FW-QLDC	☐ Formalin			
Periphyton	☐ ALGAE-ID	☒ Ice			
Microbiology	☐ E Coli ☐ F Coli ☐ Enterococci	☒ Ice			
Molecular	☐ PCR-FILTER ☐ PCR-BacR ☐ PCR-GULL2 ☐ PCR-HF183 ☐ PCR-DG3 ☐ PCR-GFD	☐ Ice			
Tracers	☐ W-E8321-DI ☐ W-E8321-MS	☒ Ice			
Pesticides	☒ W-PSNP-TQ	☐ Ice			
Phytoplankton	☐ DTY-QN-C ☐ PKD-QN-C				

Notes:

Field/WIN ID → G4NW0375

Location: Shoal River abv Laird Road

Signature: [Signature] Date: 7/31/19

LIMS EVENT ID: WIN Import ID: Enter Field Parameters, Verify Station ID In LIMS DMT: QC Station ID, Field Parameters In LIMS DMT: Scan/Save Field Sheets 8/2/19 Migrate Data to WIN: Verify Data In WIN:

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

SAMPLE ID 16 80062 ORG ID 21ELPNS LATITUDE 30.78437
 COUNTY Walton STORET # G4NW0375 LONGITUDE 86.38149
 DATE 7/31/19 TIME 1150 SAMPLING AGENCY FDEP NWROC
 SITE NAME Shoal River abv Laird Rd
 FIELD ID/NAME G4NW0375 RECEIVING BODY OF WATER Yellow River

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) ☐								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 @ 50m ☒ 18 m wide 6.33 m/s 6.33 m/s 0.33 m/s 0.4 m deep 0.4 m deep 0.4 m deep
Width of Riparian Vegetation (m) on Each Buffer Side Left Bank: <u>718</u> Right Bank: <u>719</u>				Hydrologic Modification Score (per FT 3101) ☐				
High Water Mark: <u>2.5</u> + <u>0.6</u> = <u>3.1</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 <table border="1"> <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>24.9</u></td> <td><u>5.63</u></td> <td><u>8.12</u></td> <td><u>97.3</u></td> <td><u>22.7</u></td> <td><u>0.01</u></td> <td><u>0.6</u></td> </tr> <tr> <td>Mid:</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>☒ VOB</td> </tr> <tr> <td>Bottom:</td> <td></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>24.9</u>	<u>5.63</u>	<u>8.12</u>	<u>97.3</u>	<u>22.7</u>	<u>0.01</u>	<u>0.6</u>	Mid:								☒ VOB	Bottom:								
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Bottom:																																												
Woody Debris (Snags) <u>1.75</u> <u>5</u> Undercut Banks / Roots <u>0.55</u> <u>5</u> Leaf Packs or Mat <u>0.12</u> <u>5</u> Aquatic Vegetation Rock or Shell Rubble..... Sand..... <u>97.58</u> <u>5</u> Mud / Muck / Silt Other Other			Water Odors Normal ☐ Petroleum ☐ Sewage ☐ Chemical ☒ Other ☐ Water 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"> <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:	☒	☐	☐	☐	System Type: Stream ☒ Lake ☐ Wetland ☐ Estuary ☐ Other(Specify) ☐ AMBIENT FIELD CONDITIONS / NOTES: <u>low water level</u> ☒ The antecedent hydrologic conditions have been met to my best knowledge.																
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SAMPLING TEAM <u>Stephen Slade / Nathan Mulkey</u>			SIGNATURE: <u>Stephen Slade</u>			DATE: <u>7/31/19</u>																																						

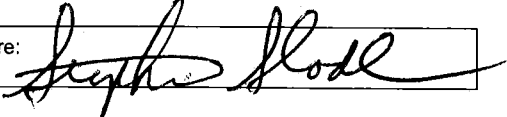
DEP Form FD 9000-5 Stream/River Habitat Assessment Field Sheet

