



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
STRATEGIC MONITORING PROGRAM FIELD SHEET

PAGE ____ OF ____

February 2016

Data Qualified?
Yes / No

STORET Station Name: Oak Creek @ 66 Date: 6/28/16
STORET Station ID: 64SE0080 Latitude: 24.449958
WBID: 3192C RQ: 2016-05-09-76 ORG ID: 21FLWPB Longitude: -81.128573
Receiving Body of Water: Kissimmee River Field ID: 64SE0080 County: Orester

Sampling Team Members					WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check
Ashley Hurley					X	X			
Matt Sewell						X	X	X	

Sampling Equipment		
☒ 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 / Low / <u>Normal</u> / High / Flooded						Matrix: <u>Fresh</u> / Marine / DI				
Meter ID# <u>1165</u>			Photos: Yes / <u>No</u>			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 (umhos/cm)	Temp. (C°)
EST	<u>1040</u>	<u>0.3</u>	<u>1.0</u>	<u>4.4</u>	<u>57</u>	<u>6.1</u>	<u>0.3</u>	<u>0.4</u>	<u>71</u>	<u>28.7</u>
CEN										

Biological Samples Collected: None <u>HA</u> <u>SCI</u> <u>LVS</u> <u>RPS</u> <u>LVI</u> Other						
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	<u>50390e</u>	<u>9/10</u>	☒ <2
Metals	☐ W-ICPMS ☐ W-ICP		☐ Ice ☐ HNO2			☐ <2
Filtered Nutrients	☒ W-PO4-F ☒ Field Filtered 0.45 um Filter		☐ Ice			
Chlorophyll	☒ CHLSUITE-W		☐ Ice			
BOD	☐ BOD-UNIN		☐ Ice			
Physical/Aggregate (Kit A/C)	☒ Alkalinity / ☐ W-F / ☐ W-TSS / ☐ TURBIDITY / ☐ W-CHC / ☐ W-COLOR / ☐ W-SO4-IC / ☐ W-TDS		☒ Ice			
Physical/Aggregate (Kit B/D)	☐ 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		☐ Ice			
	☐ W-PC-AA-SF ☐ W-UHERB-AA ☐ W-GLYPH		☐ Other			

Notes:	Place Label Here (If Available)
<u>SBIO v.5.1 76636</u>	
Signature: <u>Matt Sewell</u>	Date: <u>6/28/16</u>

Field Parameters Entered into LIMS: 8/4 (Initials/Date) Field Parameters QC in LIMS: RB 8/4/16 (Initials/Date)
Date Migrated to STORET: 11/6/85 (Initials/Date) Field Sheets Scanned/Saved: (Initials/Date)

