Stream Bioassessment (LVS, RPS, HA, PhysChem) Calculator Version 1.0

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Division of Environment Assessment and Restoration
July 2022

Per DEP-SOP-001/01, FS 7320. Stream and River Linear Vegetation Survey (LVS) Method Effective date 4/16/2018
Per DEP-SOP-001/01, FS 7230 Rapid Periphyton Survey (RPS) Sampling Effective date 4/16/2018
Per DEP-SOP-001/01, FT 3100. Aquatic Habitat Characterization Effective date 4/16/2018
Per DEP-SOP-001/01, FT 3001. Physical/Chemical Characterization Effective date 4/16/2018

LVS Field Sheet

FD 9000-32

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

Waterbody:	Date:	County:	Storet Number:
Analyst:		Signature:	

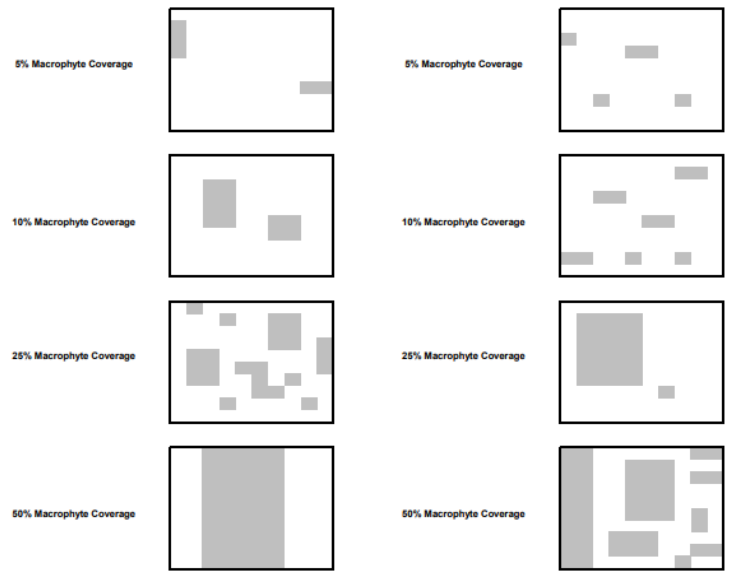
Comments:

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 0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	Specimen collected (check)	HERBACEOUS SPECIES	Meter Mark 0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	Specimen collected (check)
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											
Hydrocotle												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																							
If no Dominant or Co-Dominant were selected, indicate with "X"																							
Indicate % cover macrophytes per section																							
0-5% Macrophyte Coverage																							
>5 and ≤10% Macrophyte Coverage																							
>10 and ≤25% Macrophyte Coverage																							
>25 and ≤50% Macrophyte Coverage																							
> 50% Macrophyte Coverage																							

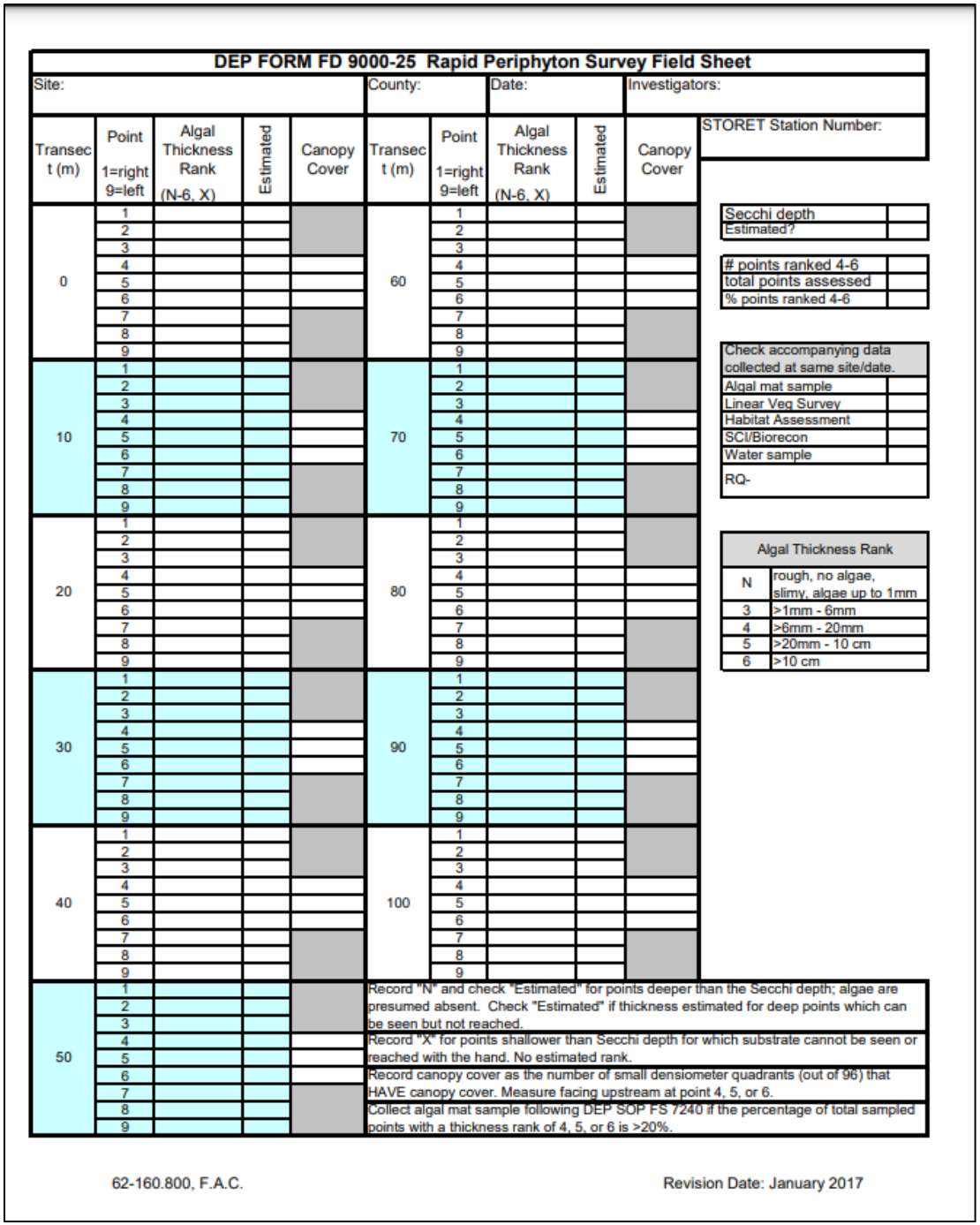
FDEP FORM FD 9000-32 LINEAR VEGETATION SURVEY FIELD SHEET

Percent Cover Categories for macrophytes in a 10 m segment of a stream 5 m wide



Rapid Periphyton Survey (RPS) Field Sheet

FD 9000-25



DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site: | County: | Date: | Investigators: | STORET Station Number:

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					5			
	6					6			
	7					7			
	8					8			
	9					9			
10	1				70	1			
	2					2			
	3					3			
	4					4			
	5					5			
	6					6			
	7					7			
	8					8			
	9					9			
20	1				80	1			
	2					2			
	3					3			
	4					4			
	5					5			
	6					6			
	7					7			
	8					8			
	9					9			
30	1				90	1			
	2					2			
	3					3			
	4					4			
	5					5			
	6					6			
	7					7			
	8					8			
	9					9			
40	1				100	1			
	2					2			
	3					3			
	4					4			
	5					5			
	6					6			
	7					7			
	8					8			
	9					9			
50	1								
	2								
	3								
	4								
	5								
	6								
	7								
	8								
	9								

Secchi depth	
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-	

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%.

62-160.800, F.A.C.

Revision Date: January 2017

Stream/River Habitat Assessment (HA) Field Sheet

FD 9000-05

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

SAMPLING AGENCY:		STORET STATION NUMBER:	DATE (MM/DD/YY):	RECEIVING BODY OF WATER:
REMARKS:	COUNTY:	LOCATION:		FIELD ID/NAME:

Habitat Parameter	Optimal	Suboptimal	Marginal	Poor
Primary Habitat Components **Substrate Diversity** ____	Four or more major productive habitats present [snags, tree roots, aquatic vegetation, leaf packs (partially decayed), rock] 20 19 18 17 16	Three major productive habitats present. Adequate habitat. Some substrates may be new fall (fresh leaves or snags) 15 14 13 12 11	Two major productive habitats present. Less than desirable habitat, frequently disturbed or removed 10 9 8 7 6	One or less major productive habitat. Lack of habitat is obvious, substrates unstable or smothered 5 4 3 2 1
Substrate Availability ____	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 ____	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 ____ --------- ------ Primary Score ____	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 **Artificial Channelization** ____	Expected sinuosity given the stream width. No evidence of dredging or artificial straightening. No spoil banks. 20 19 18 17 16	Good sinuosity within old channelized area. Evidence of dredging or straightening in the past (>25 yrs) but mostly recovered. 15 14 13 12 11	Straightened with trapezoidal cross section, but has a small degree of sinuosity developed within channelized area. 10 9 8 7 6	Straightened or engineered by dredging, has trapezoidal or box cut cross section, lacks required pools. May have spoil banks. 5 4 3 2 1
Bank Stability Right Bank ____ Left Bank ____	Bankfull > 60% of bank height. Slope of bank ≤ 60° from bankful to top of bank. Bankfull is within or above the woody root zone with few raw, eroded areas. 10 9	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 ____ Left Bank ____	Width of vegetation greater than 18 m 10 9	Width of vegetation >12 to 18m 8 7 6	Width of vegetation 6 to 12 m. human activities close to system 5 4	Less than 6 m of buffer zone due to intensive human activities 3 2 1
Riparian Zone Vegetation Quality Right Bank ____ Left Bank ____ ------ ---------- Secondary Score _____	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 7 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). 3 2 1

