



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

STRATEGIC MONITORING PLAN Field Sheet

July 2022

Meter
Passed End
of Day CCV☒ Yes / ☐ No

WIN Station Name:	LITTLE WEKIVA CANAL 85M N OF SHADER RD				Sample Date:	12/5/2023	
WIN / Field ID:	G2CE0266	ORG ID:	21FLCEN	ENR:	-	Latitude:	28.58726
County:	ORANGE	WBID:	3004	STREAM		Longitude:	-81.43758
Receiving Body of Water:	Wekiva River				RQ-	2023-12-04-24	

Sampling Team Members	WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check
Matt Bearden		x		x	x
Leif Boman					x
Jessie Atchison	x		x		

Sampling Equipment				
x	Sample Container		Carboy	
	Dipper		Van Dorn	
	Syringe		Pole	
	Syringe Lot#	2327923	Filter Lot#	17769663
	Secchi Equipment ID:	Knothead		
Collection Method				
x	Wading		Canoe/Kayak	
	From Shore		Electric Motor	
			Gasoline Motor	
	Depth Measured With	Secchi		

Water Level:	Normal
Flow:	Flowing
Matrix:	Fresh
Tide Stage:	
High Tide:	
Low Tide:	
Photos:	Yes
Meter ID:	Craw Daddy
Depth Gauge ID:	depth_gauge

Time Zone	Time	Total Depth (m)	Sample Depth (m)	DO (mg/L)	DO (%SAT)	Temp. (°C)	pH	Secchi Disk (m)	Sp COND (µmhos/cm)	Salinity (PPTth)
EST	1112	1	0.3	2.48	28.2	21.3	6.59	1	183.6	0.09
								VOB (s)		

Biological Samples Collected: None

SBIO Visit ID: 88223 HA ID: RPS ID: 10206 Macrophyte ID: 12631 LIMS Sample ID 2454834
In The Macrophyte Module:

Parameter Suite	Parameter Methods (LIMS Test Codes)			Preservation				
	Type	Lot#	Expiration Date	pH Check				
Microbiology								
Chlorophyll	CHLSUITE-W			ICE				
Physical/Aggregate	ALKALINITY, TURBIDITY, W-F, W-TSS			ICE				
Nutrients	W-CL-IC, W-COLOR, W-SO4-IC, W-TDS			ICE				
Filtered Nutrients	W-PO4-F	Field Filtered 0.45 µm Filter		ICE	Syringe Lot#:2327923 ; Filter Lot#:17769663			
Acid Preserved Nutrients	W-NH3 / W-NO2NO3 / W-TKN / W-TOC / W-S-A-TP			ICE	H2SO4*	SA3193140	07/31/2024	H2SO4 pH<2
Metals	W-ICPMS	W-ICP	W-HARD	ICE	HNO3**	NA3193130	07/27/2024	HNO3 pH<2
Organics (LC)	W-E8321-DI	W-E8321-MS			MCAA***			
Macroinvertebrates								
Organics (GC)	W-PSNP-TQ	W-TR-SQ-R		Ice	*2.0 ml of H2SO4 Used Unless Noted Otherwise **2.0 ml of HNO3 Used Unless Noted Otherwise			
Molecular								
Periphyton								
Phytoplankton								
BOD								
DOC								
Other(s)								
Field Comments:	70 and cloudy							
Comments on COC:								
Relinquish Date:	12/05/2023	Signature:						

LIMS EVENT ID: CEN-DIST-2023-12-06-01

WIN Import ID: 45031

Enter Field Parameters, Verify Station ID In LIMS DMT: KWM 12/21/23

QC Station ID, Field Parameters In LIMS DMT: VLS 12/28/23

Save Field Sheets on Network: KWM 1/17/24 (Initials/Date)

Migrate Data to WIN: KWM 1/17/24 (Initials/Date)

(Initials/Date)

(Initials/Date)

