



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

Station Information

Station Number: S-354

Waterbody: Sunday River - Station 354

Town: Bethel

Directions: 60 M ABOVE MARTIN RD.

DEP Drainage: Androscoggin

HUC8 Name: Lower Androscoggin

Latitude: 44 27 9.91 N

Longitude: 70 48 42.4 W

Stream Order: 4

Sample Information

Log Number: 2219

Type of Sample: ROCK BAG

Date Deployed: 7/24/2013

Subsample Factor: X1

Replicates: 3

Date Retrieved: 8/21/2013

Classification Attainment

Statutory Class: A

Final Determination: A

Date: 3/18/2014

Model Result with P>.6: A

Reason for Determination: Model

Date Last Calculated: 3/17/2014

Comments:

Model Probabilities

First Stage Model

Class A	0.83	Class C	0.00
Class B	0.16	NA	0.00

B or Better Model

Class A or B	1.00
Class C or Non-Attainment	0.00

C or Better Model

Class A, B, or C	1.00
Non-Attainment	0.00

A Model

Class A	1.00
Class B or C or Non-Attainment	0.00

Model Variables

01 Total Mean Abundance	426.67	18 Relative Abundance Ephemeroptera	0.17
02 Generic Richness	77.00	19 EPT Generic Richness	30.00
03 Plecoptera Mean Abundance	15.33	21 Sum of Abundances: <i>Dicrotendipes</i> , <i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i>	5.82
04 Ephemeroptera Mean Abundance	71.67	23 Relative Generic Richness- Plecoptera	0.12
05 Shannon-Wiener Generic Diversity	4.72	25 Sum of Abundances: <i>Cheumatopsyche</i> , <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>	85.98
06 Hilsenhoff Biotic Index	4.82	26 Sum of Abundances: <i>Acroneuria</i> , <i>Maccaffertium</i> , <i>Stenonema</i>	23.30
07 Relative Abundance - Chironomidae	0.58	28 EP Generic Richness/14	1.43
08 Relative Generic Richness Diptera	0.40	30 Presence of Class A Indicator Taxa/7	0.29
09 <i>Hydropsyche</i> Abundance	9.24		
11 <i>Cheumatopsyche</i> Abundance	3.76		
12 EPT Generic Richness/ Diptera	0.97		
Generic Richness			
13 Relative Abundance - Oligochaeta	0.01		
15 Perlidae Mean Abundance (Family	1.67		
Functional Group)			
16 Tanypodinae Mean Abundance	21.93		
(Family Functional Group)			
17 Chironomini Abundance (Family	26.72		
Functional Group)			

Five Most Dominant Taxa		
Rank	Taxon Name	Percent
1	<i>Rheotanytarsus</i>	17.99
2	<i>Cricotopus</i>	12.93
3	<i>Polypedilum</i>	5.62
4	<i>Maccaffertium</i>	5.38
5	<i>Tricorythodes</i>	4.84



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Date Retrieved: 8/21/2013

**Sample Collection and Processing Information**

Sampling Organization: BIOMONITORING UNIT

Taxonomist: MICHAEL WINNELL

**Waterbody Information - Deployment**

Temperature: 18.2 deg C  
Dissolved Oxygen: 8.1 mg/l  
Specific Conductance: 21 uS/cm  
Velocity: 54.1 cm/s  
pH: 5.65  
Wetted Width: 22 m  
Bankfull Width: 23 m  
Depth: 75 cm

**Waterbody Information - Retrieval**

Temperature: 20.7 deg C  
Dissolved Oxygen: 8.6 mg/l  
Specific Conductance: 35 uS/cm  
Velocity: 23.8 cm/s  
pH: 5.83  
Wetted Width: 18 m  
Bankfull Width: 23 m  
Depth: 42 cm

**Water Chemistry**

**Summary of Habitat Characteristics**

<u>Landuse Name</u>	<u>Canopy Cover</u>	<u>Terrain</u>
Upland Hardwood	Open	Hilly
<u>Potential Stressor</u>	<u>Location</u>	<u>Substrate</u>
Altered Hydrology	Above Town	Gravel 45 %
	Main Stem	Rubble/Cobble 45 %
		Sand 10 %

**Landcover Summary - 2004 Data**

**Sample Comments**

8/21/2013: FISH IN STREAM AND SCULPIN IN SAMPLE.