SAMPLING AGENCY: FDEP NWROC		STORET STATION NUMBER: G4NW0375	DATE (MM/DD/YY): 07/31/19	RECEIVING BODY OF WATER: Yellow River
REMARKS:	COUNTY: Walton	LOCATION: Shoal R. abv Laird Rd.	FIELD ID/NAME: G4NW0375	

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 13	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
Substrate Availability 2	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 20	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 15 Primary Score 50	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 8	20 19 18 17 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 4 Left Bank 4	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 10 Left Bank 10	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 10 Left Bank 10 Secondary Score 56	10 9	8 7 6	5 4	3 2 1

106

TOTAL SCORE

Date: 7/31/19	Analyst: S. Hade	Signature: 
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Length of grid represents 100 m of stream (not linear meters).
(Horizontal scale is double vertical scale, draw proportionately).

Location: Shoal River
abv Laird Rd

Sampled By: S. Slater

S

☒	Snags	31.6 m ²	1.75%
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	Roots/undercut banks	1568
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L Leaf Packs (or mats)

☒ Macrophytes

The diagram shows a rectangular box. A horizontal line runs across the middle of the box. The area above the line is labeled with the letter 'I'. The area below the line is labeled with the letter 'II'. The line itself is labeled with the letter 'f'.

[illegible]

Velocity:
Note where velocity
measures were taken: 50 m

Habitat Smothering:
Note areas (on map) where sand or silt is something 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.