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

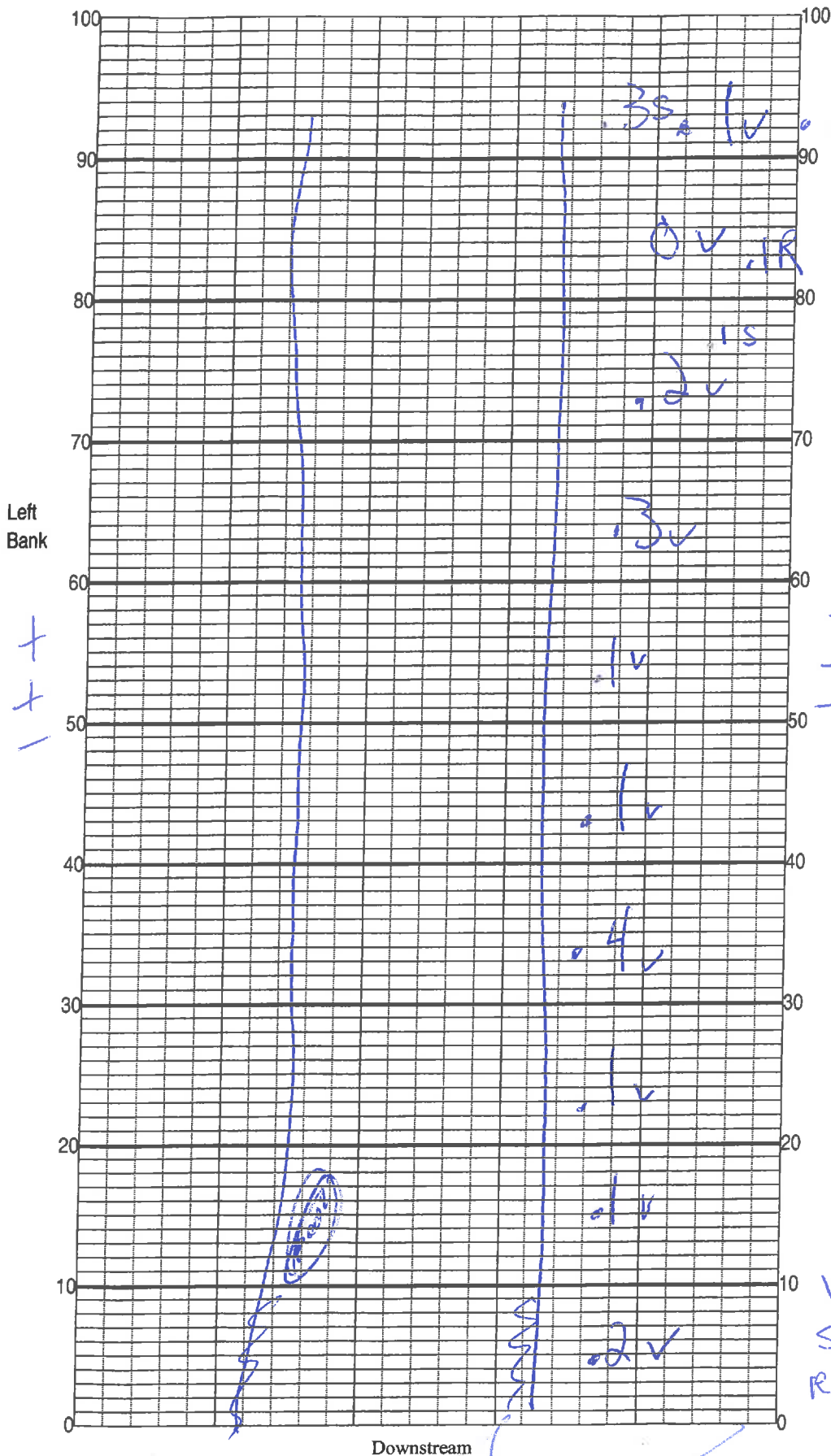
SAMPLING AGENCY: <u>21FWB</u>		STORET STATION NUMBER: <u>G4SE6080</u>	DATE (MM/DD/YY): <u>6/28/16</u>	RECEIVING BODY OF WATER: <u>Kissamee</u>
REMARKS:	COUNTY: <u>Okeechobee</u>	LOCATION: <u>Oak Creek @ 68</u>	FIELD ID/NAME: <u>Oak Creek</u>	

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>3</u>	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
Substrate Availability <u>1</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 3 2 1
Water Velocity <u>13</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>11</u> ----- Primary Score <u>28</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 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>6</u>	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 <u>7</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>59</u>	10 9	8 7 6	5 4	3 2 1

87 TOTAL SCORE

Date: <u>6/28/16</u>	Analyst: <u>A. Hickey / M. Sewell</u>	Signature: <u>[Signature]</u>
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DEP Form FD 9000-4 Stream/River Habitat Assessment Sketch Sheet



Location: Dak Creek
 Date: 6/28/16
 Sampler: A. Hurley

100 m: Latitude _____
 Longitude _____
 0 m: Latitude _____
 Longitude _____

Substrates: Code key, draw proportionate habitat abundance.		%
☒ S	Snags	0.1
☒ R	Roots/undercut banks	0.1
☐	Leaf Packs (or mats)	
☒ V	Aquatic Macrophytes	0.5
☐		
☐		
☒ I	Pools	total # observed = 1 # range expected = 1-2

Average width 0.5 m 3m
 Average depth 0.5 m

Velocity measured at 50 meter mark.

