



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

STRATEGIC MONITORING PLAN Field Sheet

July 2022

Meter
Passed End
of Day CCV
Yes / No

WIN Station Name:	Hawkins Creek below Camp Henderson Rd				Sample Date:	8/28/2023		
WIN / Field ID:	G4NW0042	ORG ID:	21FLPNS	ENR:			Latitude:	30.96964
County:	Santa Rosa	WBID:	12	STREAM			Longitude:	-86.99488
Receiving Body of Water:	Big Coldwater Creek					RQ-	2023-08-28-09	

Sampling Team Members	WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check
Frank Butera			x		
Nathan Mulkey	x	x		x	

Sampling Equipment			
x	Sample Container		Carboy
	Dipper		Van Dorn
x	Syringe		Pole
Syringe Lot# 1363514		Filter Lot# 17460495	
Secchi Equipment ID:		Secchi -1	
Collection Method			
x	Wading		Canoe/Kayak
	From Shore		Electric Motor
			Gasoline Motor
Depth Measured With		Meter	

Water Level:	Low
Flow:	Flowing
Matrix:	Fresh
Tide Stage:	
High Tide:	
Low Tide:	
Photos:	Yes
Meter ID:	155077 (ProDSS)
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)
CEN	945	0.3	0.15	6.22	72.6	23.1	4.83	0.3	15	0.01
								VOB (s)		

Biological Samples Collected:	HA LVS RPS SCI				
SBIO Visit ID: 87831	HA ID: 18617	RPS ID: 10147	Macrophyte ID: N/A	LIMS Sample ID	
				In The Macrophyte Module:	2434030

Parameter Suite	Parameter Methods (LIMS Test Codes)			Preservation			
				Type	Lot#	Expiration Date	pH Check
Microbiology	E. coli	Contract Lab	UWF	ICE			
Chlorophyll	CHLSUITE-W			ICE			
Physical/Aggregate Nutrients	ALKALINITY, TURBIDITY, W-F, W-TSS			ICE			
	W-CL-IC, W-COLOR, W-SO4-IC, W-TDS			ICE			
Filtered Nutrients	W-PO4-F	Field Filtered 0.45 µm Filter		ICE	Syring Lot#:1363514; Filter Lot#:17460495		
Acid Preserved Nutrients	W-NH3 / W-NO2NO3 / W-TKN / W-TOC / W-S-A-TP			ICE	H2SO4*	3013020	01/25/2024
Metals	W-ICPMS	W-ICP	W-HARD	ICE		2230040	09/01/2023
Organics (LC)	W-E8321-DI	W-E8321-MS					
Macroinvertebrates	MI-FW-QLDC			Formalin	1111		
Organics (GC)	W-PSNP-TQ			Ice	*2.0 ml of H2SO4 Used Unless Noted Otherwise		
Molecular							
Periphyton							
Phytoplankton							
BOD							
DOC							
Other(s)					SyringLot#		FilterLot#
Field Comments:	/ SCI Collection Time: 1100						
Comments on COC:	Microbiology sample(s) submitted to contract laboratory.						
Relinquish Date:	08/28/2023	Signature:					

LIMS EVENT ID:	WIN Import ID:
Enter Field Parameters, Verify Station ID In LIMS DMT:	QC Station ID, Field Parameters In LIMS DMT:
(Initials/Date)	(Initials/Date)
Save Field Sheets on Network:	Migrate Data to WIN:
(Initials/Date)	(Initials/Date)

