



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
STRATEGIC MONITORING PROGRAM FIELD SHEET

March 2017

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Data Qualified?
Yes / No

Location/STORET Station Name: Elder Springs Run DS of Myrtle St - Sanford Date: 07/19/17
(mm/dd/yyyy)

STORET # 20010294 WBID: 2984 Latitude: 28.73461
(Decimal Degrees)

County: Seminole RQ - 2017-07-17-43 ORG ID: 21FLCEN Longitude: -81.26625
(Decimal Degrees)

Receiving Body of Water: Lk Jessup Field ID: 20010294

Sampling Team Members				WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check	Sampling Equipment			
<u>Mike Linger</u> <u>Katie Williams</u> <u>Natalie Ayala</u>									☒ Sample Container	☐ Van Dorn	☐ Pole	
									☐ Carboy	☒ Syringe		
									☐ Dipper	☐ Other		
				Equipment ID								
									Collection Method			
									☒ Wading	<u>Via Boat</u>		
									☐ From Shore	☐ Canoe/Kayak		
									☐ Other (note below)	☐ Electric Motor		
										☐ Gasoline Motor		
Water Level: Dry / Pooled / Low / <u>Normal</u> / High / Flooded									Matrix: <u>Fresh</u> Marine / DI			
Meter ID# <u>Ropp/Non</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 (µmhos/cm)	Temp. (C°)		
<u>EST</u>	<u>1117</u>	<u>0.2</u>	<u>0.3</u>	<u>6.5</u>	<u>80</u>	<u>7.2</u>	<u>0.2</u>	<u>0.3(s)</u>	<u>452</u>	<u>25.4</u>		
CEN												

Biological Samples Collected: None HA SCI RPS Algae ID LVS LVI Other 1914987

SBIO ID Numbers: SBIO-ID: 77764 RPS-ID: 8723 Macrophyte-ID: N/A < 2m² LIMS#: 1914987 NA

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 ☒ H ₂ SO ₄	<u>7093010</u>	<u>4/3/18</u>	☒ <2
Metals	☒ W-ICPMS ☒ W-ICP	☒ Ice ☒ HNO ₃	<u>6253070</u>	<u>9/5/17</u>	☒ <2
Filtered Nutrients	☒ W-PO4-F ☒ Field Filtered 0.45 µm Filter	☒ Ice			
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-F / W-TSS / TURBIDITY	☐ Ice			
Macroinvertebrates	☒ MI-FW-QLDC	☒ Formalin			
Periphyton	☐ ALGAE-ID	☐ Ice			
Microbiology	☒ E Coli ☐ F Coli ☐ Enterococci ☒ qPCR	☐ Ice			
Tracers	☒ W-SUC-AA-R ☒ W-UHERB-AA ☒ W-AHERB-AA	☐ Ice			
Pesticides	☐ W-PSNP-TQ ☐ W-AHERB-AA ☐ W-PYR-AA-R ☐ W-PCL-SQ-R ☐ W-UHERB-AA ☐ W-GLYPH ☐ W-SUC-AAR	☐ Ice ☐ Other			

Notes:
On 2017 SMP + a Reference SCI MLL

Elder Springs Run DS
of Myrtle St - Sanford.

Date: 07/19/2017
RQ-2017-07-17-43

20010294
Field ID ↑
STORET ↓
20010294

Signature: [Signature] Date: 7/19/17

Field Parameters Entered into LIMS: NA 7/19/17 Field Parameters QC in LIMS: NA 7/19/17
(Initials/Date) (Initials/Date)

Date Migrated to STORET: _____ Field Sheets Scanned/Saved: _____
(Initials/Date) (Initials/Date)

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

SAMPLE ID 77764 ORG ID 2IFLCEN LATITUDE 28.73461
COUNTY Seminole STORET # 20010294 LONGITUDE -81.26625
DATE 7/19/17 TIME 1117 SAMPLING AGENCY FDEP CE-Roc
SITE NAME Elder Springs Run DS of Myrtle St - Sanford
FIELD ID/NAME 20010294 RECEIVING BODY OF WATER Lake Jesup