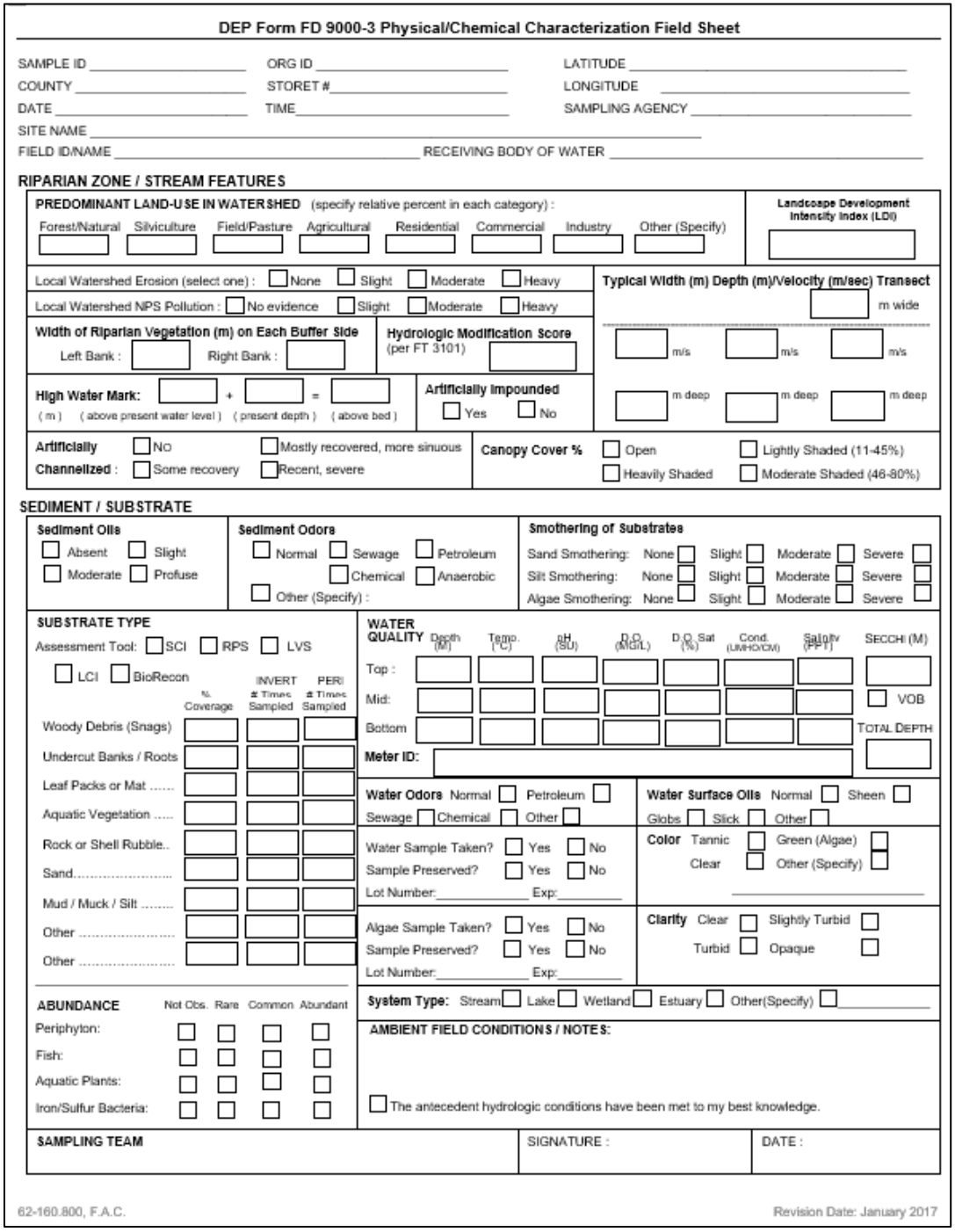
_____ **TOTAL SCORE**

Date:	Analyst:	Signature:

62-160.800, F.A.C. Revision Date: January 2017

Physical/ Chemical Characterization (PhysChem) Field Sheet

FD 9000-03



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

SAMPLE ID _____ ORG ID _____ LATITUDE _____

COUNTY _____ STORET # _____ LONGITUDE _____

DATE _____ TIME _____ SAMPLING AGENCY _____

SITE NAME _____

FIELD ID/NAME _____ RECEIVING BODY OF WATER _____

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

m wide

Width of Riparian Vegetation (m) on Each Buffer Side

Left Bank : Right Bank :

Hydrologic Modification Score (per FT 3101)

m/s m/s m/s

High Water Mark: (m) + (above present water level) (present depth) = (above bed)

Artificially Impounded ☐ Yes ☐ No

m deep m deep m deep

Artificially Channelized : ☐ No ☐ Some recovery ☐ Mostly recovered, more sinuous ☐ 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)			
Undercut Banks / Roots			
Leaf Packs or Mat			
Aquatic Vegetation			
Rock or Shell Rubble..			
Sand.....			
Mud / Muck / Silt			
Other			
Other			

WATER QUALITY

	Depth (M)	Temp. (°C)	pH (SU)	D.O. (MG/L)	D.O. Sat (%)	Cond. (UMHO/CM)	Salinity (PPT)	SECCHI (M)
Top :								
Mid:								☐ VOB
Bottom								TOTAL DEPTH

Meter ID:

Water Odors Normal ☐ Petroleum ☐ Sewage ☐ Chemical ☐ Other ☐

Water Surface Oils Normal ☐ Sheen ☐ Globs ☐ Slick ☐ Other ☐

Water Sample Taken? ☐ Yes ☐ No

Sample Preserved? ☐ Yes ☐ No

Lot Number:_____ Exp:_____

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.

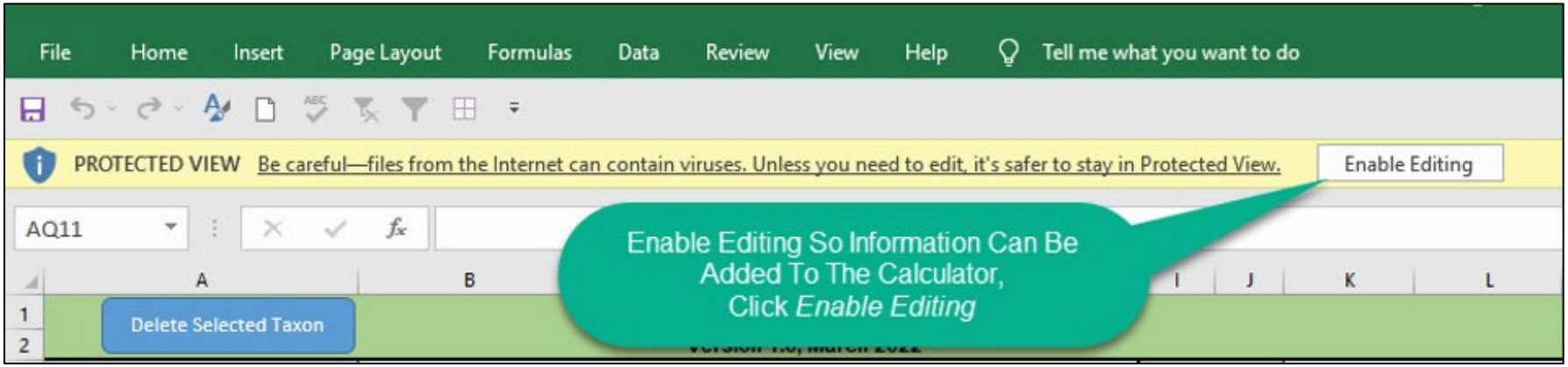
SAMPLING TEAM | SIGNATURE : | DATE :

62-160.800, F.A.C. Revision Date: January 2017

Open The Calculator

Security Warning

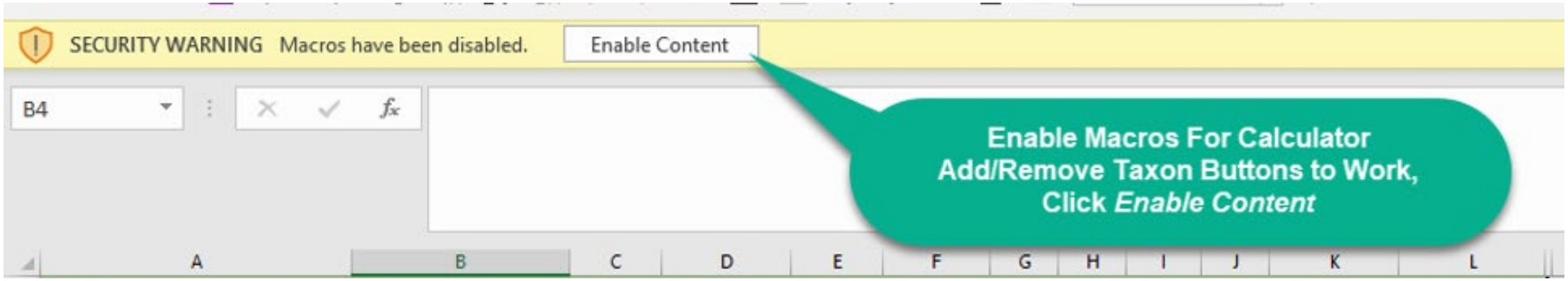
Enable Editing



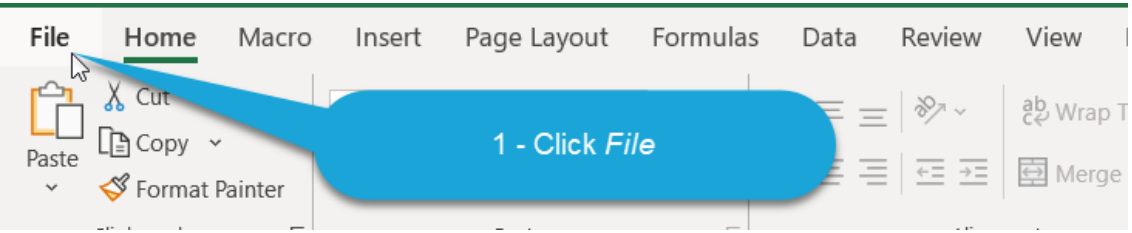
Note: Enable editing only needs to be done one time per workbook. If the workbook is saved after editing is enabled the user will not be prompted when opening the workbook in the future.

