



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
STRATEGIC MONITORING PROGRAM FIELD SHEET

January 2019

Data Qualified?

Yes ☒ No ☐

WIN Station Name: Juniper Creek above Hwy 85

Date: 4/3/19
(mm/dd/yyyy)

WIN/ Field ID: G3NW0095

WBID: 468A

Latitude: 30.558377

(Decimal Degrees)

County: Okaloosa

ORG ID: 21FLPNS

Longitude: -86.519150

(Decimal Degrees)

Receiving Body of Water: Rocky Creek

RQ-2019- 2019-06-03-52

Sampling Team Members					WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check
Michael King					☒	☒	☒	☒	☒
Nathan 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)	Sp COND (umhos/cm)	Temp. (C°)
EST	1000	1.2	0.3	1.2(5)	8.49	95.5	4.79	0.00	12.8	21.5
CEN										

Biological Samples Collected: None HA SCI RPS Algae ID LVS LVI Other:
SBIO ID Numbers: SBIO-ID: 79799 HA-ID: 16040 RPS-ID: 9367 Macrophyte-ID: 11370 LIMS#: 2091076

Parameter Suite	Parameter Methods	Preservation	Lot#	Expiration	pH Check
Preserved Nutrients	☒ W-NH3 / W-NO2NO3 / W-TKN / W-TOC / W-S-A-TP	☒ Ice ☒ H2SO4	SA8344070	12/10/19	☐ <2
Metals	☒ W-ICPMS ☒ W-ICP	☒ Ice ☐ HNO3	NA8344050	12/10/19	☐ <2
Filtered Nutrients	☒ W-PO4-F ☒ Field Filtered 0.45 um 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	☐ Ice			

Notes: _____

Place Label Here

Signature: _____ Date: 4/5/19

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 _____ Migrate Data to WIN: _____ Verify Data In WIN: _____
(Initials/Date) (Initials/Date) (Initials/Date)

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

SAMPLE ID 79799 ORG ID 21FLPNS LATITUDE 30.55865
 COUNTY OKALOOSA STORET # 63NW0095 LONGITUDE 86.51944
 DATE 6/3/19 TIME 1000 SAMPLING AGENCY FDEP NW ROC
 SITE NAME JUNIPER CREEK above Hwy 85
 FIELD ID/NAME 63NW0095 RECEIVING BODY OF WATER Rocky Creek

RIPARIAN ZONE / STREAM FEATURES WBID 468A RQ-2019-06-03-52 LIMS ID 2091076

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category): Forest/Natural ☒ Silviculture ☒ Field/Pasture ☐ Agricultural ☐ Residential ☒ Commercial ☐ Industry ☐ Other (Specify) <u>AFB</u>						Landscape Development Intensity Index (LDI) <u>N/A</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>0.33</u> m/s <u>0.33</u> m/s <u>0.25</u> m/s <u>0.4</u> m deep <u>0.8</u> m deep <u>1.0</u> m deep			
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>1-2</u>				
High Water Mark: <u>1.2</u> + <u>1.2</u> = <u>2.4</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 ☐
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SUBSTRATE TYPE Assessment Tool: ☒ SCI ☒ RPS ☒ LVS ☐ LCI ☐ BioRecon			WATER QUALITY							
	Depth (M)	Temp. (°C)	pH (SU)	D.O. (MG/L)	D.O. Sat (%)	Cond. (UMHO/CM)	Salinity (PPT)	SECCHI (M)		
Top:	<u>0.3</u>	<u>21.5</u>	<u>4.79</u>	<u>8.49</u>	<u>95.5</u>	<u>12.8</u>	<u>0.00</u>	<u>100</u>		
Mid:								☒ VOB		
Bottom:										
Meter ID: <u>154179</u>			TOTAL DEPTH <u>1.2</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>SA 8344070</u> Exp: <u>12/10/19</u> <u>NA 0344050</u> <u>12/10/19</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:	☐	☒	☐	☐

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

M. King / N. Muirkey

SIGNATURE

[Signature]

DATE:

6/3/19

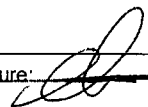
DEP Form FD 9000-5 Stream/River Habitat Assessment Field Sheet

SAMPLING AGENCY: FDEP NW 20 ^c		STORET STATION NUMBER: G3NW0095	DATE (MM/DD/YY): 6/3/19	RECEIVING BODY OF WATER: Rocky Creek
REMARKS:	COUNTY: OKLAHOMA	LOCATION: Juniper Creek abv Hwy 85		FIELD ID/NAME: G3NW0095

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>16</u>	20 19 18 17 <u>16</u>	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
Substrate Availability <u>16</u>	Greater than 30% major productive habitat present at site 20 19 18 17 <u>16</u>	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>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>16</u> ----- Primary Score <u>68</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 <u>16</u>	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 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>19</u>	20 <u>19</u> 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 woody 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 woody root zone with raw, eroded areas.
Right Bank <u>10</u> Left Bank <u>10</u>	<u>10</u> 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>	<u>10</u> 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>10</u> Left Bank <u>10</u> ----- Secondary Score <u>79</u>	<u>10</u> 9	8 7 6	5 4	3 2 1

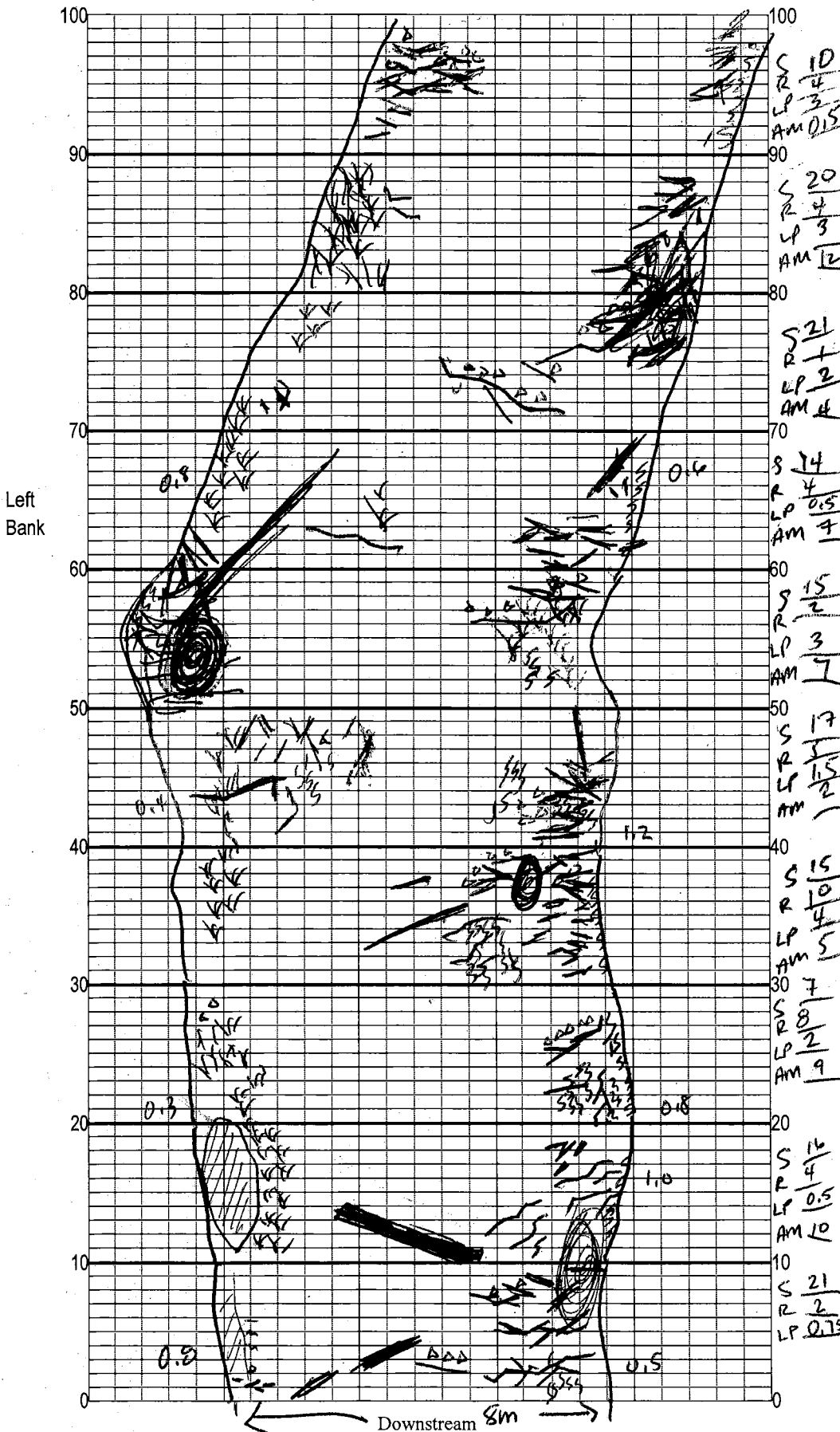
147

TOTAL SCORE

Date: 6/3/19	Analyst: MIKE KING	Signature: 
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DEP Form FD 9000-4 Stream/River Habitat Assessment Sketch Sheet

G3NW 0095



Location: Juniper Creek

Date: 4/3/19

Sampler: M King / N. Murren

100 m: Latitude 30.55913
Longitude 86.51911

0 m: Latitude 30.55865
Longitude 86.51944

Substrates: Code key, draw proportionate habitat abundance. 35 %

	Snags	<u>156</u>	<u>19.5</u>
	Roots/undercut banks	<u>44/8</u>	<u>5.5</u>
	Leaf Packs (or mats)	<u>20.25</u>	<u>2.5</u>
	Aquatic Macrophytes	<u>56.5</u>	<u>7.1</u>
	gravel		
	Pools	total # observed = <u>11</u> # range expected = <u> </u>	

Average width 8 m
Average depth 0.8 m

Velocity measured at 30 meter mark.