WQ & chemistry taken at 20 meter mark.

Habitat Smothering: very
 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: 18m
 Note areas (on map) where natural vegetation is altered or eliminated.

Plants observed / other notes:

V - 1.6
 S - 0.3
 R - 0.2
 300

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

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

SAMPLE ID 645E080 ORG ID 21P1WPS LATITUDE _____
 COUNTY Oberlin STORET # 645E080 LONGITUDE _____
 DATE 6/28/16 TIME 1040 SAMPLING AGENCY _____
 SITE NAME Oak @ 68
 FIELD ID/NAME to Oak Creek RECEIVING BODY OF WATER Kissimmee River

RIPARIAN ZONE / STREAM FEATURES

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category): Forest/Natural <u>10</u> Silviculture <u>0</u> Field/Pasture <u>90</u> Agricultural <u>0</u> Residential <u>0</u> Commercial <u>0</u> Industry <u>0</u> Other (Specify) <u>0</u>								Landscape Development Intensity Index (LDI) <u>0</u>	
Local Watershed Erosion (select one): ☐ None ☒ Slight ☐ Moderate ☐ Heavy Local Watershed NPS Pollution: ☐ No evidence ☐ Slight ☒ Moderate ☐ Heavy						Typical Width (m) <u>6</u> Depth (m) <u>0.17</u> Velocity (m/sec) <u>0.17</u> Transect <u>6</u> m wide			
Width of Riparian Vegetation (m) on Each Buffer Side Left Bank: <u>18</u> Right Bank: <u>18</u>				Hydrologic Modification Score (per FT 3101) <u>0</u>				m/s <u>0.17</u> m/s <u>0.17</u> m/s <u>0.17</u>	
High Water Mark: <u>1.5</u> + <u>1.0</u> = <u>2.5</u> (m) (above present water level) (present depth) (above bed)				Artificially Impounded ☒ Yes ☐ No				m deep <u>1.0</u> m deep <u>1.0</u> m deep <u>1.0</u>	
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 <table border="1"> <thead> <tr> <th></th> <th>% Coverage</th> <th>INVERT # Times Sampled</th> <th>PERI # Times Sampled</th> </tr> </thead> <tbody> <tr> <td>Woody Debris (Snags)</td> <td><u>0</u></td> <td></td> <td></td> </tr> <tr> <td>Undercut Banks / Roots</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Leaf Packs or Mat</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Aquatic Vegetation</td> <td><u>1</u></td> <td></td> <td></td> </tr> <tr> <td>Rock or Shell Rubble..</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Sand.....</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Mud / Muck / Silt</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Other</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Other</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>				% Coverage	INVERT # Times Sampled	PERI # Times Sampled	Woody Debris (Snags)	<u>0</u>			Undercut Banks / Roots				Leaf Packs or Mat				Aquatic Vegetation	<u>1</u>			Rock or Shell Rubble..				Sand.....				Mud / Muck / Silt				Other				Other				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>28.7</u></td> <td><u>6.1</u></td> <td><u>4.4</u></td> <td><u>57</u></td> <td><u>71</u></td> <td><u>6.3</u></td> <td><u>0.4</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> Meter ID: <u>1.1 603</u> TOTAL DEPTH <u>1.0</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>28.7</u>	<u>6.1</u>	<u>4.4</u>	<u>57</u>	<u>71</u>	<u>6.3</u>	<u>0.4</u>	Mid:								☐ VOB	Bottom								
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System Type: Stream ☒ Lake ☐ Wetland ☐ Estuary ☐ Other(Specify) ☐			AMBIENT FIELD CONDITIONS / NOTES: ☒ The antecedent hydrologic conditions have been met to my best knowledge.																																																																														
SAMPLING TEAM <u>Hurley / Sewell</u>			SIGNATURE: <u>Sewell</u>			DATE: <u>6/28/16</u>																																																																											