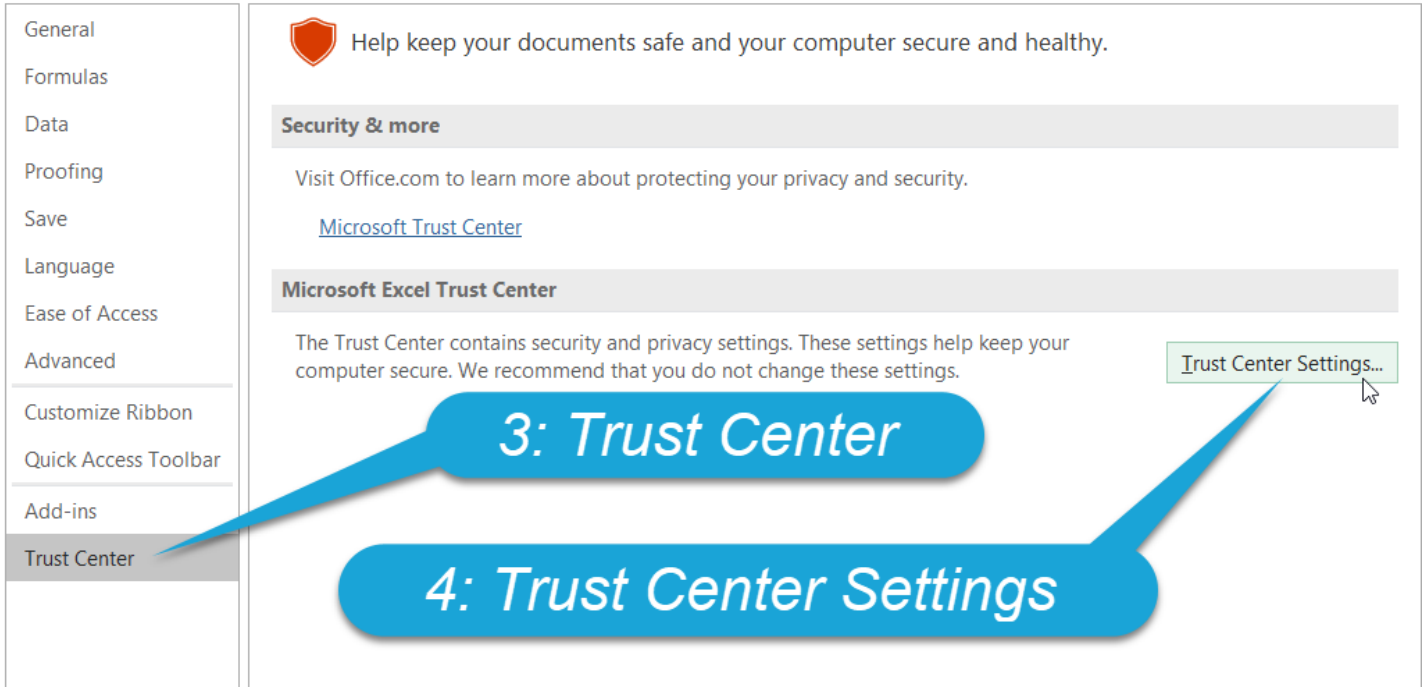
Security Warning Continued

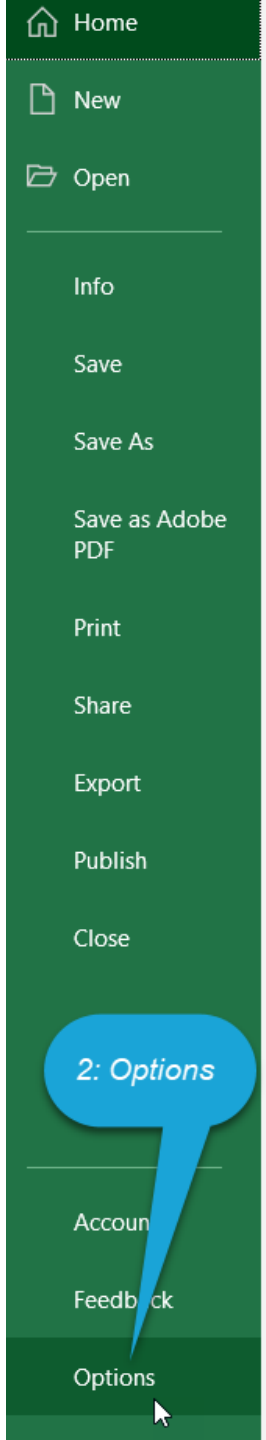
Enable Macros



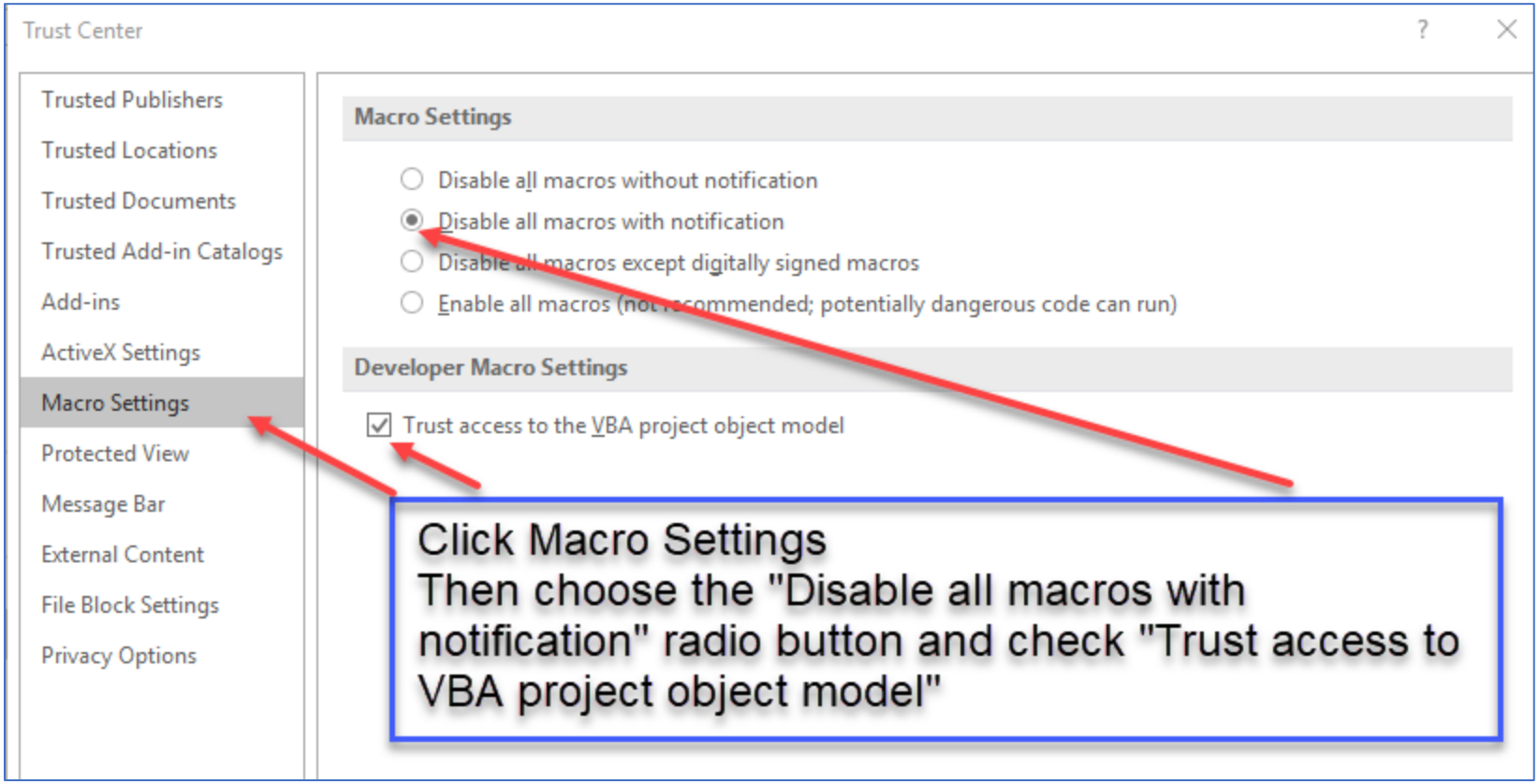
Adjusting Macro Setting







Adjusting Macro Setting Cont.



Note: Depending on the version of Excel you are running, the options in the Macro Settings dialog box may be different. If you are running Excel 2019 choose the Macro Setting "*Disable VBA macros with notification*".

Introduction to the Calculator Worksheets

1.Sample_Info, Worksheet #1

Site, Sample Information	
Sampling Entity	Jefferson County DEP
WIN Organization ID	21FLJEFF
Sampler 1 Name	Eric Boucher
Sampler 2 Name	Bob Too
List All Samplers Proficient* in the HA Method	Eric Boucher
Sample Date	7/7/2022
Waterbody Name	Caney Creek
WIN Sampling Location Description	Caney Creek at US 90
WIN Station ID	JeffCaney90
Latitude (Decimal Degrees)	30.53251
Longitude (Decimal Degrees)	-83.95074
County	Jefferson
Receiving Body Of Water:	Lake Miccosukee
LVS Completed by	Eric Boucher
HA Completed by	Bob Too
RPS Completed by	Bob Too
Water Sample Collected	Yes
Algal Sample Collected	Yes
SCI/BioRecon Collected	Yes - SCI
Site Visits Comments	Abundant beaver chews and otter scats.

The values entered in this worksheet will be used to populate the same values in the subsequent worksheets.

2.LVS_Calculator, Worksheet #2

Delete Selected Taxon	Linear Vegetation Survey Calculator Version 1.0, July 2022					LVS Sample Result	Fail
Waterbody:	Caney Creek at US 90			Sample Date:	7/7/2022	Mean CofC: 2.44	Fail
WIN/STORET ID:	JeffCaney90	County:	Jefferson	Analyst Name:	Eric Boucher	%FLEPPC: 55.10%	Fail
Greater Than 2 Square Meters of Herbaceous Aquatic Vegetation?	Yes	Data Entered By:	Bob Too	Data Reviewed By:			
		Date Data Entered:	7/8/2022	Date Reviewed:			

Use "P" to denote taxa presence, "D" to denote dominate taxa, or "C" to denote co-dominant taxa.

Taxon	Synonym(s)	CofC Score	FLEPPC Status	Wetland Status	Nativity	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	Occurrence	Occurrence of Herbaceous Wetland Taxon	Quality Check (QC) Preformed By
Alternanthera philoxeroides		0	Category 2	OBL	Exotic	P	C	D	C	P	C	P	D	C	C	10	10	
Bacopa caroliniana		4.5	-	OBL	Native		P		P	P			P	P	P	6	6	
Bacopa monnieri		3.5	-	OBL	Native											0	0	
Bidens mitis		4.5	-	OBL	Native											0	0	
Boehmeria cylindrica		5	-	OBL	Native	P		P		P	P		P		P	6	6	
Centella asiatica	*Centella erecta*	1.92	-	FACW	Native											0	0	
Ceratophyllum demersum		4.16	-	OBL	Native									P		1	1	
Chara		3.9	-	OBL	Native											0	0	
Cicuta maculata	*Cicuta mexicana*	4.54	-	OBL	Native				P		P	P			P	4	4	
Cladium jamaicense		8	-	OBL	Native				P	D	P	P		P		5	5	
Colocasia esculenta		0	Category 1	OBL	Exotic	D	C	P	C	P	C	D	P	C	C	10	10	
Commelina diffusa		2.02	-	FACW	Exotic											0	0	
Commelina virginica		4.67	-	FACW	Native											0	0	
Crinum americanum		9	-	OBL	Native											0	0	
Diodia virginiana		3	-	FACW	Native											0	0	
Eichhornia crassipes		0	Category 1	OBL	Exotic	P	P			P	P	P		P	P	7	7	

The user will enter taxon observations from the LVS Field Sheet (FD 9000-32) into this worksheet. The Mean CofC and %FLEPPC scores are automatically calculated.

3.LVS_Taxa, Worksheet #3

Add Taxon	To Add Taxon to Calculator: Select taxon under column A on THIS Sheet, Then click Add Taxon Button				
Taxon	**Synonym(s)**	**CofC Score**	**FLEPPC Status**	**Wetland Status**	**Nativity**
Abelmoschus	-	-	-	-	-
Abelmoschus esculentus	-	-	-	-	-
Abelmoschus manihot	-	-	-	-	-
Abelmoschus moschatus	-	-	-	-	-
Abies	-	-	-	-	-
Abies balsamea	-	-	-	-	-
Abietaceae	-	-	-	-	-
Abildgaardia	-	-	-	-	-
Abildgaardia ovata	-	-	-	FACW	Native
Abronia	-	-	-	-	-
Abronia alpina	-	-	-	-	-
Abronia ameliae	-	-	-	-	-
Abronia angustifolia	-	-	-	-	-
Abronia bigelovii	-	-	-	-	-
Abronia carletonii	-	-	-	-	-
Abronia elliptica	-	-	-	-	-
Abronia fragrans	-	-	-	-	-
Abronia gracilis	-	-	-	-	-
Abronia insularis	-	-	-	-	-

Taxa not on the LVS Calculator worksheet can be added from this worksheet.

This is the same taxa list as the taxa table in the Department's Statewide Biological Database (SBIO2).

4.RPS Worksheet #4

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site:	County:	Date:	Investigator:
Caney Creek at US 90	Jefferson	7/7/2022	Bob Too

Transect (m)	Point 1=right 9=left	Algal Thickness Rank (N-6, X)	Estimated (Y/N)	Canopy Cover	Transect (m)	Point 1=right 9=left	Algal Thickness Rank (N-6, X)	Estimated (Y/N)	Canopy Cover
0	1				60	1			
	2					2			
	3					3			
	4					4			
	5					5			
	6					6			
	7					7			
	8					8			
	9					9			
10	1				70	1			
	2					2			
	3					3			
	4					4			
	5					5			
	6					6			
	7					7			
	8					8			
	9					9			

WIN/STORET Station ID: JeffCaney90

Secchi depth	
Estimated?	