Site Name Hawkins Creek below Camp Henderson Road

Date: 08/28/2023

WIN ID G4NW0042

Field ID G4NW0042

Project: SMP / TMDL Studies

Visit ID 87831

RQ: 2023-08-28-09

RPS ID 10147

LIMS ID: 2434030

Macro ID N/A

WBID: 12

HA ID 18617

☒ SCI

☐ RPS/LVS Only

☒ Sample Site Created in SBIO

☒ Phys/Chem in SBIO

Initial FB

☒ Date and Initial QA: 9/20/23 JS

☒ HA entered in SBIO

Initial FB

☒ Date and Initial QA: 9/20/23 JS

☒ RPS entered in SBIO

Initial FB

☒ Date and Initial QA: 9/20/23 JS

☐ LVS entered in SBIO Initial _____

☐ Date and Initial QA: _____

☐ < 2 m² vegetation

☐ Plants getting verified

Date submitted: _____

☐ Plants verified

Date returned: _____

☒ RPS authorized in SBIO

☒ Date and Initial: 9/20/2023

☒ RPS score: 5.05

☐ Macro authorized in SBIO

☐ Date and Initial: _____

☐ LVS Score: _____

☒ SCI complete: M. Heyn 11/15/2023

SCI Score: 78

☒ Add SBIO-ID, HA-ID, RPS-ID, MACROPHYTE-ID and LIMS# to field sheet in database

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

SAMPLE ID 87831 ORG ID 21FLPNS LATITUDE 30.96964
 COUNTY Santa Rosa WIN ID/STORET# 64NW0042 LONGITUDE 86.9948
 DATE 8/29/2023 TIME 9:45 CTZ SAMPLING AGENCY FL DEP - NWROC
 SITE NAME Marjans Creek Goldwater Creek Blackwater R. WBID 12 Project: SMP. TMDL
 FIELD ID/NAME 64NW0042 RECEIVING BODY OF WATER: Blackwater R. LIMS ID: 2434030

RIPARIAN ZONE / STREAM FEATURES

WBID: 12

LIMS ID: 2434030

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) <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>40 45 m</u> <u>1.5</u> m wide m/s <u>0.28</u> m/s <u></u> m/s m deep <u>0.1</u> m deep <u></u> m deep		
Width of Riparian Vegetation (m) on Each Buffer Side Left Bank: <u>718</u> Right Bank: <u>718</u>				Hydrologic Modification Score (per FT 3101) <u>1-2</u>		
High Water Mark: <u>1.0</u> + <u>0.7</u> = <u>1.7</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 Woody Debris (Snags) <u>20.5</u> <u>7</u> Undercut Banks / Roots <u>17.6</u> <u>7</u> Leaf Packs or Mat <u>0.6</u> <u>2</u> Aquatic Vegetation <u>0.6</u> <u>2</u> Rock or Shell Rubble.. <u></u> <u></u> Sand, / Gravel <u>60.6</u> <u>2</u> Mud / Muck / Silt <u></u> <u></u> Other <u></u> <u></u> Other <u></u> <u></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>0.15</u> <u>23.1</u> <u>4.83</u> <u>6.22</u> <u>72.6</u> <u>15</u> <u>0.01</u> <u>0.3</u> Mid: <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> Bottom: <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> Meter ID: <u>155077</u> <u>0.3</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) ☐ AMBIENT FIELD CONDITIONS / NOTES: <u>Historic site 3303125</u> ☒ The antecedent hydrologic conditions have been met to my best knowledge.					

SAMPLING TEAM:

Frank Butera, Nathan Mulkey

SIGNATURE:

Frank Butera

DATE:

8/28/2023

(Horizontal scale is double vertical scale, draw proportionately).

HAWK'S CREEK

Substrates: Code key,
draw proportionate habitat
abundance.

Riparian Buffer Width:
Note areas (on map) where
natural vegetation is altered
or eliminated.

70 86.99409

Snag	2.8
Root	1.8
LP	0.7
Plant	0.7
OTR	

Downstream

Left
Bank

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

SAMPLING AGENCY: DEAR-NWROC. 21FLPNS FLDEP. DEAR-NWROC. @		STORET STATION NUMBER: G4NW0042	DATE (MM/DD/YY): 8/28/23	RECEIVING BODY OF WATER: Coldwater Creek
REMARKS:	COUNTY: Santa Rosa	LOCATION: Hawkins Creek	FIELD ID/NAME: G4NW0042	
WBID 12				

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 10	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
Substrate Availability 17	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 17	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 11 Primary Score 55	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 19	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
Bank Stability Right Bank 6 Left Bank 6	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. 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 root zone with raw, eroded areas. 3 2 1
Riparian Buffer Zone Width Right Bank 14 Left Bank 14	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 10 Left Bank 14 Secondary Score 71	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

126 TOTAL SCORE 126/160 = 78.8%

Date: 8/28/2023	Analyst: F. Butler	Signature: [Signature]
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IO ID: 87831 HA ID: 18617
1-160.800, F.A.C.

