



Maine Department of Environmental Protection
Biological Monitoring Program
Aquatic Life Classification Attainment Report

Station Information

Station Number: S-659 River Basin: Androscoggin
Waterbody: Bull Branch Sunday River - Station 659 HUC8 Name: Lower Androscoggin
Town: Riley Twp Latitude: 44 30 12.18 N
Directions: UPSTREAM OF BRIDGE IN KETCHUM Longitude: 70 54 53.71 W
Stream Order: 4

Sample Information

Log Number: 2837 Type of Sample: ROCK BAG Date Deployed: 7/24/2020
Subsample Factor: X1 Replicates: 3 Date Retrieved: 8/21/2020

Classification Attainment

Statutory Class: A Final Determination: A Date: 3/3/2022
Model Result with $P \geq 0.6$: A Reason for Determination: Model
Date Last Calculated: 10/18/2021 Comments:

Model Probabilities

First Stage Model		C or Better Model	
Class A	0.48	Class A, B, or C	1.00
Class B	0.52	Non-Attainment	0.00
B or Better Model		A Model	
Class A or B	1.00	Class A	0.96
Class C or Non-Attainment	0.00	Class B or C or Non-Attainment	0.04

Model Variables

01 Total Mean Abundance	1188.33	18 Relative Abundance Ephemeroptera	0.07
02 Generic Richness	59.00	19 EPT Generic Richness	27.00
03 Plecoptera Mean Abundance	67.67	21 Sum of Abundances: <i>Dicrotendipes</i> , <i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i>	5.67
04 Ephemeroptera Mean Abundance	89.00	23 Relative Generic Richness- Plecoptera	0.07
05 Shannon-Wiener Generic Diversity	3.56	25 Sum of Abundances: <i>Cheumatopsyche</i> , <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>	176.67
06 Hilsenhoff Biotic Index	4.43	26 Sum of Abundances: <i>Acroneuria</i> , <i>Maccaffertium</i> , <i>Stenonema</i>	21.00
07 Relative Abundance - Chironomidae	0.35	28 EP Generic Richness/14	1.00
08 Relative Generic Richness Diptera	0.36	30 Presence of Class A Indicator Taxa/7	0.57
09 <i>Hydropsyche</i> Abundance	436.33		
11 <i>Cheumatopsyche</i> Abundance	3.33		
12 EPT Generic Richness/ Diptera Generic Richness	1.29		
13 Relative Abundance - Oligochaeta	0.00		
15 Perlidae Mean Abundance (Family Functional Group)	37.00		
16 Tanypodinae Mean Abundance (Family Functional Group)	8.00		
17 Chironomini Abundance (Family Functional Group)	71.67		

Five Most Dominant Taxa		
Rank	Taxon Name	Percent
1	<i>Hydropsyche</i>	36.72
2	<i>Cricotopus</i>	14.19
3	<i>Brachycentrus</i>	7.21
4	<i>Polypedilum</i>	6.00
5	<i>Rheotanytarsus</i>	5.33



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Station Number: S-659	Town: Riley Twp	Date Deployed: 7/24/2020
Log Number: 2837	Waterbody: Bull Branch Sunday River - Station 659	Date Retrieved: 8/21/2020

Sample Collection and Processing Information

Sampling Organization: BIOMONITORING UNIT

Taxonomist: ECOANALYSTS IDAHO

Waterbody Information - Deployment

Temperature:	20.4 deg C
Dissolved Oxygen:	9.48 mg/l
Dissolved Oxygen Saturation:	107.6 %
Specific Conductance:	16.8 uS/cm
Velocity:	1.1 cm/s
pH:	6.45
Wetted Width:	13.3 m
Bankfull Width:	17.6 m
Depth:	36.3 cm

Waterbody Information - Retrieval

Temperature:	17.9 deg C
Dissolved Oxygen:	9.93 mg/l
Dissolved Oxygen Saturation:	108.1 %
Specific Conductance:	20.4 uS/cm
Velocity:	0.7 cm/s
pH:	6.53
Wetted Width:	11.8 m
Bankfull Width:	17.6 m
Depth:	28.7 cm

Water Chemistry

Summary of Habitat Characteristics

<u>Landuse Name</u>	<u>Canopy Cover</u>	<u>Terrain</u>
Upland Hardwood	Partly Open	Mountainous
<u>Potential Stressor</u>	<u>Location</u>	<u>Substrate</u>
Logging	Below Road Crossing	Bedrock 5 %
		Boulder 20 %
		Gravel 35 %
		Rubble/Cobble 40 %