# points ranked 4-6	**0**
total points assessed	**0**
% points ranked 4-6	**-**
RPS Result	**No Observations**

Check accompanying data collected at same site/date.	
Algal mat sample	**Yes**
Linear Veg Survey	**Yes**
Habitat Assessment	**Yes**
SCI/Biorecon	**Yes - SCI**
Water sample	**Yes**

The user will enter taxon observations from the RPS Field Sheet (FD 9000-25) into this worksheet. The percentage of points ranked 4-6 is automatically calculated.

5.HA_Stream_River Worksheet #5

DEP Form FD 9000-5 Stream/River Habitat Assessment Field Sheet				
SAMPLING AGENCY:		**WIN/STORET STATION ID:**	**DATE (MM/DD/YY):**	**RECEIVING BODY OF WATER:**
Jefferson County DEP		JeffCaney90	7/7/2022	Lake Miccosukee
REMARKS:	**COUNTY:**	**LOCATION:**		**FIELD ID/NAME:**
	Jefferson	Caney Creek at US 90		

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: 4	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
				4
Substrate Availability: 15	Greater than 30% major productive habitat present at site	16% to 30% major productive habitat, by aerial extent	6% to 15% major productive habitat	Less than 5% major productive habitat
	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
		15		
Water Velocity: 13	Max. observed at typical transect: > 0.25 m/sec. But < 1 m/sec	Max. observed at typical transect: >0.1 to 0.25 m/sec	Max. observed at typical transect: 0.05 to 0.1 m/sec	Max. observed at typical transect: <0.05 m/sec; or spate occurring: > 1 m/sec
	≥0.33 0.31 0.29 0.27 >0.25 20 19 18 17 16	0.25 0.21 0.17 0.13 >0.1 15 14 13 12 11	0.1 0.09 0.07 0.06 0.05 10 9 8 7 6	<0.05 0.04 0.03 0.01 <0.01 5 4 3 2 1

The user will enter habitat component values from the HA Field Sheet (FD 9000-05) into this worksheet. The primary, secondary and total HA scores are automatically calculated.

6.PhysChem Worksheet #6

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

SAMPLE ID		ORG ID	21FLJEFF	LATITUDE	30.53251
COUNTY	Jefferson	WIN #	JeffCaney90	LONGITUDE	-83.95074
DATE	7/7/2022	TIME		SAMPLING AGENCY	Jefferson County DEP
SITE NAME	Caney Creek at US 90				
FIELD ID/NAME		RECEIVING BODY OF WATER	Lake Miccosukee		

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 Above)

Landscape Development Intensity Index (LDI)

Local Watershed Erosion (select one): ☐ None ☐ Slight ☐ Moderate ☐ Heavy

Local Watershed NPS Pollution : ☐ No evidence ☐ Slight ☐ Moderate ☐ Heavy

Width of Riparian Vegetation (m) on Each Buffer Side

Left Bank: Right Bank:

Hydrologic Modification Score (per FT 3101)

High Water Mark: (m) (above present water level) + present depth) = (above bed)

Artificially Impounded ☐ Yes ☐ No

Typical Width (m) Depth (m)/Velocity (m/sec) Transect

m wide

m/s m/s m/s

m deep m deep m deep

Artificially Channelized: ☐ No ☐ Some Recovery ☐ Mostly recovered, more sinuous ☐ Recent, severe

Canopy Cover % ☐ Open ☐ Heavily Shaded ☐ Lightly Shaded (11-45%) ☐ Moderate Shaded (46-80%)

The user will enter observations from the PhysChem Field Sheet FD 9000-03 into this worksheet.

7.ExternalBioFormat, Worksheet #7

WIN ORGANIZATION ID	WIN STATION NUMBER	STATION NAME	STATION DESCRIPTION	PRIMARY TYPE	WATERBODY NAME	LATITUDE	LONGITUDE	SAMPLE DATE	METRIC	RESULT	FIELD COMMENT	COLLECTOR	METRIC PROFICIENCY	SAMPLING ENTITY	LAB NAME
21FLJEFF	JeffCaney90	Caney Creek at US 90	Caney Creek at US 90	Stream	Caney Creek	30.53251	-83.95074	7/7/2022	HA (Substrate Diversity)	4		Bob Too	Eric Boucher	Jefferson County DEP	
21FLJEFF	JeffCaney90	Caney Creek at US 90	Caney Creek at US 90	Stream	Caney Creek	30.53251	-83.95074	7/7/2022	HA (Substrate Availability)	15		Bob Too	Eric Boucher	Jefferson County DEP	
21FLJEFF	JeffCaney90	Caney Creek at US 90	Caney Creek at US 90	Stream	Caney Creek	30.53251	-83.95074	7/7/2022	HA (Water Velocity)	13		Bob Too	Eric Boucher	Jefferson County DEP	
21FLJEFF	JeffCaney90	Caney Creek at US 90	Caney Creek at US 90	Stream	Caney Creek	30.53251	-83.95074	7/7/2022	HA (Habitat Smothering)	6		Bob Too	Eric Boucher	Jefferson County DEP	
21FLJEFF	JeffCaney90	Caney Creek at US 90	Caney Creek at US 90	Stream	Caney Creek	30.53251	-83.95074	7/7/2022	HA (Primary Score)	38		Bob Too	Eric Boucher	Jefferson County DEP	
21FLJEFF	JeffCaney90	Caney Creek at US 90	Caney Creek at US 90	Stream	Caney Creek	30.53251	-83.95074	7/7/2022	HA (Artificial Channelization)	6		Bob Too	Eric Boucher	Jefferson County DEP	
21FLJEFF	JeffCaney90	Caney Creek at US 90	Caney Creek at US 90	Stream	Caney Creek	30.53251	-83.95074	7/7/2022	HA (Bank Stability - right bank)	4		Bob Too	Eric Boucher	Jefferson County DEP	
21FLJEFF	JeffCaney90	Caney Creek at US 90	Caney Creek at US 90	Stream	Caney Creek	30.53251	-83.95074	7/7/2022	HA (Bank Stability - left bank)	5		Bob Too	Eric Boucher	Jefferson County DEP	
21FLJEFF	JeffCaney90	Caney Creek at US 90	Caney Creek at US 90	Stream	Caney Creek	30.53251	-83.95074	7/7/2022	HA (Riparian Buffer Zone Width - right bank)	3		Bob Too	Eric Boucher	Jefferson County DEP	
21FLJEFF	JeffCaney90	Caney Creek at US 90	Caney Creek at US 90	Stream	Caney Creek	30.53251	-83.95074	7/7/2022	HA (Riparian Buffer Zone Width - left bank)	3		Bob Too	Eric Boucher	Jefferson County DEP	
21FLJEFF	JeffCaney90	Caney Creek at US 90	Caney Creek at US 90	Stream	Caney Creek	30.53251	-83.95074	7/7/2022	A (Riparian Zone Vegetation Quality - right ban	5		Bob Too	Eric Boucher	Jefferson County DEP	
21FLJEFF	JeffCaney90	Caney Creek at US 90	Caney Creek at US 90	Stream	Caney Creek	30.53251	-83.95074	7/7/2022	IA (Riparian Zone Vegetation Quality - left bank	1		Bob Too	Eric Boucher	Jefferson County DEP	
21FLJEFF	JeffCaney90	Caney Creek at US 90	Caney Creek at US 90	Stream	Caney Creek	30.53251	-83.95074	7/7/2022	HA (Secondary Score)	27		Bob Too	Eric Boucher	Jefferson County DEP	
21FLJEFF	JeffCaney90	Caney Creek at US 90	Caney Creek at US 90	Stream	Caney Creek	30.53251	-83.95074	7/7/2022	Habitat Assessment Score	65		Bob Too	Eric Boucher	Jefferson County DEP	
21FLJEFF	JeffCaney90	Caney Creek at US 90	Caney Creek at US 90	Stream	Caney Creek	30.53251	-83.95074	7/7/2022	Avg_CofC_LVS	2.44		Eric Boucher	N/A	Jefferson County DEP	
21FLJEFF	JeffCaney90	Caney Creek at US 90	Caney Creek at US 90	Stream	Caney Creek	30.53251	-83.95074	7/7/2022	FLEPPCPct_LVS	55%		Eric Boucher	N/A	Jefferson County DEP	
21FLJEFF	JeffCaney90	Caney Creek at US 90	Caney Creek at US 90	Stream	Caney Creek	30.53251	-83.95074	7/7/2022	LVS_LESS_2SQM			Eric Boucher	N/A	Jefferson County DEP	
21FLJEFF	JeffCaney90	Caney Creek at US 90	Caney Creek at US 90	Stream	Caney Creek	30.53251	-83.95074	7/7/2022	RPS	65%		Bob Too	N/A	Jefferson County DEP	
21FLJEFF	JeffCaney90	Caney Creek at US 90	Caney Creek at US 90	Stream	Caney Creek	30.53251	-83.95074	7/7/2022	SCI					Jefferson County DEP	

↑ Values in **cells with no fill color** above are referencing values in the other worksheets.
These cells are auto populate so they do not need to be filled out manually.

Submitting Bioassessment Data

Data providers who would like to submit LVI data to help support the Department's Impaired Waters assessment can copy the auto calculated values in this worksheet into the Watershed Assessment Sections Bioassessment Data Template.

The department is requesting external data providers who would like to submit applicable bioassessment data to help support the department's Impaired Waters assessment. Please download and complete the **Bioassessment Data Template**, available as a Microsoft Excel worksheet (.xlsx). Once the template has been completed with the required information, please submit the worksheet and any supporting documentation (field sheets, photos, etc.) by email to **Kevin O'Donnell**.

Entities submitting data to DEP must meet the applicable bioassessment proficiency demonstrations set forth on the **Bioassessment Training, Evaluation and Quality Assurance Web Page**, follow the department's Quality Assurance requirements for field activities as codified in Chapter 62-160, Florida Administrative Code (F.A.C.), and the incorporated DEP Standard Operating Procedures. For external bioassessment data to be considered as part of the assessment, data providers must be in the applicable Active status for LVI, BioRecon, SCI and/or Habitat Assessment certification at the time of sample collection. While the online RPS and LVS tests are not

Data providers who plan to submit stream bioassessment data to help support the Department's Impaired Waters assessment can copy the auto-calculated values in this worksheet into the Watershed Assessment Section's Bioassessment Data Template. Information regarding the Watershed Assessment Section's Bioassessment Data Template and a hyperlink to the section's website are provided in the calculator.

Using the Calculator

Adding Information To The Calculator

Note: Cells With **Blue** Fill Color Are Editable.

Sample Info Worksheet

Organization and Personnel

Site, Sample Information	
Sampling Entity	Jefferson County DEP
WIN Organization ID	21FLJEFF
Sampler 1 Name	Eric Boucher
Sampler 2 Name	Bob Too
List All Samplers Proficient* in the HA Method	Eric Boucher

The user will enter the organization and personnel information for the sampler(s) that conducted the stream bioassessments.

Customize the Calculator:
Save a copy with the sampling entity and WIN Organization ID information populated with your organization's information.

