



IZAAK WALTON LEAGUE OF AMERICA



Biological Monitoring Data Form for Rocky Bottom Method

Name of Stream: Gupton Run Site ID: C2-GR-01Your Name: Rebecca Shoer Name of Certified Monitor(s): Rebecca ShoerGroup or Organization Name: Izaak Walton League Number of Participants: 3Latitude: 38.694926 Longitude: -77.726912County/State: Caroline County, VA Survey Date: 7/2/2020 Start Time: 1:30PM End Time: 4:00PMDescription of Site Location: Park on Kelly Meadows Ln, walk 600 feet downstream. First riffle after large boulder.

ROCKY BOTTOM SAMPLING

Using a kick-siense net, take up to four samples in the riffle area of 20 to 90 seconds each (75% of the time rubbing rocks, 25% of the time disturbing the streambed). Adjust the length of the sampling period to ensure you collect at least 200 macroinvertebrates. Write the length of each sampling period in seconds and place a check mark next to the net mesh size used.



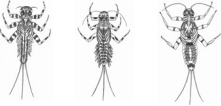


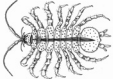
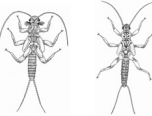


Net 1 90 sec Net 2 60 sec Net 3 40 sec Net 4 _____ sec Net mesh size: ☐ 1/16" ☒ 1/32" ☐ 1/50"

PHYSICAL CONDITIONS (check all that apply)

Today: ☒ Sunny ☐ Overcast ☐ Intermittent Rain ☐ Steady Rain ☐ Heavy Rain ☐ SnowYesterday: ☐ Sunny ☒ Overcast ☐ Intermittent Rain ☐ Steady Rain ☐ Heavy Rain ☐ SnowDay Before Yesterday: ☐ Sunny ☒ Overcast ☐ Intermittent Rain ☐ Steady Rain ☐ Heavy Rain ☐ SnowWater Temperature 15 °F or ☒ °C Avg. Stream Width 10 ft. Avg. Stream Depth 6 in. Flow Rate low
(circle F° or C°) (high, normal, low, negligible)**OTHER COMMENTS** Lots of new erosion, fallen tree upstream of site.

MACROINVERTEBRATE COUNT

[illegible]

Macroinvertebrate	Tally	Count
Leeches 	 <div style="text-align: right;">2</div>	
Lunged Snails 		
Mayflies 	 <div style="text-align: right;">7</div>	
Midges 	 <div style="text-align: right;">20</div>	
Scuds 	 <div style="text-align: right;">10</div>	
Sowbugs 		
Stoneflies 	 <div style="text-align: right;">15</div>	
True Flies 	 <div style="text-align: right;">10</div>	
Worms 	 <div style="text-align: right;">18</div>	
Other benthic macroinvertebrates	 <div style="text-align: right;">2</div>	
Total number of organisms in the sample (include "other" category)	<div style="text-align: right;">237</div>	

INDIVIDUAL METRICS

	Organism Groups	Number of Organisms		Total Number of Organisms in the Sample		Percent <i>(This is your value for this metric.)</i>
Metric 1	Mayflies + Stoneflies + Most Caddisflies <i>(not Common Netspinning)</i>	42	÷	237	Multiply by 100	17.7 %
Metric 2	Common Netspinning Caddisflies	78	÷	237	Multiply by 100	32.9 %
Metric 3	Lunged Snails	0	÷	237	Multiply by 100	0 %
Metric 4	Beetles	7	÷	237	Multiply by 100	2.9 %

Metric 5: Tolerant

Organism Groups	Number of Organisms
Black Flies	30
Clams	0
Dragonflies and Damselflies	7
Flatworms	4
Leeches	2
Lunged Snails	0
Midges	20
Scuds	10
Sowbugs	0
Worms	18
Total Tolerant	91
Total number of organisms in sample	237
Multiply by 100	
Percent	38.4 %
<i>(This is your value for Metric 5.)</i>	

Metric 6: Non-Insect

Organism Groups	Number of Organisms
Clams	0
Crayfish	3
Flatworms	4
Gilled Snails	1
Leeches	2
Lunged Snails	0
Scuds	10
Sowbugs	0
Worms	18
Total Tolerant	38
Total number of organisms in sample	237
Multiply by 100	
Percent	16.0 %
<i>(This is your value for Metric 6.)</i>	

MULTIMETRIC INDEX (STREAM HEALTH SCORE)