Average width 18 m

Average depth 0.40 m

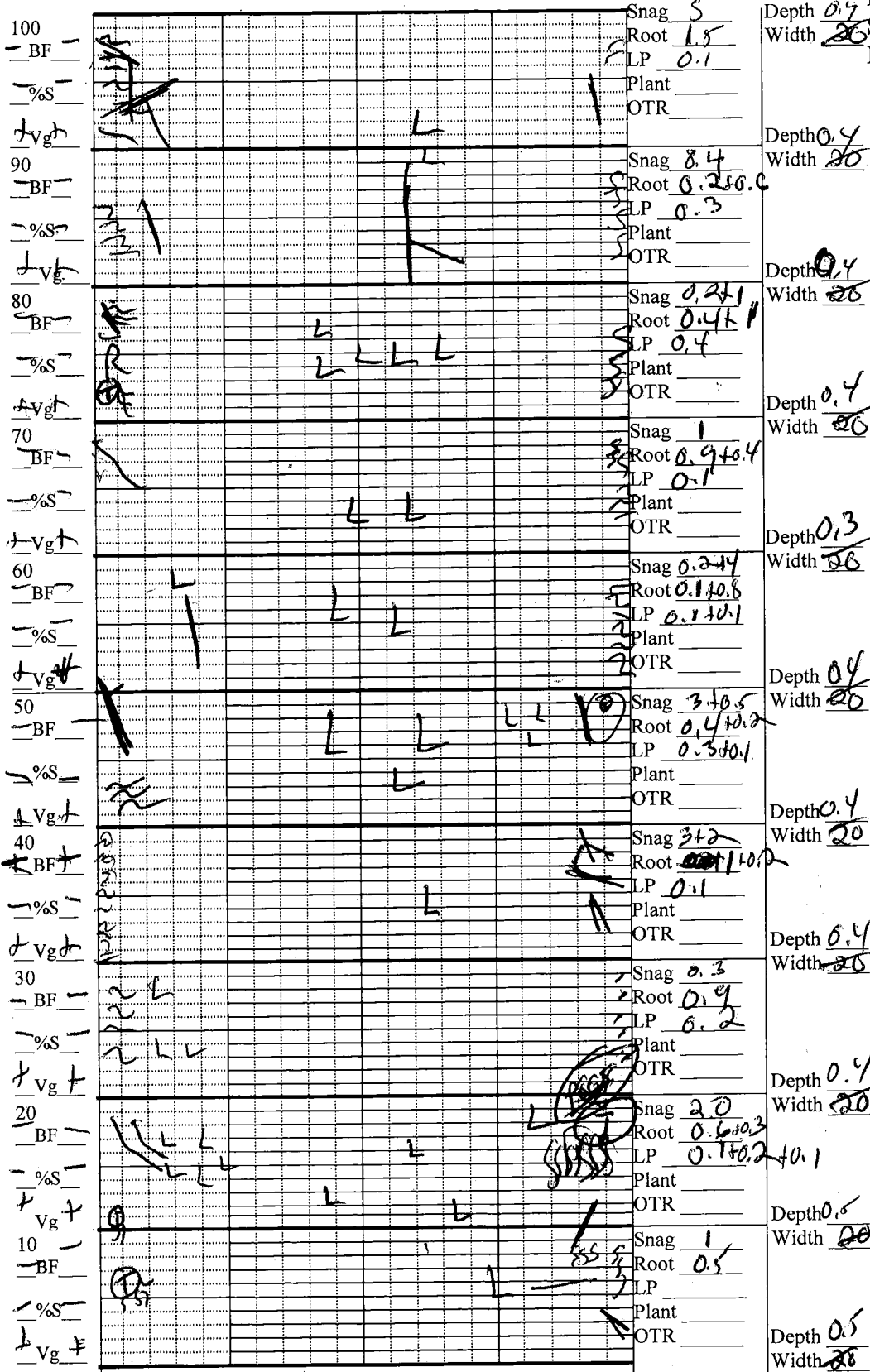
WQ & chemistry taken @ 0 m

0 m Latt. 30.78437

0 m Long: 86.38149

100 m Lätt 30.78509

100 m Long 86.38085

Left
Bank

Downstream

RPS ID: 9415

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site: <u>Shoal River</u>					County: <u>Walton</u>		Date: <u>7/31/19</u>		Investigators: <u>S. Slade / N. Mulkey</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	
0	1	N	N		60	1	N	N		
	2					2				
	3					3				
	4					4				
	5			15		5			27	
	6					6				
	7					7				
	8					8				
	9	X				9				
10	1	N			70	1	N			
	2					2				
	3					3				
	4					4				
	5			21		5			26	
	6					6				
	7					7				
	8					8				
	9					9				
20	1	N			80	1	N			
	2					2				
	3					3				
	4					4				
	5			80		5			9	
	6					6				
	7					7				
	8					8				
	9					9				
30	1	N			90	1	N			
	2					2				
	3					3				
	4					4				
	5			16		5			442	
	6					6				
	7					7				
	8					8				
	9					9				
40	1	N			100	1	N			
	2					2				
	3					3				
	4					4				
	5			9		5			65	
	6					6				
	7					7				
	8					8				
	9					9				
50	1	N			50	1	N			
	2					2				
	3					3				
	4					4				
	5			85		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%.

STORET Station Number:

G4NW0375

Secchi depth	<u>0.4</u>
Estimated?	

# points ranked 4-6	<u>8</u>
total points assessed	<u>99</u>
% points ranked 4-6	<u>0</u>

Check accompanying data collected at same site/date.	
Algal mat sample	
Linear Veg Survey	☒
Habitat Assessment	☒
SCI/Biorecon	☒
Water sample	
RQ <u>2019-03-18-24</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

100 m
30.78510
86.38084

30

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

Waterbody: <u>Shoal River</u>	Date: <u>7/31/19</u>	County: <u>Walton</u>	Storet Number: <u>64NW0375</u>
Analyst: <u>S. Slade</u>	Signature: <u>[Signature]</u>		

Comments: $< 2\text{m}^2$ of vegetation

Comments: 2 am of 12/12/10

Instructions: Note taxa growing in the water with a check mark 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 catoliniana												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												Pontederia 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																									
Ludwigia repens																									
Luziola fluitans																									