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

SAMPLE ID _____ ORG ID 21 FLCCN LATITUDE _____
 COUNTY Orange STORET # G2CE0260 LONGITUDE _____
 DATE 12/5/23 TIME _____ SAMPLING AGENCY CE ROC
 SITE NAME Little Wokwa Canal 85m N of Shader Rd
 FIELD ID/NAME G2CE0260 RECEIVING BODY OF WATER Lake Orlando

RIPARIAN ZONE / STREAM FEATURES

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category): Forest/Natural <u>10</u> Silviculture <u>1</u> Field/Pasture <u>1</u> Agricultural <u>1</u> Residential <u>40</u> Commercial <u>10</u> Industry <u>40</u> Other (Specify) _____							Landscape Development Intensity Index (LDI) <u>1</u>
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 <u>8</u> m wide <u>1</u> m/s <u>0.03</u> m/s <u>1</u> m/s <u>1</u> m deep <u>1.0</u> m deep <u>1</u> m deep			
Width of Riparian Vegetation (m) on Each Buffer Side Left Bank: <u>6-12</u> Right Bank: <u>>12-18</u>				Hydrologic Modification Score (per FT 3101) <u>1</u>			
High Water Mark: <u>0.5</u> + <u>1.0</u> = <u>1.5</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 % Coverage INVERT # Times Sampled PERI # Times Sampled Woody Debris (Snags) <u>23</u> <u>1</u> <u>1</u> Undercut Banks / Roots <u>1</u> <u>1</u> <u>1</u> Leaf Packs or Mat <u>1</u> <u>1</u> <u>1</u> Aquatic Vegetation <u>23</u> <u>1</u> <u>1</u> Rock or Shell Rubble <u>1</u> <u>1</u> <u>1</u> Sand <u>1</u> <u>1</u> <u>1</u> Mud / Muck / Silt <u>1</u> <u>1</u> <u>1</u> Other <u>1</u> <u>1</u> <u>1</u> Other <u>1</u> <u>1</u> <u>1</u>			WATER QUALITY Depth (M) Temp. (°C) pH (SU) D.O. (MG/L) D.O. Sat (%) Cond. (UMHO/CM) Salinity (PPT) SECCHI (M) Top: <u>1</u> <u>1</u> <u>1</u> <u>1</u> <u>1</u> <u>1</u> <u>1.0</u> Mid: <u>1</u> <u>1</u> <u>1</u> <u>1</u> <u>1</u> <u>1</u> <u>1</u> Bottom: <u>1</u> <u>1</u> <u>1</u> <u>1</u> <u>1</u> <u>1</u> <u>1</u> Meter ID: <u>Craw Daddy</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

	Not Obs.	Rare	Common	Abundant
Periphyton:	☐	☒	☐	☐
Fish:	☐	☒	☐	☐
Aquatic Plants:	☐	☐	☒	☐
Iron/Sulfur Bacteria:	☒	☐	☐	☐

System Type: Stream ☐ Lake ☐ Wetland ☐ Estuary ☐ Other (Specify) ☒ Canal

AMBIENT FIELD CONDITIONS / NOTES:

Vegetation recently sprayed.

☒ The antecedent hydrologic conditions have been met to my best knowledge.

SAMPLING TEAM

M. Bearden, L. Boman, J. Atchison

SIGNATURE:

Matthew B L

DATE:

12/5/23

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

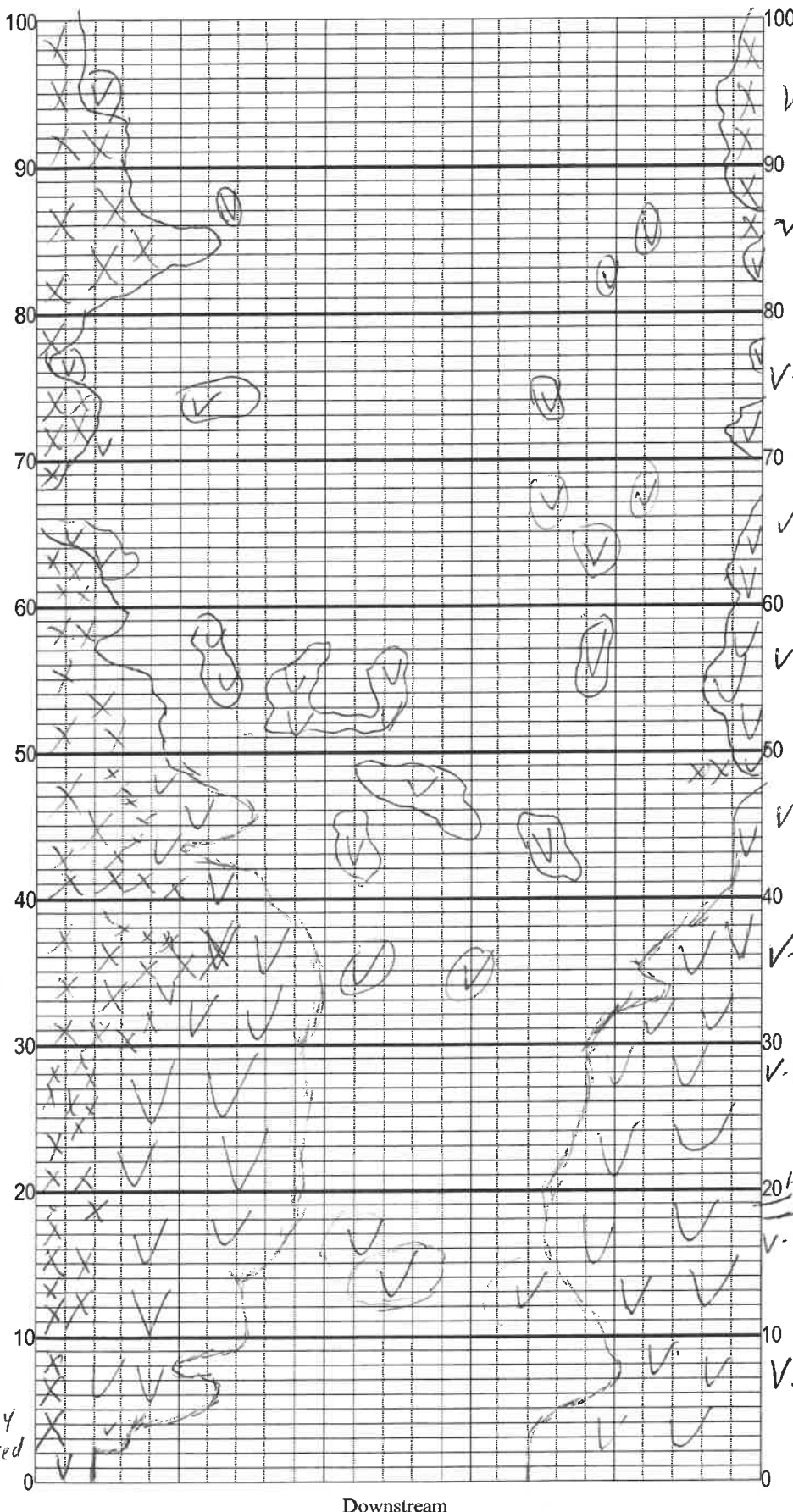
Location: G2CE0266
 Date: 12/5/23
 Sampler: M. Braden

100 m: Latitude _____	Longitude _____
0 m: Latitude _____	Longitude _____
Substrates: Code key, draw proportionate habitat abundance. %	
☒ S	Snags _____
☒ R	Roots/undercut banks _____
☒ L	Leaf Packs (or mats) _____
☒ V	Aquatic Macrophytes _____
☒ C	<u>Rock</u> _____
☐ P	Pools
total # observed = <u>0</u> # range expected = <u>1-2</u>	
Average width <u>8</u> m	
Average depth <u>1.0</u> m	
Velocity measured at <u>100</u> meter mark. <u>1.30</u> <u>0.03</u> <u>1/5</u>	
WQ & chemistry taken at <u>100</u> 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:

X = Recently Sprayed

V = 181 m² 23%



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: <u>CE ROC</u>		STORET STATION NUMBER: <u>G2CE0266</u>	DATE (MM/DD/YY): <u>12/5/23</u>	RECEIVING BODY OF WATER: <u>Lake Orlando</u>
REMARKS: <u>Recently sprayed</u>	COUNTY: <u>Orange</u>	LOCATION: <u>Little Wekiva canal 85m N of Shadler rd</u>	FIELD ID/NAME: <u>G2CE0266</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 <u>3</u> 2 1
Substrate Availability <u>13</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 <u>13</u> 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>3</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 <u>3</u> 2 1
Habitat Smothering <u>3</u> ----- Primary Score <u>22</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> 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 or straightening 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>3</u>	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 <u>3</u> 2 1
Bank Stability +++ Right Bank <u>9</u> Left Bank <u>9</u>	Bankfull > 60% of bank height. Slope of bank ≤ 60° from bankfull to top of bank. Bankfull is within or above the woody root zone with few raw, eroded areas. 10 <u>9</u>	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 woody root zone with raw, eroded areas. 3 2 1
Riparian Buffer Zone Width Right Bank <u>6</u> Left Bank <u>5</u>	Width of vegetation greater than 18 m 10 9	Width of vegetation >12 to 18m <u>8</u> 7 <u>6</u>	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 <u>3</u> 2 1
Riparian Zone Vegetation Quality Right Bank <u>7</u> Left Bank <u>3</u> ----- Secondary Score <u>4044</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. 10 9	>50% to 80% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions). Some disruption in community observed. 8 <u>7</u> 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). <u>3</u> <u>2</u> 1

620866 TOTAL SCORE

Date: <u>12/5/23</u>	Analyst: <u>M. Bearden</u>	Signature: <u>[Signature]</u>
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DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site: 62CE0266 County: Orange Date: 12/5/23 Investigators: M. Bearden, L. Beman, S. Atchison

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				60	1			
	2					2			
	3					3			
	4					4			
	5			12		5			0
	6					6			
	7					7			
	8					8			
	9					9			
10	1				70	1			
	2					2			
	3					3			
	4					4			
	5			7		5			0
	6					6			
	7					7			
	8					8			
	9					9			
20	1				80	1			
	2					2			
	3					3			
	4					4			
	5			21		5			0
	6					6			
	7					7			
	8					8			
	9					9			
30	1				90	1			
	2					2			
	3					3			
	4					4			
	5			9		5			0
	6					6			
	7					7			
	8					8			
	9					9			
40	1				100	1			
	2					2			
	3					3			
	4					4			
	5			0		5			0
	6					6			
	7					7			
	8					8			
	9					9			
50	1					1			
	2					2			
	3					3			
	4					4			
	5			7		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 1.0
Estimated? ✓

points ranked 4-6 ✓
total points assessed ✓
% points ranked 4-6 ✓

Check accompanying data collected at same site/date.

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

RQ- 2023-12-04-24

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

Waterbody:				Date:				County:				Storet Number:											
Analyst:								Signature:															
Comments:																							
Instructions: Note taxa growing in the water with a checkmark if present, "D" if dominant, and "C" if codominant (dominance only if 1m ² 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												Micranthemum glomeratum											
Bacopa caroliniana												Micranthemum umbrosum											
Bacopa monnieri												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												Pontedaria cordata											
Diodia virginiana												Potamogeton illinoensis											
Eichhornia crassipes		X		X	X			X		X		Ruellia simplex											
Eleocharis (wispy viviparous)												Sacciolepis striata											
Hydrilla verticillata												Sagittaria kurziana											
Hydrocotyle												Sagittaria lancifolia											
Hygrophila polysperma		DD	DD	DD	DD	DD	DD	DD	DD	DD		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												Paspalum Repens	X										
Ludwigia repens																							
Luziola fluitans																							