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Replicates: 3

Calculated: 3/17/2014

Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance	
		Actual	Adjusted			Actual	Adjusted
<i>Stylodrilus</i>	08020101004		2.33		--		0.5
<i>Stylodrilus heringianus</i>	08020101004001	2.33			--	0.5	
Enchytraeidae	08020201	0.67	0.67		--	0.2	0.2
<i>Nais</i>	08020202009		1.00		CG		0.2
<i>Nais behningi</i>	08020202009003	0.33			--	0.1	
<i>Nais communis</i>	08020202009005	0.67			--	0.2	
<i>Paracapnia</i>	09020203018	0.33	0.33	1	SH	0.1	0.1
<i>Leuctra</i>	09020204020	0.67	0.67	0	SH	0.2	0.2
<i>Pteronarcys</i>	09020205023		1.33	0	SH		0.3
<i>Pteronarcys biloba</i>	09020205023061	1.33			--	0.3	
Perlodidae	09020207	0.67	0.67		--	0.2	0.2
<i>Isoperla</i>	09020207026	10.33	10.33	2	PR	2.4	2.4
Chloroperlidae	09020208	0.33	0.33		--	0.1	0.1
<i>Acroneuria</i>	09020209042	0.33	0.33	0	PR	0.1	0.1
<i>Perlesta</i>	09020209046	0.67	0.67	5	PR	0.2	0.2
<i>Agneta</i>	09020209050		0.67	2	PR		0.2
<i>Agneta capitata</i>	09020209050152	0.67		2	PR	0.2	
<i>Boyeria</i>	09020301004		1.00	2	PR		0.2
<i>Boyeria grafiana</i>	09020301004011	0.67			--	0.2	
<i>Boyeria vinosa</i>	09020301004012	0.33			--	0.1	
Gomphidae	09020302	0.67	0.67		--	0.2	0.2
<i>Gomphus</i>	09020302012	0.33	0.33	5	PR	0.1	0.1
Cordulegastridae	09020303	0.33	0.33		--	0.1	0.1
Baetidae	09020401	3.33			--	0.8	
<i>Acerpenna</i>	09020401007	2.67	5.00	5	CG	0.6	1.2
<i>Acerpenna macdunnoughi</i>	09020401007001	1.33			--	0.3	
<i>Labiobaetis</i>	09020401009		4.17		--		1.0
<i>Labiobaetis propinquus</i>	09020401009010	3.33			--	0.8	
<i>Plauditus</i>	09020401012	1.00	1.25		CG	0.2	0.3
<i>Iswaeon</i>	09020401015	5.00	6.25		--	1.2	1.5
Heptageniidae	09020402	1.00			--	0.2	
<i>Stenacron</i>	09020402014	0.67	0.70	7	SC	0.2	0.2
<i>Maccaffertium</i>	09020402015	9.33	22.97	4	SC	2.2	5.4
<i>Maccaffertium luteum</i>	09020402015049	12.33			--	2.9	
<i>Maccaffertium modestum</i>	09020402015051	0.33			--	0.1	
Leptophlebiidae	09020406	1.33	1.33		--	0.3	0.3
Ephemerellidae	09020410	0.33			--	0.1	
<i>Attenella</i>	09020410032		1.38	3	CG		0.3