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site: Gay creek County: okeechobee Date: 6/28/16 Investigators: Sewell Hurley
STORET Station Number: 645E0080

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			60	1	N	X	
	2		X			2			
	3					3			
	4			0		4			
	5					5			0
	6					6			
	7					7			
	8		X			8			
	9	N				9	N		
10	1	N			70	1	N		
	2		X			2			
	3					3			
	4			0		4			0
	5					5			
	6					6			
	7					7			
	8		Y			8			
	9	N				9	N		
20	1	N			80	1	N		
	2		Y			2		Y	
	3					3			
	4			0		4			11
	5					5			
	6					6			
	7					7			
	8		X			8		Y	
	9	N				9	N		
30	1	N			90	1	N		
	2		X			2		Y	
	3					3			
	4			0		4			90
	5					5			
	6					6			
	7					7			
	8		Y			8		Y	
	9	N				9	N		
40	1	N			100	1	N		
	2		Y			2		Y	
	3					3			
	4			0		4			4
	5					5			
	6					6			
	7					7			
	8		Y			8		Y	
	9	N				9	N		
50	1	N				1	N		
	2		Y			2		Y	
	3					3			
	4			0		4			
	5					5			
	6					6			
	7					7			
	8		X			8		Y	
	9	N				9	N		

Secchi depth 0.4
Estimated?

points ranked 4-6 0
total points assessed 28
% points ranked 4-6 0

Check accompanying data collected at same site/date.
Algal mat sample
Linear Veg Survey ✓
Habitat Assessment ✓
SCI/Biorecon ✓
Water sample ✓
RQ-246-05-09-76

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

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%.

SBIO 76636 *[Signature]*

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

Waterbody: Oak	Date: 6/8/16	County: Cheshel	Store Number: 01248
Analyst: Sewell/Hurley	Signature: [Signature]		

Comments:

Comments:

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	Specimen collected (check)	HERBACEOUS SPECIES											Meter Mark	Specimen 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		X	X	X	X	X	X	X	X		Micranthemum glomeratum														
Bacopa caroliniana											Micranthemum umbrosum														
Bacopa monnieri											Myriophyllum aquaticum														
Bidens mitis											Najas guadelupensis														
Boehmeria cylindrica											Nuphar luteum														
Centella asiatica											Orontium aquaticum		X	X	X	X	X	X	X	X	/				
Ceratophyllum demersum	X										Panicum hemitomon		X		X	X	X	X	X	X	/				
Chara											Panicum repens		X		X			X							
Cicuta maculata											Panicum rigidulum							X							
Cladium jamaicense											Pistia stratioides														
Colocasia esculenta											Polygonum glabra														
Commelina diffusa											Polygonum hydropiperoides														
Commelina virginica											Polygonum punctatum														
Crinum americanum											Pontedaria cordata														
Diodia virginiana							X				Potamogeton illinoensis														
Eichhornia crassipes	X						X				Ruellia simplex														
Eleocharis (wispy viviparous)	X	X	X	X	X	X	X				Sacciolepis striata														
Hydrilla verticillata									X		Sagittaria kurziana														
Hydrocotyle					X				X		Sagittaria lancifolia														
Hygrophila polysperma											Sagittaria latifolia		X	X	X	X	X	X	X	X	/				
Hymenocallis											Salvinia minima		X	X	X	X	X	X	X	X	/				
Lachnanthes caroliniana											Samolus parviflora														
Landoltia punctata											Saururus cernuus														
Lemna											Sparganium americanum														
Limnophila sessiliflora											Typha														
Ludwigia leptocarpa											Vallisneria americana														
Ludwigia palustris											Zizania aquatica														
Ludwigia peruviana											Sal x Caroliniana		X	X	X	X	X	X	X	X	/				
Ludwigia repens	X			X	X						wsp v mj Cabomba caroliniana		X	X											
Luziola fluitans											(containing) COE (Combretaceae)		X	X											
											Phylla geniculata								X						

SBID-76636