Note: All the information in the Site Info worksheet will be used to auto-populate values in the subsequent worksheets.

Site Info Worksheet

Date, Site Attributes, & Samples Collected

Sample Date	7/7/2022	
Waterbody Name	Caney Creek	
WIN Sampling Location Description	Caney Creek at US 90	
WIN Station ID	JeffCaney90	
Latitude (Decimal Degrees)	30.53251	
Longitude (Decimal Degrees)	-83.95074	
County	Jefferson	
Receiving Body Of Water:	Lake Miccosukee	
LVS Completed by	Eric Boucher	
HA Completed by	Bob Too	
RPS Completed by	Bob Too	
Water Sample Collected	Yes	*Dropdown*
Algal Sample Collected	Yes	*Dropdown*
SCI/BioRecon Collected	Yes - SCI	*Dropdown*

Note: All the information in the Site Info worksheet will be used to auto-populate values in the subsequent worksheets.

Site Info Worksheet continued

Latitude and Longitude (Decimal Degrees)

The coordinates must be entered in decimal degrees format.

Latitude (Decimal Degrees)	30.563198
Longitude (Decimal Degrees)	-83.969362

Coordinates recorded in Degrees Minutes Second on the field sheet(s) can be converted to decimal degrees by the user with the Geographic Coordinate Converter. Enter the degrees, minutes and seconds and the decimal degree will be calculated.

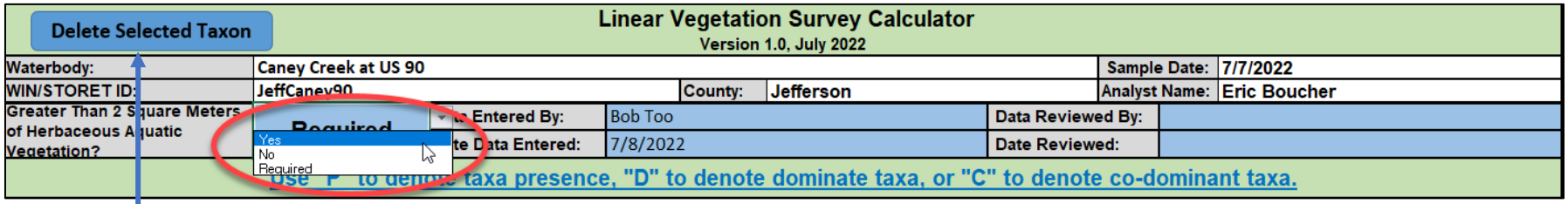
Geographic Coordinate Converter

x/y	Degrees	Minutes	Seconds	Decimal Degrees
LATITUDE	30	33	47.5128	30.563198
LONGITUDE	-83	58	9.7032	-83.969362

LVS Calculator

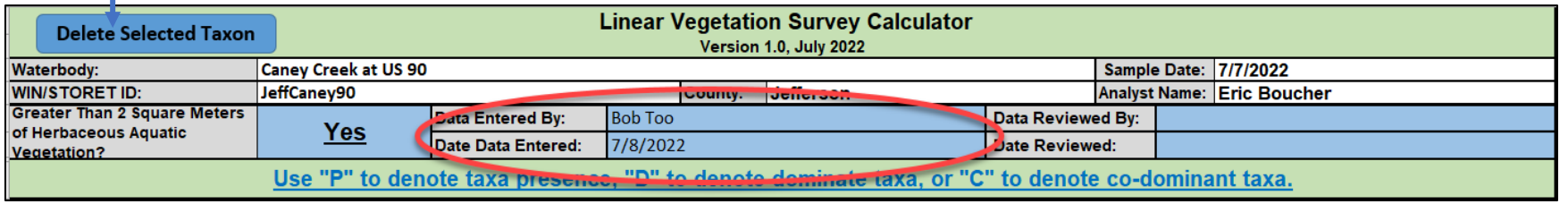
Top Section: LVS Vegetation Areal Coverage

The user selects, from the dropdown list, if the areal coverage of herbaceous aquatic vegetation was greater than 2 square meters.



The *Delete Selected Taxon Button* Will be covered later

The user adds their name and the current date



Note: The LVS CofC and % FLEPPC scores are not calculated if the areal coverage field is not “Yes”. If “No” is selected the final LVS result will be “Pass”.

LVS Calculator continued

Adding Taxa Observations

Use "P" to denote taxa presence, "D" to denote dominant taxa, or "C" to denote co-dominant taxa.

Taxon	Synonym(s)	CofC Score	FLEPPC Status	Wetland Status	Nativity	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Alternanthera philoxeroides		0	Category 2	OBL	Exotic	P		C	P	P		P	C	C	P
Bacopa caroliniana		4.5	-	OBL	Native			P	P	C	C	P	P		
Bacopa monnieri		3.5	-	OBL	Native	P	P			P		P	P		
Boehmeria cylindrica		5	-	OBL	Native	P	P				P			P	C
Cicuta maculata	*Cicuta mexicana*	4.54	-	OBL	Native	D	C								
Cladium jamaicense		8	-	OBL	Native				D	C	C			P	C
Eichhornia crassipes		0	Category 1	OBL	Exotic	P	C	C	P					P	
Saur		6.5	-	OBL	Native					P	P	D	C	C	P

Find the Taxon in Column A or its Synonym in Column B

In the corresponding Row
Use "P" to denote the taxon Presence,
Use "D" to denote the taxon if it was Dominant,
Use "C" to denote the taxon if it was Co-dominant
for each of the 10 stream sampling units.

Note: The attributes CofC Score, FLEPPC Status, Wetland Status, Nativity, associated with each taxon are provided for informational purposes.

LVS Calculator taxa

Occurrence vs. Occurrence of Herbaceous Wetland Taxon

Taxon	Synonym(s)	CofC Score	FLEPPC Status	Wetland Status	Nativity	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	Occurrence	Occurrence of Herbaceous Wetland Taxon
Acer rubrum	-	4.65	-	FACW	Native	P	P	P	P	P	P	P	P	P	P	10	0
Alternanthera philoxeroides		0	Category 2	OBL	Exotic	P	C	D	C	P	C	P	D	C	C	10	10
Bacopa caroliniana		4.5	-	OBL	Native		P		P	P			P	P	P	6	6
Cladium jamaicense		8	-	OBL	Native				P	D	P	P		P		5	5
Colocasia esculenta		0	Category 1	OBL	Exotic	D	C	P	C	P	C	D	P	C	C	10	10
Eichhornia crassipes		0	Category 1	OBL	Exotic	P	P			P	P	P		P	P	7	7
Ostrya virginiana	*Ostrya virginiana*	5.91	-	UPL	Native	P						P				2	0
Ricinus communis	-	0	Category 2	UPL	Exotic	p						p	p			3	0

Note: All taxa denoted with a "P", "C" or "D" will be tallied in the "**Occurrence**" Column. Only taxa used in the LVS metric calculations will be tallied in the "**Occurrence of Herbaceous Wetland Taxon**" column. In the example above *Ostrya virginiana* and *Ricinus communis* are not tallied in the "**Occurrence of Herbaceous Wetland Taxon**" column because they are wetland status UPL. *Acer rubrum* is not tallied in the "**Occurrence of Herbaceous Wetland Taxon**" column because it falls into the tree or shrub category.

Per FS 7320 6.2

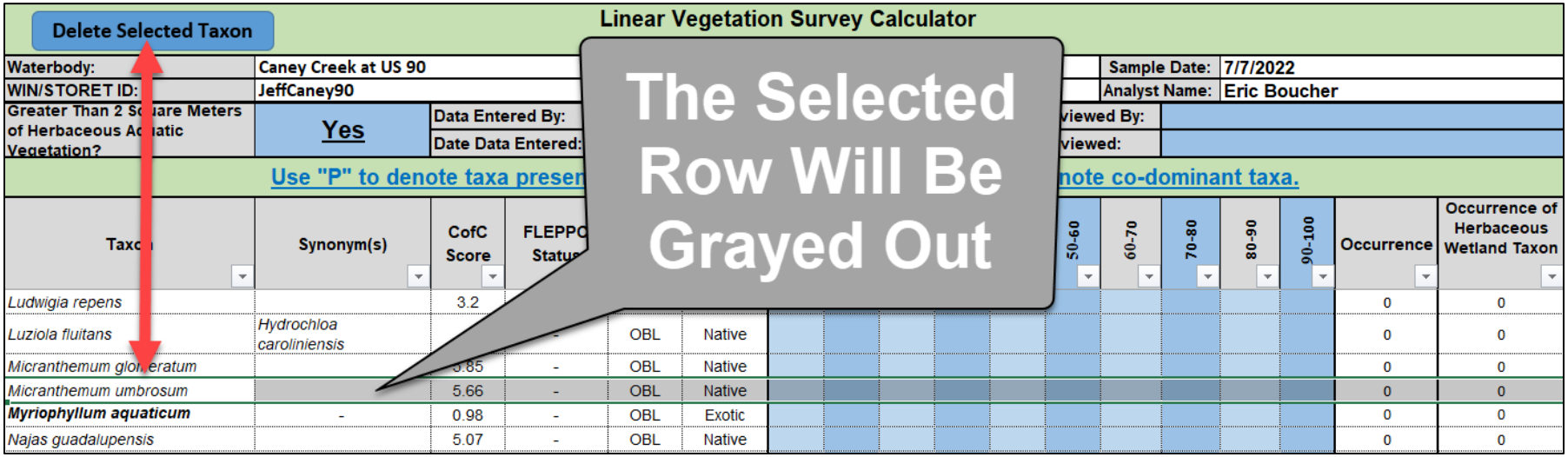
- Identify aquatic (OBL) and wetland plants (FAC, FACW) to the lowest practical taxonomic level, as described in Section 4.2 of the LVI Primer.
- When this method (LVS) is used to determine floral health associated with Chapter 62-302.531, F.A.C., do not include tree or shrub taxa unless they can also have a forb/herb growth form.

Taxa not used in the LVS metric calculation were included in the LVS Taxa list of this calculator because these taxa are in the FDEP Statewide Biological Database (SBIO).

Removing Taxa from the Calculator

The Delete Selected Taxon Button

The user can remove taxa rows from the LVS Calculator by selecting a taxon row and then clicking the *Delete Selected Taxon* button.



Waterbody:	Caney Creek at US 90						Sample Date:	7/7/2022
WIN/STORET ID:	JeffCaney90						Analyst Name:	Eric Boucher
Greater Than 2 Square Meters of Herbaceous Aquatic Vegetation?	Yes	Data Entered By:					Reviewed By:	
		Date Data Entered:					Reviewed:	

Use "P" to denote taxa present. Use "D" to denote co-dominant taxa.