RIPARIAN ZONE / STREAM FEATURES

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category):								Landscape Development Intensity Index (LDI)
Forest/Natural	Silviculture	Field/Pasture	Agricultural	Residential	Commercial	Industry	Other (Specify)	
<u>50</u>	<u>5</u>	<u>15</u>	<u>10</u>	<u>20</u>				
Local Watershed Erosion (select one): ☐ None ☒ Slight ☐ Moderate ☐ Heavy						Typical Width (m) Depth (m)/Velocity (m/sec) Transect		
Local Watershed NPS Pollution: ☐ No evidence ☐ Slight ☒ Moderate ☐ Heavy						<u>2.3</u> m wide		
Width of Riparian Vegetation (m) on Each Buffer Side				Hydrologic Modification Score (per FT 3101)				
Left Bank: <u>>18</u>		Right Bank: <u><6m</u>		<u>5</u>				
High Water Mark: <u>0.5</u> + <u>0.4</u> = <u>0.9</u>				Artificially Impounded				
(m) (above present water level) (present depth) (above bed)				☐ Yes ☒ No				
Artificially ☒ No ☐ Yes				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		
Invert % Coverage			Depth (M)	Temp. (°C)	pH (SU)
Woody Debris (Snags)			Top: <u>0.2</u>	<u>25.4</u>	<u>7.2</u>
Undercut Banks / Roots			Mid:		
Leaf Packs or Mat			Bottom:		
Aquatic Vegetation			Meter ID: <u>Boop / Non</u>		
Rock or Shell Rubble					
Sand					
Mud / Muck / Silt					
Other					
Other					
ABUNDANCE			Water Odors Normal ☒ Petroleum ☐ Sewage ☐ Chemical ☐ Other ☐		
Periphyton: ☐ Not Obs. ☒ Rare ☐ Common ☐ Abundant			Water Sample Taken? ☒ Yes ☐ No		
Fish: ☐ Not Obs. ☐ Rare ☒ Common ☐ Abundant			Sample Preserved? ☐ Yes ☐ No		
Aquatic Plants: ☐ Not Obs. ☒ Rare ☐ Common ☐ Abundant			Lot Number: Exp:		
Iron/Sulfur Bacteria: ☒ Not Obs. ☐ Rare ☐ Common ☐ Abundant			Algae Sample Taken? ☐ Yes ☒ No		
			Sample Preserved? ☐ Yes ☐ No		
			Lot Number: Exp:		
			System Type: Stream ☒ Lake ☐ Wetland ☐ Estuary ☐ Other (Specify) ☐		
			AMBIENT FIELD CONDITIONS / NOTES: <u>90's Humid</u> ☒ The antecedent hydrologic conditions have been met to my best knowledge.		

SAMPLING TEAM

Mike Linger, Natalie Ayala, Katie Williams

SIGNATURE:

DATE:

07/19/17

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

SAMPLING AGENCY: <u>FDEP CE-ROC</u>		STORET STATION NUMBER: <u>20010294</u>	DATE (MM/DD/YYYY): <u>07/19/2017</u>	RECEIVING BODY OF WATER: <u>Lake Jessup</u>
REMARKS:	COUNTY: <u>Seminole</u>	LOCATION: <u>Elder Springs Run</u>	FIELD ID/NAME: <u>20010294</u>	

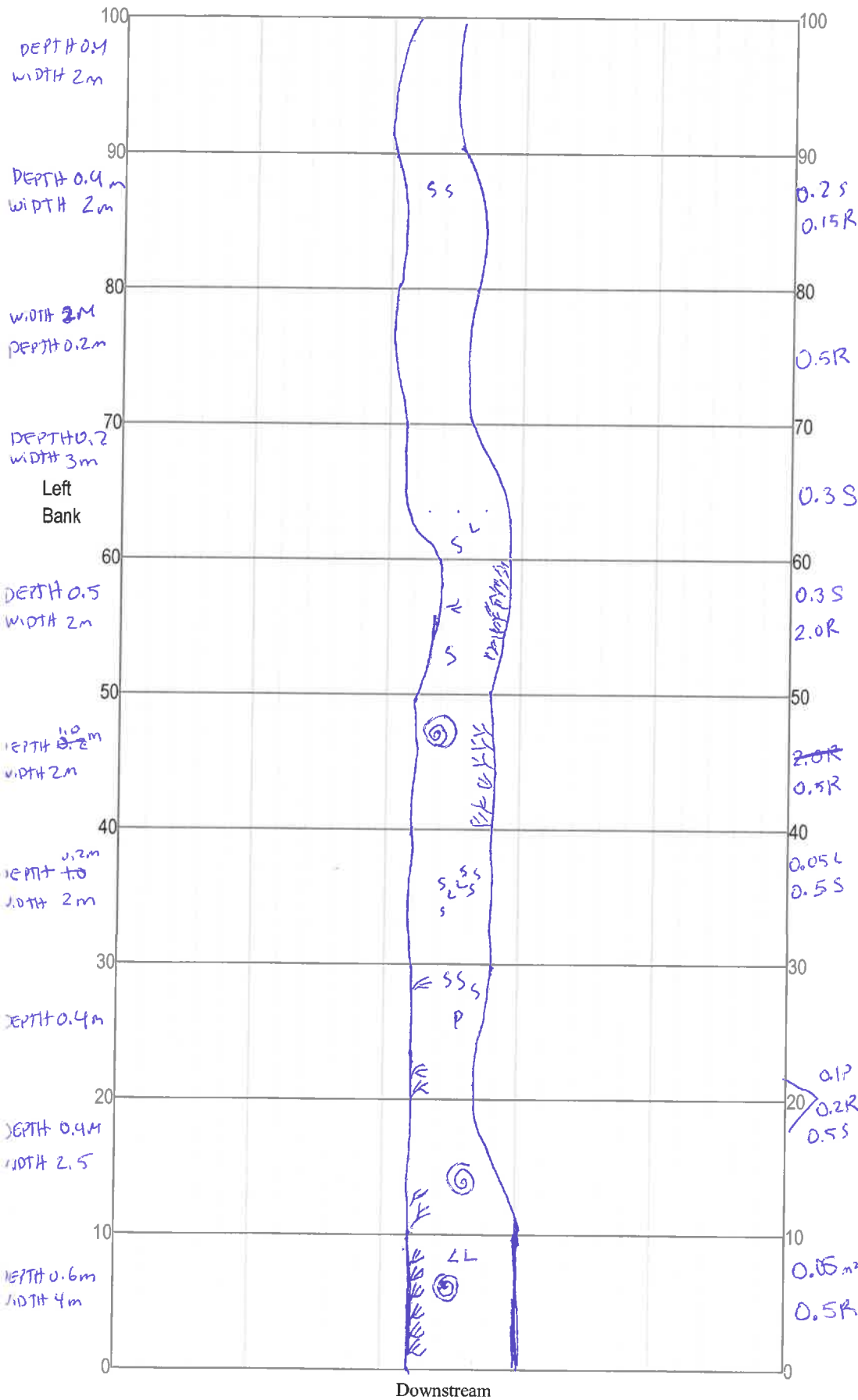
Habitat Parameter	Optimal	Suboptimal	Marginal	Poor
Primary Habitat Components	Four or more major productive habitats present (snags, tree roots, aquatic vegetation, leaf packs (partially decayed), rock)	Three major productive habitats present. Adequate habitat. Some substrates may be new fall (fresh 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>6</u>	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 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 3 2 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 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>18</u> ----- Primary Score <u>40</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>19</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>5</u> Left Bank <u>3</u> <u>LR</u> <u>5</u> <u>3</u> <u>+</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>3</u> Left Bank <u>9</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>3</u> Left Bank <u>5</u> ----- Secondary Score <u>47</u>	10 9	8 7 6	5 4	3 2 1