Landcover Summary - 2004 Data

Total Area (ac)	10867	High Int. Dev. %	0.0	Water %	0.0	Non-vegetated %	0.0
		Med Int. Dev. %	0.0	Wetland %	0.0	Tilled Agriculture %	0.0
		Low Int. Dev. %	0.0	Upland Woody %	98.6	Grassland %	0.0
		Development %	0.0	Natural %	100.0	Human Altered %	0.0
						Impervious %	0.0
Total Land (ac)	10866	High Int. Dev. %	0.0	Water %	N/A	Non-vegetated %	N/A
		Med Int. Dev. %	0.0	Wetland %	0.0	Tilled Agriculture %	0.0
		Low Int. Dev. %	0.0	Upland Woody %	98.6	Grassland %	0.0
		Development %	0.0	Natural %	100.0	Human Altered %	0.0
						Impervious %	0.0

Sample Comments



**Maine Department of Environmental Protection
Biological Monitoring Program
Aquatic Life Taxonomic Inventory Report**

Station Number: S-659

Waterbody: Bull Branch Sunday River - Station 659

Town: Riley Twp

Log Number: 2837

Subsample Factor: X1

Replicates: 3

Calculated: 10/18/2021

Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance %	
		Actual	Adjusted			Actual	Adjusted
<i>Nais</i>	08020202009		1.00		CG		0.1
<i>Nais behningi</i>	08020202009003	1.00			--	0.1	
<i>Pteronarcys</i>	09020205023	4.67	4.67	0	SH	0.4	0.4
Perlodidae	09020207	26.00	26.00		--	2.2	2.2
<i>Paragnetina</i>	09020209049	15.33	29.67	1	PR	1.3	2.5
<i>Paragnetina immarginata</i>	09020209049149	14.33			--	1.2	
<i>Agneta</i>	09020209050		7.33	2	PR		0.6
<i>Agneta capitata</i>	09020209050152	7.33		2	PR	0.6	
Aeshnidae	09020301	0.33	0.33		--	0.0	0.0
<i>Boyeria</i>	09020301004	1.00	1.00	2	PR	0.1	0.1
<i>Cordulegaster</i>	09020303019	0.33	0.33	3	PR	0.0	0.0
<i>Hetaerina</i>	09020307044	0.33	0.33	6	PR	0.0	0.0
<i>Baetis</i>	09020401001	0.33	22.67	4	CG	0.0	1.9
<i>Baetis flavistriga</i>	09020401001004	18.33			--	1.5	
<i>Baetis pluto</i>	09020401001009	4.00			--	0.3	
<i>Acerpenna</i>	09020401007	0.67	0.67	5	CG	0.1	0.1
<i>Acentrella</i>	09020401008		0.67	3	CG		0.1
<i>Acentrella turbida</i>	09020401008021	0.67			--	0.1	
<i>Plautidius</i>	09020401012	2.33	2.33		CG	0.2	0.2
<i>Heptagenia</i>	09020402010	1.67	1.67	2	SC	0.1	0.1
<i>Stenacron</i>	09020402014	1.00	1.00	7	SC	0.1	0.1
<i>Maccaffertium</i>	09020402015		21.00	4	SC		1.8
<i>Maccaffertium luteum</i>	09020402015049	21.00			--	1.8	
Leptophlebiidae	09020406	1.00	1.00		--	0.1	0.1
<i>Ephemerella</i>	09020410035	6.67	6.67	1	CG	0.6	0.6
<i>Eurylophella</i>	09020410036	0.33	31.33	3	CG	0.0	2.6
<i>Eurylophella funeralis</i>	09020410036115	31.00			SH	2.6	
<i>Arctopsyche</i>	09020604012		28.33		CF		2.4
<i>Arctopsyche ladogensis</i>	09020604012022	28.33			--	2.4	
<i>Parapsyche</i>	09020604013	7.00	7.00	0	CF	0.6	0.6
<i>Cheumatopsyche</i>	09020604015	3.33	3.33	5	CF	0.3	0.3
<i>Hydropsyche</i>	09020604016	17.00	436.33	4	CF	1.4	36.7
<i>Hydropsyche bronta</i>	09020604016029	4.33			--	0.4	
<i>Hydropsyche morosa</i>	09020604016030	1.00			--	0.1	
<i>Hydropsyche sparna</i>	09020604016032	94.67			--	8.0	
<i>Hydropsyche leonardi</i>	09020604016044	319.33			--	26.9	
<i>Rhyacophila</i>	09020605019	0.67	5.33	2	PR	0.1	0.4



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Aquatic Life Taxonomic Inventory Report**