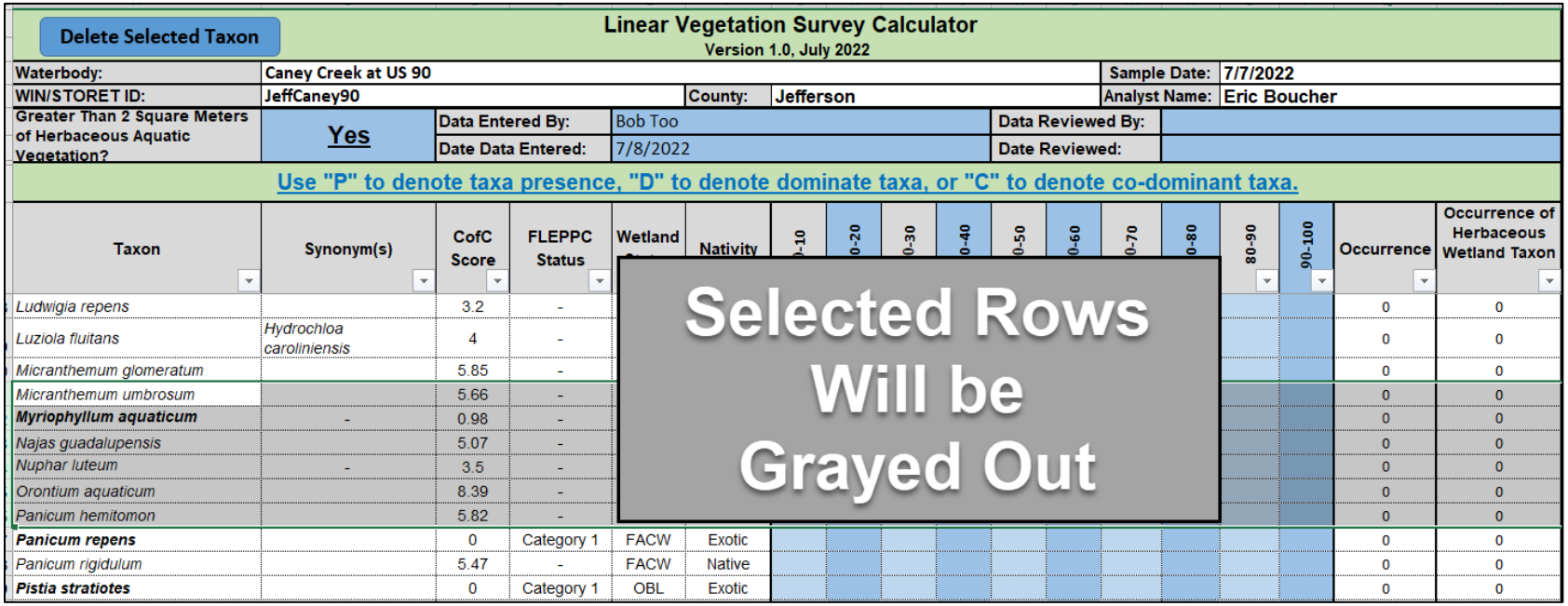
Taxon	Synonym(s)	CofC Score	FLEPPC Status			50-60	60-70	70-80	80-90	90-100	Occurrence	Occurrence of Herbaceous Wetland Taxon
Ludwigia repens		3.2									0	0
Luziola fluitans	*Hydrochloa caroliniensis*		-	OBL	Native						0	0
Micranthemum glomeratum		3.85	-	OBL	Native						0	0
Micranthemum umbrosum		5.66	-	OBL	Native						0	0
Myriophyllum aquaticum	-	0.98	-	OBL	Exotic						0	0
Najas guadalupensis		5.07	-	OBL	Native						0	0

Note: Taxa without observations ("P", "D", "C") **do not** need to be removed for the LVS results to be calculated. Removing taxa rows is for visual or customization purposes only.

Removing Multiple Taxa from the Calculator

The Delete Selected Taxon Button

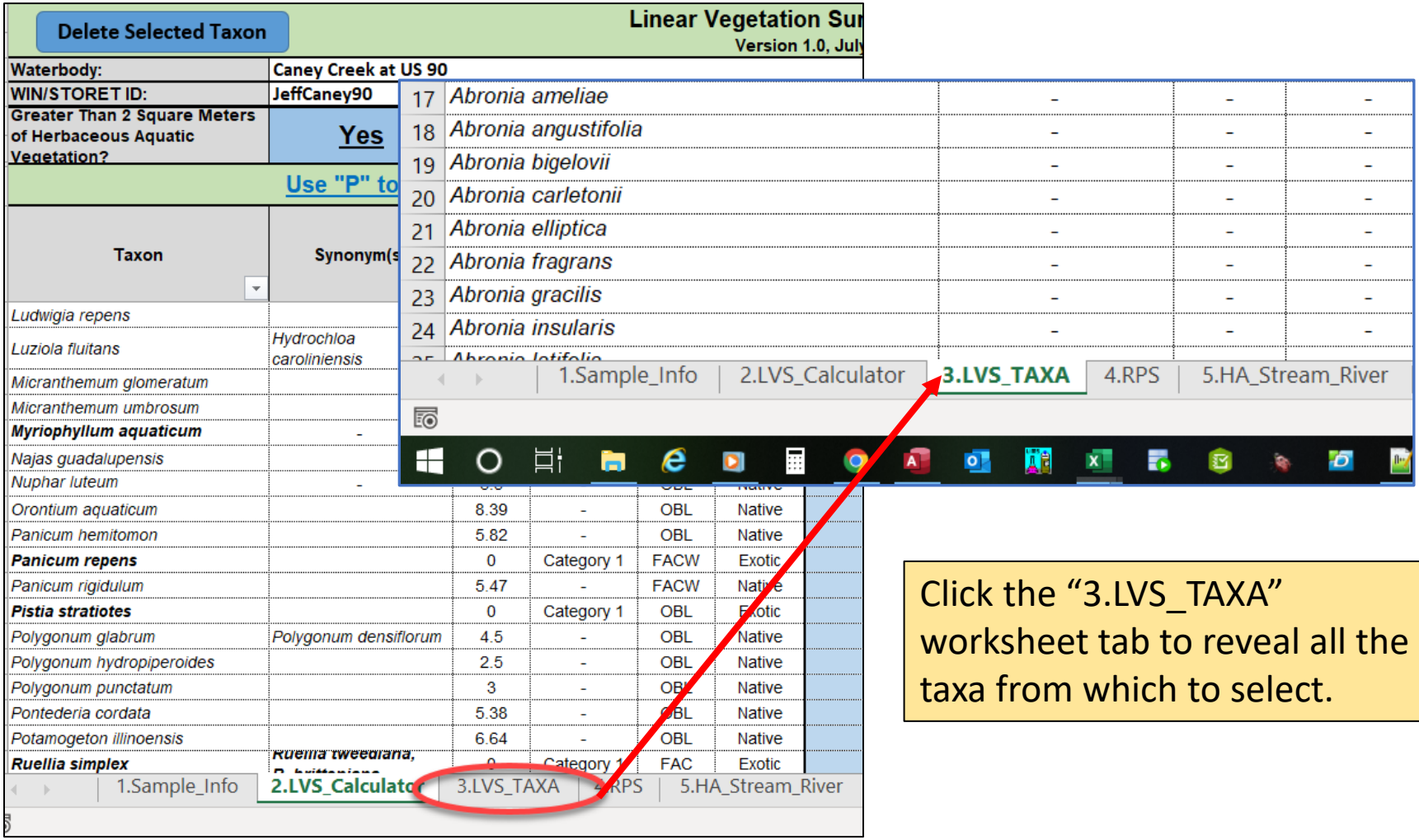
The user can remove **more than one** taxa row from the LVS Calculator by selecting multiple taxon rows and then clicking the *Delete Selected Taxon* button.



Customize the Calculator: Remove the taxa unlikely to be found in your area and save a copy of the calculator.

Adding Taxa: Step 1

Adding Taxa to the LVS Calculator



Click the "3.LVS_TAXA" worksheet tab to reveal all the taxa from which to select.

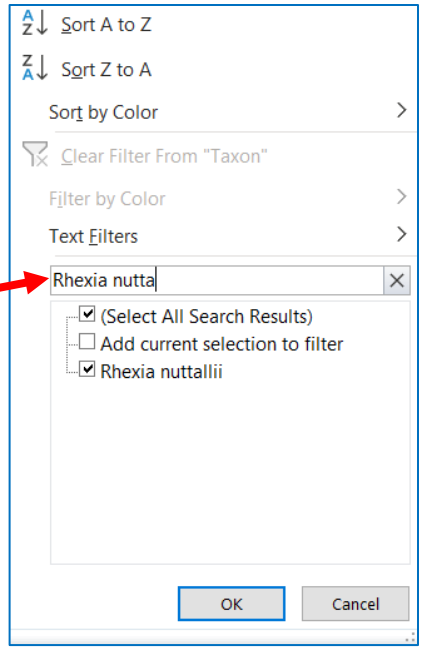
Adding Taxa: Step 2

Find The Desired Taxon

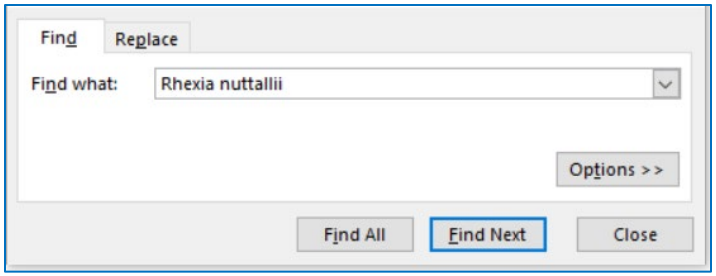
Taxa are listed in Column “A”.

The desired taxon can be found 3 ways:

1. Searching Column “A” (Taxon) and “B” (Synonym(s)) with the data filter search function.



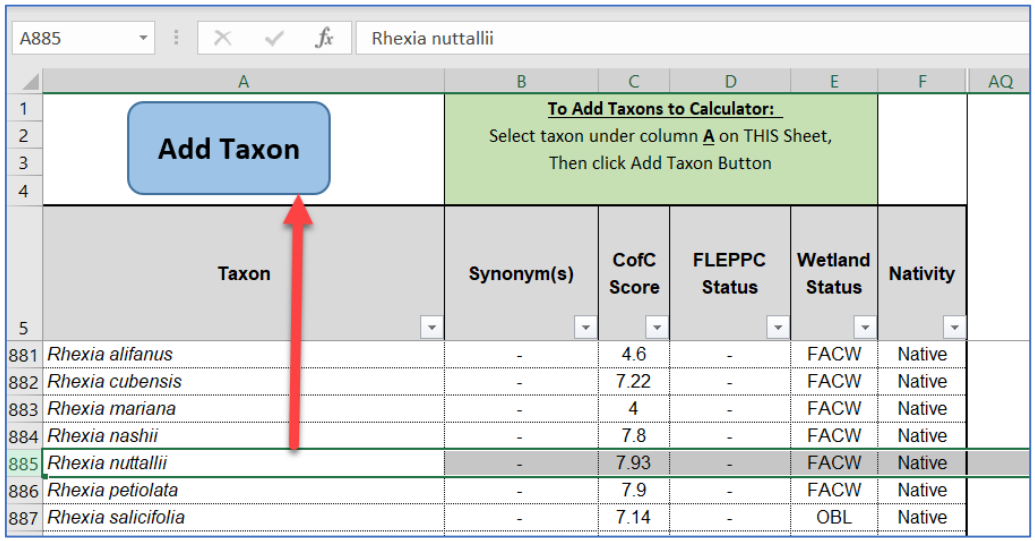
2. Use Excel’s Find function, Ctrl+F. Type the name in the search bar and click *Find Next.*



3. By scrolling through the list.
   - Not recommended because there are over 1000 taxa.

Adding Taxa: Step 3

Select Desired Taxon and Add



	Taxon	Synonym(s)	CofC Score	FLEPPC Status	Wetland Status	Nativity
881	*Rhexia alifanus*	-	4.6	-	FACW	Native
882	*Rhexia cubensis*	-	7.22	-	FACW	Native
883	*Rhexia mariana*	-	4	-	FACW	Native
884	*Rhexia nashii*	-	7.8	-	FACW	Native
885	*Rhexia nuttallii*	-	7.93	-	FACW	Native
886	*Rhexia petiolata*	-	7.9	-	FACW	Native
887	*Rhexia salicifolia*	-	7.14	-	OBL	Native

Select the Row or Cell with the desired taxon.