WQ & chemistry taken at 0 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:

Red titi
Black titi
AWC
myrica
Lyonia

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site: <u>Juniper Creek</u>					County: <u>OKA100SM</u>		Date: <u>6/3/19</u>		Investigators: <u>MIKE KNG</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>G3NW0095</u>

0	1	N	N		60	1	N	N	
	2					2			
	3					3			
	4					4			
	5			78		5			24
	6					6			
	7					7			
	8					8			
	9					9			

10	1	N			70	1	N		
	2					2			
	3					3			
	4					4			
	5			64		5			30
	6					6			
	7					7			
	8					8			
	9					9			

20	1	N			80	1	N		
	2					2			
	3					3			
	4					4			
	5			52		5	3		48
	6					6	4		
	7					7	4		
	8					8	3		
	9					9	N		

30	1	N			90	1	N		
	2					2			
	3					3			
	4					4			
	5			80		5			80
	6					6			
	7					7			
	8					8			
	9					9			

40	1	N			100	1	N		
	2					2			
	3					3			
	4					4			
	5			64		5			72
	6	4				6			
	7	3				7			
	8	3				8			
	9	N				9			

50	1	N			72	1	N		
	2					2			
	3					3			
	4					4			
	5					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 densimeter 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, 2
Estimated?	Y

# points ranked 4-6	3
total points assessed	99
% points ranked 4-6	3

Check accompanying data collected at same site/date.	
Algal mat sample	
Linear Veg Survey	✓
Habitat Assessment	✓
SC/Biorecon	
Water sample	✓
RQ- 2019-06-03-52	

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

SBIO ID 79799

RPS ID 9367

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

SBIO ID 79799	Meter Mark										Specimen collected (check)	Macro ID 11370	Meter Mark										Specimen collected (check)	
	HERBACEOUS SPECIES	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90			90-100	HERBACEOUS SPECIES	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80		80-90
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												
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												Sparganium americanum												
Ludwigia repens												ericaulon compressum												
Luziola fluitans												juncus megacephalus												