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site: Hawkins Creek					County: Santa Rosa		Date: 08/28/2023		Investigators: F. Butera			
										STORET Station Number: G4NW0042		
Transect (m)	Point 1=right 9=left	Algal Thickness Rank (N-6, X)	Estimated	Canopy Cover	Transect (m)	Point 1=right 9=left	Algal Thickness Rank (N-6, X)	Estimated	Canopy Cover			
0	1	N	No		60	1	N	No		Secchi depth		
	2	N				2	N				Estimated?	
	3	N				3	N					
	4	N				4	N				# points ranked 4-6	
	5	N		96		5	N			96	total points assessed	
	6	N				6	N				% points ranked 4-6	
	7	N				7	N					
	8	N				8	N					
	9	N	No			9	N	No				
10	1	N	No		70	1	N	No		Check accompanying data collected at same site/date.		
	2	N				2	N				Algal mat sample	
	3	N				3	N				Linear Veg Survey	
	4	N				4	N				Habitat Assessment	
	5	N		95		5	N			96	SCI/Biorecon	
	6	N				6	N				Water sample	
	7	N				7	N					
	8	N				8	N					
	9	N	No			9	N	No				
20	1	N	No		80	1	N	No		Algal Thickness Rank		
	2	N				2	N				N	rough, no algae, slimy, algae up to 1mm
	3	N				3	N				3	>1mm - 6mm
	4	N				4	N				4	>6mm - 20mm
	5	N		96		5	N			94	5	>20mm - 10 cm
	6	N				6	N				6	>10 cm
	7	N				7	N					
	8	N				8	N					
	9	N	No			9	N	No				
30	1	N	No		90	1	N	No		SBIO Visit ID. 87831		
	2	N				2	N				RPS ID. 10147	
	3	N				3	N					
	4	N				4	N					
	5	N		96		5	N			96		
	6	N				6	N					
	7	N				7	N					
	8	N				8	N					
	9	N	No			9	N	No				
40	1	N	No		100	1	N	No		RPS score 5.05		
	2	N				2	N					
	3	N				3	N					
	4	N				4	N					
	5	N		96		5	N			96		
	6	N				6	N					
	7	N				7	N					
	8	N				8	N					
	9	N	No			9	N	No				
50	1	N	No		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	N										
	3	N										
	4	N										
	5	N		96								
	6	N										
	7	N										
	8	N										
	9	N	No									

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

Waterbody: <u>Hawkins Creek</u>	Date: <u>8/28/2023</u>	County: <u>Santa Rosa</u>	Storet Number: <u>64NW002</u>
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Analyst: F. B. O. Signature: John K. C.

Comments:

Instructions: Note taxa growing in the water with a checkmark if present, "D" if dominant, and "C" if codominant (dominance only if 1 m² of taxa present). Note in the boxes below if no dominant are selected, and note total macrophyte abundance rank for each section. Only the most common taxa are listed, so use blank spaces for additional taxa names.

HERBACEOUS SPECIES	Meter Mark										Specimen collected (check)	HERBACEOUS SPECIES	Meter Mark										Specimen collected (check)
	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100			0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	
Alternanthera philoxeroides												Micranthemum glomeratum											
Bacopa caroliniana												Micranthemum umbrosum											
Bacopa monneri												Myriophyllum aquaticum											
Bidens mitis												Najas guadelupensis											
Boehmeria cylindrica												Nuphar luteum											
Centella asiatica												Orontium aquaticum	1	1	1	1	1				1		
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																							
Ludwigia repens																							
Luziola fluitans																							
Lycopodium																							
Fontinalis																							
If no Dominant or Co-Dominant were selected, indicate with "																							

Field ID: G4NW0042

RPS ID 10147

SBIO ID 07831

VPDB ID N/A

LIMS ID 2434430

Station: Hawkins Creek
 GPS: 30.96964 x -86.99480
 Storet: G4NW0042 Field ID G4NW0042
 SBIO Sample ID: 87831
 Macro ID: N/A

Sampled : 08/28/2023
 Sampled By: F. Butera, N. Mulkey
 Location: Munson, Santa Rosa Co.
 Receiving Waters: Coldwater Creek
 LIMS ID: 24034040

	Taxa	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	C of C	Coll.	Verified
1	<i>Orontium aquaticum</i>	1	1	1	1	1	1				1	8.39		
2	<i>Xyris</i> sp.							1	1	1	1			
3	<i>Fontinalis</i> sp.		1					1	1	1	1			
4	<i>Lycopodium</i> sp.										1			
	Total	2	3	2	2	2	2	2	2	2	5			
	Taxa per section	1	2	1	1	1	1	2	2	2	4	Herb. Taxa		2
	Exotic Present	0	0	0	0	0	0	0	0	0	0	Woody Taxa		0
	Avg. taxa per section	2										Ferns		2
	sections with exotics	0										Macro Algae		0
	Exotic Taxa	0	Exotics per Section: 0.0									Total Taxa		4

* These taxa were observed fully within the stream channel.

** LVS not conducted, less than 2 square meters of vegetative habitat in stream reach.