In this example Row 885 or Cell A885.

Click the *Add Taxon* Button

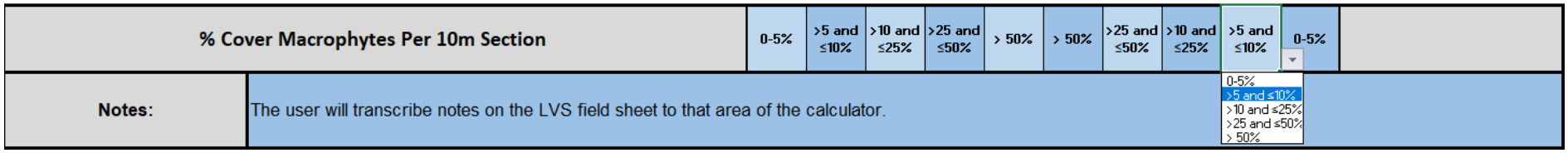
The new taxon will be inserted alphabetically in the calculator. The new taxon row will be selected to make it easier to find.

Taxon	Synonym(s)	CofC Score	FLEPPC Status	Wetland Status	Nativity	2	5	8	11
Polygonum punctatum	-	3.00	-	OBL	Native	-	-	-	-
Pontederia cordata	-	5.38	-	OBL	Native	-	-	-	-
Potamogeton diversifolius	-	6.00	-	OBL	Native	-	-	-	-
Potamogeton illinoensis	-	6.64	-	OBL	Native	-	-	-	-
Potamogeton pectinatus	-	7.80	-	OBL	Native	-	-	-	-
Potamogeton pusillus	-	7.80	-	OBL	Native	-	-	-	-
Proserpinaca pectinata	-	5.50	-	OBL	Native	-	-	-	-
Rhexia nuttallii	-	7.93	-	FACW	Native	-	-	-	-
Rhynchospora corniculata	-	4.00	-	OBL	Native	-	-	-	-
Rhynchospora inundata	-	4.00	-	OBL	Native	-	-	-	-

LVS Calculator Data

Entry Continued

The user will rate the total abundance of macrophytes in each 10 m section into one of the following categories: 0-5%, >5 and ≤10%, >10 and ≤25%, >25 and ≤50%, >50%.



The user will transcribe any notes from the LVS field sheet into the designated “Notes:” cell of the calculator.

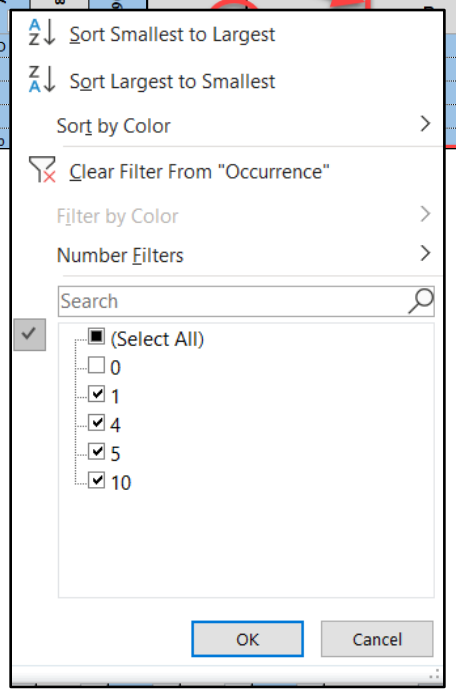
Data Entry Quality Assurance Review

After the data entry is completed, a second person should review calculator and verify the records were transcribed correctly. The reviewer will record their name and the review date in the applicable fields near the top of the calculator. In column “Y” Quality Check (QC) Performed By, the reviewer will initial each row after they have verified the data entry for the taxon in that row is correct.

Greater Than 2 Square Meters of Herbaceous Aquatic Vegetation?	Yes	Data Entered By:	Bob Too	Data Reviewed By:	Don Brewer
		Date Data Entered:	7/8/2022	Date Reviewed:	7/11/2022

Use "P" to denote taxa presence, "D" to denote dominate taxa, or "C" to denote co-dominant taxa.

Taxon	Synonym(s)	CofC Score	FLEPPC Status	Wetland Status	Nativity	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	Occurrence	Occurrence of Herbaceous Wetland	Quality Check (QC) Preformed
Alternanthera philoxeroides		0	Category 2	OBL	Exotic	P	C	D	C	P	C	P	D					
Ceratophyllum demersum		4.16	-	OBL	Native													
Cicuta maculata	*Cicuta mexicana*	4.54	-	OBL	Native				P		P	P						
Cladium jamaicense		8	-	OBL	Native				P	D	P	P						
Colocasia esculenta		0	Category 1	OBL	Exotic	p	p	p	p	p	p	p	p					



The reviewer can use the data filters to only view the taxa with observations (“P”, “D”, “C”) in the calculator. Open the data filter for the “Occurrence” column, Column “Q”, and uncheck the box next to the number 0. Then click the *OK* button.

LVS Results

Delete Selected Taxon	Linear Vegetation Survey Calculator Version 1.0, July 2022					LVS Sample Result		Pass
Waterbody:	Caney Creek at US 90			Sample Date:	7/7/2022	Mean CofC:	3.58	Pass
WIN/STORET ID:	JeffCaney90	County:	Jefferson	Analyst Name:	Eric Boucher	%FLEPPC:	20.0%	Pass
Greater Than 2 Square Meters of Herbaceous Aquatic Vegetation?	Yes	Data Entered By:	Bob Too	Data Reviewed By:	Don Brewer			
		Date Data Entered:	7/8/2022	Date Reviewed:	7/11/2022			
Use "P" to denote taxa presence, "D" to denote dominant taxa, or "C" to denote co-dominant taxa.								

LVS Sample Result		Pass
Mean CofC:	3.58	Pass
%FLEPPC:	20.0%	Pass

The LVS metric scores and the LVS result are displayed at the top right of the calculator.

Rapid Periphyton Survey (RPS)

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site:	County:	Date:	Investigator:
Caney Creek at US 90	Jefferson	7/7/2022	Bob Too

Transect (m)	Point 1=right 9=left	Algal Thickness Rank (N-6, X)	Estimated (Y/N)	Canopy Cover	Transect (m)	Point 1=right 9=left	Algal Thickness Rank (N-6, X)	Estimated (Y/N)	Canopy Cover
0	1	6	N		60	1	N	N	
	2	3	N			2	N	N	
	3	4	N			3	N	N	
	4	N	N			4	N	N	
	5	6	N	96		5	N	N	84
	6	N	N			6	N	N	
	7	6	N			7	N	N	
	8	5	N			8	N	N	

WIN/STORET Station ID: JeffCaney90

Secchi depth (m)	0.4
Estimated?	No

# points ranked 4-6	**16**
total points assessed	**99**
% points ranked 4-6 (%)	**16**
RPS Result	**Pass**

The site name, WIN ID, county, date and investigator values are auto-populated with the values entered in the 1.Site_Info worksheet.

The user will use the transcribe the *Algal Thickness Rank*, *Estimated (Y/N)*, and *Canopy Cover* for each transect and the secchi depth measurement from the RPS field sheet.

The number of points ranked 4-6 and the total points assessed are tallied, and the percentage of points ranked 4-6 is calculated for the user.

Stream/River Habitat Assessment (HA)

DEP Form FD 9000-5 Stream/River Habitat Assessment Field Sheet				
SAMPLING AGENCY:		WIN/STORET STATION ID:	DATE (MM/DD/YY):	RECEIVING BODY OF WATER:
Jefferson County DEP		JeffCaney90	7/7/2022	Lake Miccosukee
REMARKS:	COUNTY:	LOCATION:		FIELD ID/NAME:
	Jefferson	Caney Creek at US 90		

The sampling agency, WIN ID, date, receiving body of water, county and site location description values are auto-populated with the values entered in the 1.Site_Info worksheet.

The user will use transcribe comments from the HA field sheets and if applicable the Field ID.

Stream/River HA Primary Habitat Components

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: 4	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
				4
Substrate Availability: 15	Greater than 30% major productive habitat present at site	16% to 30% major productive habitat, by aerial extent	6% to 15% major productive habitat	Less than 5% major productive habitat
	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
		15		
Water Velocity: 13	Max. observed at typical transect: > 0.25 m/sec. But < 1 m/sec	Max. observed at typical transect: >0.1 to 0.25 m/sec	Max. observed at typical transect: 0.05 to 0.1 m/sec	Max. observed at typical transect: <0.05 m/sec; or spate occurring: > 1 m/sec
	≥0.33 0.31 0.29 0.27 >0.25 20 19 18 17 16	0.25 0.21 0.17 0.13 >0.1 15 14 13 12 11	0.1 0.09 0.07 0.06 0.05 10 9 8 7 6	<0.05 0.04 0.03 0.01 <0.01 5 4 3 2 1
		13		
Habitat Smothering: 6	Adequate number of stable pools (1-2 per 12 times width) and <25% of habitats affected by sand, silt, or algae.	Adequate number of stable pools (1-2 per 12 times width) and >25% of habitats affected by sand, silt, or algae.	Does not have required number of stable pools (1-2 per 12 x width) and/or has shallow pools (<2 x prevailing depth).	Stable pools are absent. Most habitats affected by sand, silt, or algae accumulation.
	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
			6	
Primary Score: 38				

The user will use transcribe the Primary Habitat Component scores from the HA field sheets

The Primary Score is calculated for the user.

Stream/River HA Secondary Habitat Components

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: 6	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
			6	
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.
	10 9	8 7 6	5 4	3 2 1
Right Bank: 10	**10**			
Left Bank: 6		**6**		
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
	10 9	8 7 6	5 4	3 2 1
Right Bank: 5			**5**	
Left Bank: 3				**3**
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).
	10 9	8 7 6	5 4	3 2 1
Right Bank: 8		**8**		
Left Bank: 4			**4**	
Secondary Score: 42				

TOTAL SCORE

93

The user will use transcribe the Secondary Habitat Component scores from the HA field sheets

The Secondary Score and the Total Score are calculated for the user.

Physical/Chemical Characterization Field Sheet (PhysChem)

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

SAMPLE ID		ORG ID	21FLJEFF	LATITUDE	30.53251
COUNTY	Jefferson	WIN #	JeffCaney90	LONGITUDE	-83.95074
DATE	7/7/2022	TIME		SAMPLING AGENCY	Jefferson County DEP
SITE NAME	Caney Creek at US 90				
FIELD ID/NAME		RECEIVING BODY OF WATER	Lake Miccosukee		

The sampling agency, date and site attributes values are auto-populated with the values entered in the 1.Site_Info worksheet.

The user will transcribe sample time from the PhysChem field sheet and if applicable the Field ID and sample ID.

