



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

Station Information

Station Number: S-356
Waterbody: Stetson Brook - Station 356
Town: Lewiston
Directions: 65 M BELOW STETSON RD. CROSSING
DEP Drainage: Androscoggin
HUC8 Name: Lower Androscoggin
Latitude: 44 7 41.68 N
Longitude: 70 10 56.56 W
Stream Order: 1

Sample Information

Log Number: 2189
Subsample Factor: X1
Type of Sample: ROCK BAG
Replicates: 3
Date Deployed: 7/9/2013
Date Retrieved: 8/6/2013

Classification Attainment

Statutory Class: B
Model Result with P>.6: B
Date Last Calculated: 3/14/2014
Final Determination: B
Reason for Determination: Best Professional Judgement
Date: 3/18/2014
Comments: Indeterminate Class A (.52) not raised to Class A based on sensitive taxa present.

Model Probabilities

First Stage Model		C or Better Model	
Class A	0.24	Class A, B, or C	1.00
Class B	0.61	Non-Attainment	0.00
B or Better Model		A Model	
Class A or B	0.96	Class A	0.52
Class C or Non-Attainment	0.04	Class B or C or Non-Attainment	0.48

Model Variables

01 Total Mean Abundance	194.67	18 Relative Abundance Ephemeroptera	0.20
02 Generic Richness	35.00	19 EPT Generic Richness	14.00
03 Plecoptera Mean Abundance	1.67	21 Sum of Abundances: <i>Dicrotendipes</i> , <i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i>	0.00
04 Ephemeroptera Mean Abundance	38.00	23 Relative Generic Richness- Plecoptera	0.06
05 Shannon-Wiener Generic Diversity	2.96	25 Sum of Abundances: <i>Cheumatopsyche</i> , <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>	25.00
06 Hilsenhoff Biotic Index	5.01	26 Sum of Abundances: <i>Acroneuria</i> , <i>Maccaffertium</i> , <i>Stenonema</i>	11.61
07 Relative Abundance - Chironomidae	0.55	28 EP Generic Richness/14	0.64
08 Relative Generic Richness Diptera	0.31	30 Presence of Class A Indicator Taxa/7	0.43
09 <i>Hydropsyche</i> Abundance	0.37		
11 <i>Cheumatopsyche</i> Abundance	21.97		
12 EPT Generic Richness/ Diptera Generic Richness	1.27		
13 Relative Abundance - Oligochaeta	0.03		
15 Perlidae Mean Abundance (Family Functional Group)	1.67		
16 Tanypodinae Mean Abundance (Family Functional Group)	1.01		
17 Chironomini Abundance (Family Functional Group)	3.03		

Five Most Dominant Taxa		
Rank	Taxon Name	Percent
1	<i>Rheotanytarsus</i>	50.30
2	<i>Cheumatopsyche</i>	11.28
3	<i>Isonychia</i>	6.85
4	<i>Maccaffertium</i>	5.62
5	<i>Ferrissia</i>	3.25



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Sample Collection and Processing Information

Sampling Organization: BIOMONITORING UNIT

Taxonomist: MICHAEL WINNELL

Waterbody Information - Deployment

Temperature:	21 deg C
Dissolved Oxygen:	7.7 mg/l
Specific Conductance:	77 uS/cm
Velocity:	54.7 cm/s
pH:	6.58
Wetted Width:	15 m
Bankfull Width:	15 m
Depth:	40 cm

Waterbody Information - Retrieval

Temperature:	19.4 deg C
Dissolved Oxygen:	8.8 mg/l
Specific Conductance:	79 uS/cm
Velocity:	17.3 cm/s
pH:	7.23
Wetted Width:	15 m
Bankfull Width:	15 m
Depth:	35 cm

Water Chemistry - 8/6/2013

Ammonia As Nitrogen	0.01 mg/l	Soluble Reactive Phosphorus	7 ug/l
Nitrate+nitrite As N	0.04 mg/l	Total Phosphorus	0.031 mg/l
Total Kjeldahl Nitrogen	0.5 mg/l	Total Suspended Solids	3.4 mg/l
Dissolved Organic Carbon	6.4 mg/l	Total Dissolved Solids	96 mg/l

Summary of Habitat Characteristics

<u>Landuse Name</u>	<u>Canopy Cover</u>	<u>Terrain</u>
Swamp Hardwood	Partly Open	Rolling
Upland Conifer		
Upland Hardwood		
Urban		

<u>Potential Stressor</u>	<u>Location</u>	<u>Substrate</u>
Urban Runoff	Below Road Crossing	Boulder 10 %
		Gravel 20 %
		Rubble/Cobble 50 %
		Sand 15 %
		Silt 5 %

Landcover Summary - 2004 Data

Total Area (ac)	1554	High Int. Dev. %	0.3	Water %	0.0	Non-vegetated %	0.0
		Med Int. Dev. %	0.4	Wetland %	4.5	Tilled Agriculture %	4.9
		Low Int. Dev. %	4.0	Upland Woody %	67.7	Grassland %	16.6
		Development %	4.8	Natural %	72.3	Human Altered %	27.7
						Impervious %	4.6

Sample Comments

8/6/2013 - FISH OBSERVED



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Aquatic Life Taxonomic Inventory Report**