87

TOTAL SCORE

Date: <u>7/19/17</u>	Analyst: <u>Natalie Ayala</u>	Signature: <u>Natalie Ayala</u>
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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: ELDER Springs

Date: 07/19/17

Sampler: N. Linger / N. Ayala / K. W. Har

100 m: Latitude 28.73456
Longitude -81.2666

0 m: Latitude 28.73413
Longitude -81.26574

Substrates: Code key, draw proportionate habitat abundance. %

S	Snags	0.9
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F	Roots/undercut banks	1.4
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L	Leaf Packs (or mats)	0.06
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12 Aquatic Macrophytes

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☐ _____

 Pools total # observed = 4
range expected = 3-6

Average width 2.3 m
Average depth 0.4 m

Velocity measured at 30 meter mark.

WQ & chemistry taken at 100 meter mark.

Habitat Smothering: *N/A*
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:

Dioscorea bulbifera

Ruellia

Wedelru

Camphor

Sabal Palm

Ums

Cephalanthus

Peltandra

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site: <u>Sixmile Creek/Elder Springs</u>					County: <u>Seminole</u>		Date: <u>7/19/17</u>		Investigators: <u>Katie Williams</u>	
					STORET Station Number: <u>20010294</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	2			60	1	2			
	2	2				2	2			
	3	2				3	2			
	4	2				4	2			
	5	2		95		5	2		94	
	6	2				6	2			
	7	2				7	2			
	8	2				8	2			
	9	2				9	2			
10	1	2			70	1	2			
	2	2				2	2			
	3	2				3	2			
	4	2				4	2			
	5	2		86		5	2		74	
	6	2				6	2			
	7	2				7	2			
	8	2				8	2			
	9	2				9	2			
20	1	2			80	1	2			
	2	2				2	2			
	3	2				3	2			
	4	2				4	2			
	5	2		90		5	2		88	
	6	2				6	2			
	7	2				7	2			
	8	2				8	2			
	9	2				9	2			
30	1	2			90	1	2			
	2	2				2	2			
	3	2				3	2			
	4	2				4	2			
	5	2		93		5	2		86	
	6	2				6	2			
	7	2				7	2			
	8	2				8	2			
	9	2				9	2			
40	1	2			100	1	2			
	2	2				2	2			
	3	2				3	2			
	4	2				4	2			
	5	2		93		5	2		77	
	6	2				6	2			
	7	2				7	2			
	8	2				8	2			
	9	2				9	2			
50	1	2			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	2								
	3	2								
	4	2								
	5	2		91						
	6	2								
	7	2								
	8	2								
	9	2								

Secchi depth 0.3 (s)
Estimated?

points ranked 4-6 85 0
total points assessed 85
% points ranked 4-6 0

Check accompanying data collected at same site/date.
Algal mat sample
Linear Veg Survey
Habitat Assessment ☒
SC/Biorecon ☒
Water sample ☒
RQ- 2017-07-17-43

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: Elder Springs Run	Date: 7/19/17	County: Seminole	Storet Number: 20010294
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Signature: Pr. K. Lin

Comments: No LVS conducted $< 2m^2$ of vegetation

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.

Revision Date: March 1, 2014