PhysChem Riparian Zone and Stream Features

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 Above)

Landscape Development Intensity Index (LDI)

Local Watershed Erosion (select one): None Slight Moderate Heavy

Local Watershed NPS Pollution : No evidence Slight Moderate Heavy

Width of Riparian Vegetation (m) on Each Buffer Side

Left Bank: Right Bank:

Hydrologic Modification Score (per FT 3101)

High Water Mark: (m) + (above present water level) = present depth) (above bed)

Artificially Impounded Yes No

Typical Width (m) Depth (m)/Velocity (m/sec) Transect

m wide

m/s m/s m/s

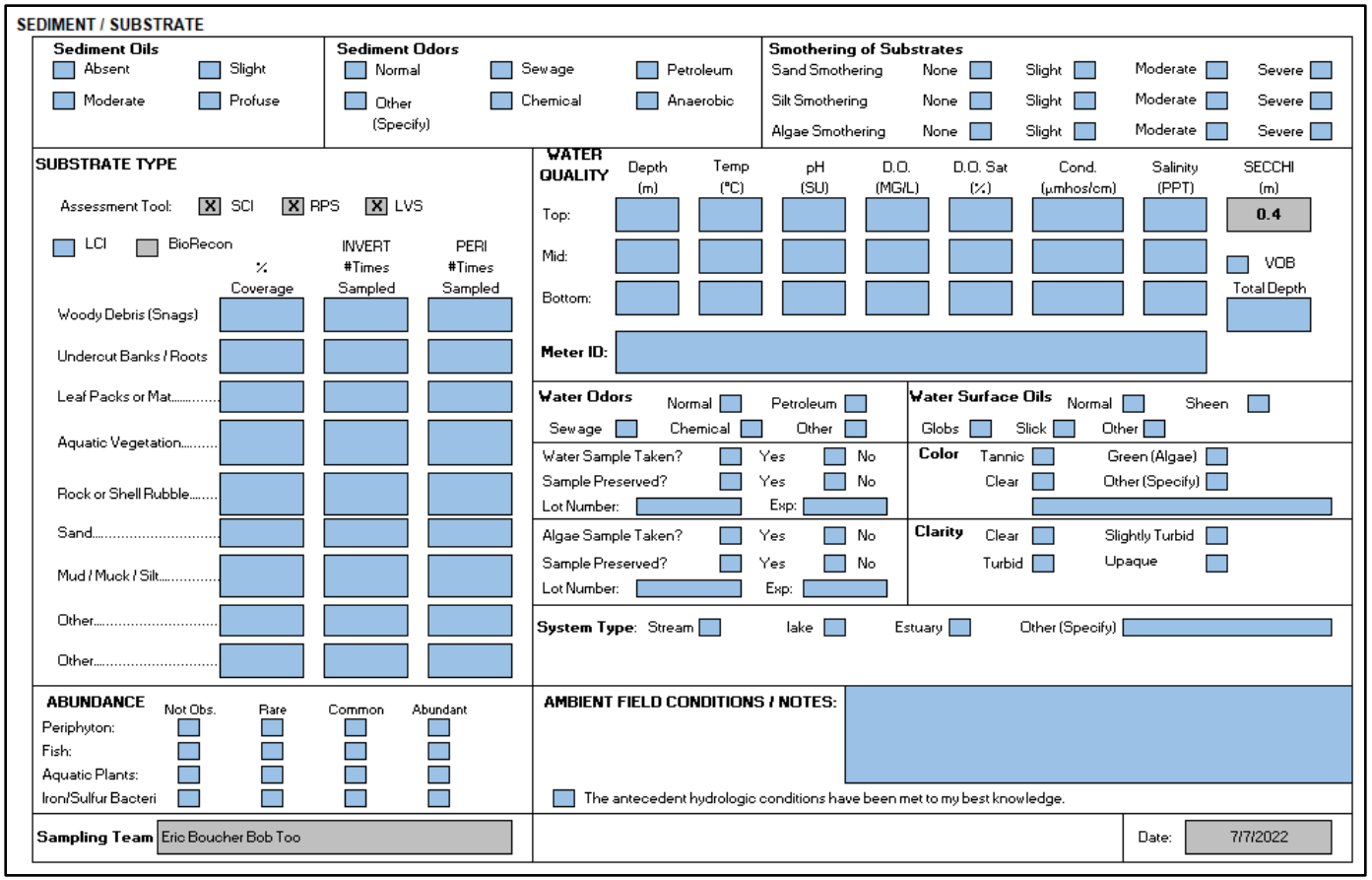
m deep m deep m deep

Artificially Channelized: No Some Recovery Mostly recovered, more sinuous Recent, severe

Canopy Cover % Open Heavily Shaded Lightly Shaded (11-45%) Moderate Shaded (46-80%)

The user will transcribe the Riparian Zone and Stream Features from the PhysChem field sheet.

PhysChem Sediment and Substrate



SEDIMENT / SUBSTRATE

Sediment Oils: Absent ☐ Slight ☐ Moderate ☐ Profuse ☐

Sediment Odors: Normal ☐ Sewage ☐ Petroleum ☐ Other (Specify) ☐ Chemical ☐ Anaerobic ☐

Smothering of Substrates

	None	Slight	Moderate	Severe
Sand Smothering	☐	☐	☐	☐
Silt Smothering	☐	☐	☐	☐
Algae Smothering	☐	☐	☐	☐

SUBSTRATE TYPE

Assessment Tool: ☒ SCI ☒ RPS ☒ LVS ☐ LCI ☐ BioRecon

	% Coverage	INVERT #Times Sampled	PERI #Times Sampled
Woody Debris (Snags)			
Undercut Banks / Roots			
Leaf Packs or Mat			
Aquatic Vegetation			
Rock or Shell Rubble			
Sand			
Mud / Muck / Silt			
Other			
Other			

WATER QUALITY

	Depth (m)	Temp (°C)	pH (SU)	D.O. (MG/L)	D.O. Sat (%)	Cond. (µmhos/cm)	Salinity (PPT)	SECCHI (m)
Top:								0.4
Mid:								☐ VOB
Bottom:								Total Depth

Meter ID:

Water Odors: Normal ☐ Petroleum ☐ Sewage ☐ Chemical ☐ Other ☐

Water Surface Oils: Normal ☐ Sheen ☐ Globs ☐ Slick ☐ 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:

Color: Tannic ☐ Green (Algae) ☐ Clear ☐ Other (Specify) ☐

Clarity: Clear ☐ Slightly Turbid ☐ Turbid ☐ Opaque ☐

System Type: Stream ☐ Lake ☐ Estuary ☐ Other (Specify)

ABUNDANCE

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

AMBIENT FIELD CONDITIONS / NOTES:

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

Sampling Team Eric Boucher Bob Too

Date: 7/7/2022

Gray fields are auto-populated with values entered in previous worksheets.
Use text (Ex. “x”) in fields that resemble check boxes. These fields are not check boxes.

Submitting Results

For Impaired Waters Assessment

Data providers who would like to submit the bioassessment results in the calculator to the Department to support Impaired Waters assessment can do so by copying rows 2-20 of the External Bio Format worksheet into the Department's Bioassessment Data template. All values in this table are auto-populated with information in the previous worksheets.

WIN ORGANIZATION ID	WIN STATION NUMBER	STATION NAME	STATION DESCRIPTION	PRIMARY TYPE	WATERBODY NAME	LATITUDE	LONGITUDE	SAMPLE DATE	METRIC	RESULT	FIELD COMMENT	COLLECTOR	METRIC PROFICIENCY	SAMPLING ENTITY
21FLJEFF	JeffCaney90	Canye Creek ar US 90	Canye Creek ar US 90	Stream	Caney Creek	30.53251	-83.95074	7/7/2022	HA (Riparian Buffer Zone Width - left bank)	5		Bob Too	Eric Boucher	Jefferson County DEP
21FLJEFF	JeffCaney90	Canye Creek ar US 90	Canye Creek ar US 90	Stream	Caney Creek	30.53251	-83.95074	7/7/2022	HA (Riparian Zone Vegetation Quality - right bank)	3		Bob Too	Eric Boucher	Jefferson County DEP
21FLJEFF	JeffCaney90	Canye Creek ar US 90	Canye Creek ar US 90	Stream	Caney Creek	30.53251	-83.95074	7/7/2022	HA (Riparian Zone Vegetation Quality - left bank)	4		Bob Too	Eric Boucher	Jefferson County DEP
21FLJEFF	JeffCaney90	Canye Creek ar US 90	Canye Creek ar US 90	Stream	Caney Creek	30.53251	-83.95074	7/7/2022	HA (Secondary Score)	38		Bob Too	Eric Boucher	Jefferson County DEP
21FLJEFF	JeffCaney90	Canye Creek ar US 90	Canye Creek ar US 90	Stream	Caney Creek	30.53251	-83.95074	7/7/2022	Habitat Assessment Score	114		Bob Too	Eric Boucher	Jefferson County DEP
21FLJEFF	JeffCaney90	Canye Creek ar US 90	Canye Creek ar US 90	Stream	Caney Creek	30.53251	-83.95074	7/7/2022	Avg_CofC_LVS	2.25		Eric Boucher	N/A	Jefferson County DEP
21FLJEFF	JeffCaney90	Canye Creek ar US 90	Canye Creek ar US 90	Stream	Caney Creek	30.53251	-83.95074	7/7/2022	FLEPPCPct_LVS	50.0		Eric Boucher	N/A	Jefferson County DEP
21FLJEFF	JeffCaney90	Canye Creek ar US 90	Canye Creek ar US 90	Stream	Caney Creek	30.53251	-83.95074	7/7/2022	LVS_LESS_2SQM	N		Eric Boucher	N/A	Jefferson County DEP
21FLJEFF	JeffCaney90	Canye Creek ar US 90	Canye Creek ar US 90	Stream	Caney Creek	30.53251	-83.95074	7/7/2022	RPS	17		Bob Too	N/A	Jefferson County DEP
21FLJEFF	JeffCaney90	Canye Creek ar US 90	Canye Creek ar US 90	Stream	Caney Creek	30.53251	-83.95074	7/7/2022						Jefferson County DEP

↑ Values in **cells** above are referer other wo These cells are they do not nee manually.

Cell with BLUE fill color are editable

Copy rows 2 – 20

Open the Bioassessment Data Template and paste row 2 -20.

email Kevin O'Donnell

Submitting Bioassessment Data

port the Department's Impaired Waters assessment can copy the auto calculated values in this worksheet into the te.

ould like to submit applicable bioassessment data to help support the department's Impaired Waters assessment. Please available as a Microsoft Excel worksheet (.xlsx). Once the template has been completed with the required information, tion (field sheets, photos, etc.) by email to **Kevin O'Donnell**.

assessment proficiency demonstrations set forth on the **Bioassessment Training, Evaluation and Quality Assurance Web** nts for field activities as codified in Chapter 62-160, Florida Administrative Code (F.A.C.), and the incorporated DEP data to be considered as part of the assessment, data providers must be in the applicable Active status for LVI, BioRecon, SCI and/or Habitat Assessment certificatio at the time of sample collection. While the online RPS and LVS tests are not required, because there are currently no certifications for these methods, taking the online tests are highly recommended to show proficiency.

Bioassessment Data Template

http://publicfiles.dep.state.fl.us/DEAR/DEARweb/WAS/Bio_Data_Template.xlsx

Kevin O'Donnell

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