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Calculated: 3/14/2014

Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance	
		Actual	Adjusted			Actual	Adjusted
<i>Nais</i>	08020202009		5.00		CG		2.6
<i>Nais behningi</i>	08020202009003	5.00			--	2.6	
<i>Glossiphonia</i>	08030101004		0.33		--		0.2
<i>Glossiphonia complanata</i>	08030101004001	0.33			--	0.2	
<i>Erpobdella</i>	08030203002		0.67		--		0.3
<i>Erpobdella fervida</i>	08030203002002	0.67			--	0.3	
<i>Synurella</i>	09010202006		0.33		--		0.2
<i>Synurella chamberlaini</i>	09010202006001	0.33			--	0.2	
<i>Orconectes</i>	09010301008	0.33	0.33		CG	0.2	0.2
<i>Acroneuria</i>	09020209042		0.67	0	PR		0.3
<i>Acroneuria lycorias</i>	09020209042125	0.67			--	0.3	
<i>Paragnetina</i>	09020209049		1.00	1	PR		0.5
<i>Paragnetina media</i>	09020209049151	1.00			--	0.5	
<i>Boyeria</i>	09020301004	0.33	2.00	2	PR	0.2	1.0
<i>Boyeria vinosa</i>	09020301004012	1.67			--	0.9	
<i>Baetis</i>	09020401001	1.00	5.33	4	CG	0.5	2.7
<i>Baetis flavistriga</i>	09020401001004	4.33			--	2.2	
<i>Acerpenna</i>	09020401007	1.00	5.33	5	CG	0.5	2.7
<i>Acerpenna macdunnoughi</i>	09020401007001	1.00			--	0.5	
<i>Acerpenna pygmaea</i>	09020401007011	3.33			--	1.7	
Heptageniidae	09020402	0.33			--	0.2	
<i>Leucrocota</i>	09020402011	2.33	2.39	1	SC	1.2	1.2
<i>Maccaffertium</i>	09020402015	9.33	10.94	4	SC	4.8	5.6
<i>Maccaffertium luteum</i>	09020402015049	0.33			--	0.2	
<i>Maccaffertium modestum</i>	09020402015051	1.00			--	0.5	
<i>Isonychia</i>	09020404018	13.33	13.33	2	CF	6.8	6.8
Leptophlebiidae	09020406	0.33	0.33		--	0.2	0.2
<i>Paraleptophlebia</i>	09020406026	0.33	0.33	1	CG	0.2	0.2
<i>Chimarra</i>	09020601003	1.67	1.67	2	CF	0.9	0.9
<i>Psychomyia</i>	09020602005		0.67	2	CG		0.3
<i>Psychomyia flavida</i>	09020602005006	0.67			--	0.3	
Hydropsychidae	09020604	2.00			--	1.0	
<i>Cheumatopsyche</i>	09020604015	20.00	21.97	5	CF	10.3	11.3
<i>Hydropsyche</i>	09020604016	0.33	0.37	4	CF	0.2	0.2
<i>Glossosoma</i>	09020606020	0.33	0.33	0	SC	0.2	0.2
<i>Nigronia</i>	09020701003		1.33	0	PR		0.7
<i>Nigronia serricornis</i>	09020701003003	1.33			--	0.7	
<i>Antocha</i>	09021001004	0.67	0.67	3	CG	0.3	0.3



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		Actual	Adjusted			Actual	Adjusted
Chironomidae	09021011	1.00			--	0.5	
<i>Nilotanytus</i>	09021011012		0.34	6	PR		0.2
<i>Nilotanytus fimbriatus</i>	09021011012027	0.33			--	0.2	
<i>Rheopelopia</i>	09021011017		0.67		PR		0.3
<i>Rheopelopia acra group</i>	09021011017036	0.67			--	0.3	
<i>Cricotopus</i>	09021011037	0.33	2.69	7	SH	0.2	1.4
<i>Cricotopus bicinctus</i>	09021011037057	0.33			--	0.2	
<i>Cricotopus vierriensis</i>	09021011037071	2.00			--	1.0	
<i>Eukiefferiella</i>	09021011041	0.67	0.67	8	CG	0.3	0.3
<i>Nanocladius</i>	09021011049	0.67	0.67	3	CG	0.3	0.3
<i>Thienemanniella</i>	09021011062			6	CG		
<i>Paratanytarsus</i>	09021011071			6	--		
<i>Rheotanytarsus</i>	09021011072	97.00	97.92	6	CF	49.8	50.3
<i>Tanytarsus</i>	09021011076	0.33	0.34	6	CF	0.2	0.2
<i>Polypedilum</i>	09021011102		3.03	6	SH		1.6
<i>Polypedilum aviceps</i>	09021011102181	1.33			--	0.7	
<i>Polypedilum flavum</i>	09021011102182	1.67			--	0.9	
<i>Simulium tuberosum</i>	09021012047067				--		
<i>Atherix</i>	09021015055	0.33	0.33	2	PR	0.2	0.2
<i>Hemerodromia</i>	09021016057	1.33	1.33	3	PR	0.7	0.7
<i>Psephenus</i>	09021108058		4.00	4	SC		2.1
<i>Psephenus herricki</i>	09021108058028	4.00			--	2.1	
<i>Promoresia</i>	09021113069		1.00		--		0.5
<i>Promoresia tardella</i>	09021113069052	1.00			--	0.5	
<i>Ferrissia</i>	10010204035		6.33		SC		3.3
<i>Ferrissia rivularis</i>	10010204035066	6.33			--	3.3	