Metric Number	Metric Organism	Your Metric Value	2	1	0
1	Mayflies + Stoneflies + Most Caddisflies	17.7	Greater than 32.2 _____	16.1 - 32.2 ✓ _____	Less than 16.1 _____
2	Caddisflies: Common Netspinning	32.9	Less than 19.7 _____	19.7 - 34.5 ✓ _____	Greater than 34.5 _____
3	Snails: Lugged	0	Less than 0.3 ✓ _____	0.3 - 1.5 _____	Greater than 1.5 _____
4	Beetles	2.9	Greater than 6.4 _____	3.2 - 6.4 _____	Less than 3.2 ✓ _____
5	Tolerant	38.4	Less than 46.7 ✓ _____	46.7 - 61.5 _____	Greater than 61.5 _____
6	Non-Insects	16.0	Less than 5.4 _____	5.4 - 20.8 ✓ _____	Greater than 20.8 _____
			Total # of 2s: 2 _____	Total # of 1s: 3 _____	Total # of 0s: 1 _____
		SUBTOTALS	Multiply by 2: 4 _____	Multiply by 1: 3 _____	Multiply by 0: 0 _____

Add the three subtotals to get the Save Our Streams Multimetric Index Score: 7

☐ Acceptable Ecological Condition (9 - 12)

☐ Ecological conditions cannot be determined at this time (8)

☒ Unacceptable Ecological Condition (0 - 7)

STREAM CONDITIONS

Fish water quality indicators: <input checked="" type="checkbox"/> scattered individuals <input type="checkbox"/> scattered schools <input type="checkbox"/> trout (pollution sensitive) <input type="checkbox"/> bass (somewhat sensitive) <input type="checkbox"/> catfish (pollution tolerant) <input type="checkbox"/> carp (pollution tolerant)	Barriers to fish movement: <input type="checkbox"/> beaver dams <input type="checkbox"/> man-made dams <input type="checkbox"/> waterfalls (> 1 ft.) <input checked="" type="checkbox"/> none <input type="checkbox"/> other _____	Surface water appearance: <input type="checkbox"/> clear <input checked="" type="checkbox"/> clear, but tea-colored <input type="checkbox"/> colored sheen (oily) <input type="checkbox"/> foamy <input type="checkbox"/> milky <input type="checkbox"/> muddy <input type="checkbox"/> black <input type="checkbox"/> grey <input type="checkbox"/> other _____	Streambed deposit (bottom): <input checked="" type="checkbox"/> grey <input type="checkbox"/> orange/red <input type="checkbox"/> yellow <input type="checkbox"/> black <input checked="" type="checkbox"/> brown <input checked="" type="checkbox"/> silt <input type="checkbox"/> sand <input type="checkbox"/> other _____
Odor: <input type="checkbox"/> musky <input type="checkbox"/> oil <input type="checkbox"/> sewage <input type="checkbox"/> other _____ <input checked="" type="checkbox"/> none	Stability of streambed (bed sinks beneath your feet in): <input checked="" type="checkbox"/> no spots <input type="checkbox"/> a few spots <input type="checkbox"/> many spots	Algae appearance: <input checked="" type="checkbox"/> light green <input type="checkbox"/> dark green <input type="checkbox"/> brown coated <input type="checkbox"/> matted on stream bed <input type="checkbox"/> hairy	Algae located: <input type="checkbox"/> everywhere <input checked="" type="checkbox"/> in spots 15 % bed covered
Stream channel shade: <input type="checkbox"/> More than 75% full <input checked="" type="checkbox"/> 50% - 74% high <input type="checkbox"/> 25% - 49% moderate <input type="checkbox"/> 1% - 24% slight <input type="checkbox"/> none	Streambank composition (=100%): 15 % trees 30 % shrubs 5 % grass 45 % bare soil 5 % rocks _____ % other	Streambank erosion: <input type="checkbox"/> More than 75% severe <input checked="" type="checkbox"/> 50% - 75% high <input type="checkbox"/> 25% - 49% moderate <input type="checkbox"/> 1% - 24% slight <input type="checkbox"/> none	Riffle composition (=100%): 15 % silt (mud) 15 % sand (1/16" - 1/4" grains) 15 % gravel (1/4" - 2" stones) 55 % cobbles (2" - 10" stones) _____ % boulders (> 10" stones)

LAND USES IN THE WATERSHED (UPSTREAM AND SURROUNDING SAMPLING SITE)

Indicate whether the following land uses within a one-mile radius of your sampling site have a high (H), moderate (M), slight (S), or no (N) potential impact to the quality of your stream.

N Oil & gas drilling	H Urban uses (parking lots, highways, etc.)	H Agriculture (type: _____)
H Housing developments	N Sanitary landfill	N Trash dump
N Forestry	H Active construction	M Fields
M Logging	N Mining (type: _____)	M Livestock Pasture
		Other _____

COMMENTS: Describe the amount and type of litter in and around the stream and indicate the current and potential future threats to the stream's health.

No visible litter, but erosion seems to be getting worse. Construction upstream may be contributing sediment and stormwater runoff.

Please send your data sheets to your regional coordinator or submit them online at www.vasos.org. If you have any questions about this protocol, please contact the VA SOS Coordinator at vasos@iwa.org. Data sheets must be stored for five years after sampling. If you are unable to keep your datasheets, please contact the VA SOS Coordinator.