Station Number: S-659

Waterbody: Bull Branch Sunday River - Station 659

Town: Riley Twp

Log Number: 2837

Subsample Factor: X1

Replicates: 3

Calculated: 10/18/2021

Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance %	
		Actual	Adjusted			Actual	Adjusted
<i>Rhyacophila acutiloba</i>	09020605019056	0.33			PR	0.0	
<i>Rhyacophila fuscula</i>	09020605019060	4.33			PR	0.4	
<i>Glossosoma</i>	09020606020	2.00	2.00	0	SC	0.2	0.2
<i>Hydroptila</i>	09020607026	0.33	0.33	6	P	0.0	0.0
<i>Brachycentrus</i>	09020609043		85.67	0	CF		7.2
<i>Brachycentrus appalachia</i>	09020609043096	85.67			--	7.2	
<i>Micrasema</i>	09020609044	0.33	0.33	2	SH	0.0	0.0
<i>Lepidostoma</i>	09020611064	2.33	2.33	1	SH	0.2	0.2
<i>Helicopsyche</i>	09020616070		1.67	3	SC		0.1
<i>Helicopsyche borealis</i>	09020616070137	1.67			--	0.1	
<i>Ceraclea</i>	09020618072	7.33	7.33	3	CG	0.6	0.6
<i>Apatania</i>	09020619061	1.00	1.00		SC	0.1	0.1
<i>Nigronia</i>	09020701003		0.33	0	PR		0.0
<i>Nigronia serricornis</i>	09020701003003	0.33			--	0.0	
<i>Antocha</i>	09021001004	0.33	0.33	3	CG	0.0	0.0
<i>Thienemannimyia</i>	09021011020		8.00	3	PR		0.7
<i>Thienemannimyia group</i>	09021011020041	8.00			--	0.7	
<i>Potthastia</i>	09021011026		3.67	2	CG		0.3
<i>Potthastia gaedii</i>	09021011026045	3.67			--	0.3	
<i>Corynoneura</i>	09021011036	0.67	0.67	7	CG	0.1	0.1
<i>Cricotopus</i>	09021011037		168.67	7	SH		14.2
<i>Cricotopus bicinctus</i>	09021011037057	168.67			--	14.2	
<i>Eukiefferiella</i>	09021011041		61.00	8	CG		5.1
<i>Eukiefferiella brehmi group</i>	09021011041073	5.67			--	0.5	
<i>Eukiefferiella devonica group</i>	09021011041083	1.67			CG	0.1	
<i>Eukiefferiella discoloripes</i>	09021011041085	53.67			--	4.5	
<i>Nanocladius</i>	09021011049			3	CG		
<i>Parametriocnemus</i>	09021011053	1.00	1.00	5	CG	0.1	0.1
<i>Rheocricotopus</i>	09021011057	2.00	2.00	6	CG	0.2	0.2
<i>Synorthocladius</i>	09021011061	0.67	0.67	2	CG	0.1	0.1
<i>Thienemanniella</i>	09021011062	15.33	15.33	6	CG	1.3	1.3
<i>Tvetenia</i>	09021011065		11.00	5	CG		0.9
<i>Tvetenia bavarica group</i>	09021011065111	11.00			--	0.9	
<i>Micropsectra</i>	09021011070	5.67	5.67	7	CG	0.5	0.5
<i>Rheotanytarsus</i>	09021011072		63.33	6	CF		5.3
<i>Rheotanytarsus exiguus group</i>	09021011072127	23.00			CF	1.9	
<i>Rheotanytarsus pellucidus</i>	09021011072128	40.33			CF	3.4	



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Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance %	
		Actual	Adjusted			Actual	Adjusted
<i>Sublettea</i>	09021011075	1.67	1.67		--	0.1	0.1
<i>Tanytarsus</i>	09021011076	4.67	4.67	6	CF	0.4	0.4
<i>Microtendipes</i>	09021011094		0.33	6	CF		0.0
<i>Microtendipes pedellus group</i>	09021011094166	0.33			--	0.0	
<i>Polypedilum</i>	09021011102		71.33	6	SH		6.0
<i>Polypedilum aviceps</i>	09021011102181	71.33			--	6.0	
<i>Simulium</i>	09021012047	3.00	3.00	4	CF	0.3	0.3
<i>Atherix</i>	09021015055	0.33	0.33	2	PR	0.0	0.0
<i>Roederiodes</i>	09021016058	0.67	0.67	3	PR	0.1	0.1
<i>Neoplasta</i>	09021016064	4.33	4.33		PR	0.4	0.4
<i>Dubiraphia</i>	09021113064	0.33	0.33	6	--	0.0	0.0
<i>Optioservus</i>	09021113067		16.67	3	SC		1.4
<i>Optioservus elegans</i>	09021113067051	1.00			--	0.1	
<i>Optioservus tardella</i>	09021113067052	15.67			--	1.3	
<i>Stenelmis</i>	09021113070	1.33	1.33	5	SC	0.1	0.1
<i>Atractides</i>	09030102002	1.00	1.00		--	0.1	0.1
<i>Amnicola</i>	10010104013	0.33	0.33		SC	0.0	0.0