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Calculated: 3/17/2014

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		Actual	Adjusted			Actual	Adjusted
<i>Attenella attenuata</i>	09020410032095	1.33			CG	0.3	
<i>Ephemera</i>	09020410035	6.67	6.91	1	CG	1.6	1.6
<i>Eurylophella</i>	09020410036	1.00	1.04	3	CG	0.2	0.2
<i>Tricorythodes</i>	09020411038	20.67	20.67	4	CG	4.8	4.8
Polycentropodidae	09020603	0.33			--	0.1	
<i>Neureclipsis</i>	09020603008	1.33	1.45	7	CF	0.3	0.3
<i>Polycentropus</i>	09020603010	2.33	2.55	6	PR	0.5	0.6
Hydropsychidae	09020604	0.33			--	0.1	
<i>Cheumatopsyche</i>	09020604015	3.67	3.76	5	CF	0.9	0.9
<i>Hydropsyche</i>	09020604016	3.00	9.24	4	CF	0.7	2.2
<i>Hydropsyche bronta</i>	09020604016029	0.67			--	0.2	
<i>Hydropsyche morosa</i>	09020604016030	0.33			--	0.1	
<i>Hydropsyche slossonae</i>	09020604016031	4.00			--	0.9	
<i>Hydropsyche sparna</i>	09020604016032	1.00			--	0.2	
<i>Rhyacophila</i>	09020605019		11.00	2	PR		2.6
<i>Rhyacophila minor</i>	09020605019063	11.00			PR	2.6	
<i>Hydroptila</i>	09020607026			6	P		
<i>Oxyethira</i>	09020607028			3	P		
<i>Brachycentrus</i>	09020609043		18.00	0	CF		4.2
<i>Brachycentrus appalachia</i>	09020609043096	18.00			--	4.2	
Limnephilidae	09020610				--		
<i>Lepidostoma</i>	09020611064	17.67	17.67	1	SH	4.1	4.1
Leptoceridae	09020618	0.67			--	0.2	
<i>Ceraclea</i>	09020618072	0.33	0.56	3	CG	0.1	0.1
<i>Mystacides</i>	09020618075		0.56	4	CG		0.1
<i>Mystacides sepulchralis</i>	09020618075147	0.33			--	0.1	
<i>Oecetis</i>	09020618078		0.56	8	PR		0.1
<i>Oecetis persimilis</i>	09020618078157	0.33			--	0.1	
<i>Nigronia</i>	09020701003		3.33	0	PR		0.8
<i>Nigronia serricornis</i>	09020701003003	3.33			--	0.8	
<i>Tipula</i>	09021001002	0.67	0.67	4	SH	0.2	0.2
<i>Hexatoma</i>	09021001008	1.33	1.33	2	PR	0.3	0.3
<i>Bezzia/palpomyia</i>	09021010043	0.33	0.33	6	PR	0.1	0.1
Chironomidae	09021011	6.67			--	1.6	
<i>Ablabesmyia</i>	09021011001		11.65	8	PR		2.7
<i>Ablabesmyia mallochii</i>	09021011001004	11.33			--	2.7	
<i>Conchapelopia</i>	09021011004	1.00	1.03	6	PR	0.2	0.2
<i>Meropelopia</i>	09021011010				--		



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		Actual	Adjusted			Actual	Adjusted
<i>Nilotanytus</i>	09021011012		0.69	6	PR		0.2
<i>Nilotanytus fimbriatus</i>	09021011012027	0.67			--	0.2	
<i>Paramerina</i>	09021011013	0.67	0.69		--	0.2	0.2
<i>Rheopelopia</i>	09021011017		6.51		PR		1.5
<i>Rheopelopia acra group</i>	09021011017036	6.33			--	1.5	
<i>Trissopelopia</i>	09021011021		1.37		PR		0.3
<i>Trissopelopia ogemawi</i>	09021011021042	1.33			--	0.3	
<i>Pagastia</i>	09021011025		0.34	1	--		0.1
<i>Pagastia orthogonia</i>	09021011025001	0.33			--	0.1	
<i>Brillia</i>	09021011033	1.33	2.74	5	SH	0.3	0.6
<i>Brillia flavifrons</i>	09021011033049	1.33			--	0.3	
<i>Corynoneura</i>	09021011036	1.33	1.37	7	CG	0.3	0.3
<i>Cricotopus</i>	09021011037	2.67	55.16	7	SH	0.6	12.9
<i>Cricotopus bicinctus</i>	09021011037057	51.00			--	12.0	
<i>Orthocladius</i>	09021011050		5.48	6	CG		1.3
<i>Orthocladius annectens</i>	09021011050092	5.33			--	1.3	
<i>Parametriocnemus</i>	09021011053	12.00	12.33	5	CG	2.8	2.9
<i>Psectrocladius</i>	09021011056		1.37	8	CG		0.3
<i>Psectrocladius psilopterus group</i>	09021011056103	1.33			--	0.3	
<i>Rheocricotopus</i>	09021011057		1.37	6	CG		0.3
<i>Rheocricotopus robacki</i>	09021011057105	0.33			--	0.1	
<i>Rheocricotopus eminellus</i>	09021011057109	1.00			--	0.2	
<i>Thienemanniella</i>	09021011062		1.37	6	CG		0.3
<i>Thienemanniella sp. B</i>	09021011062116	1.33			--	0.3	
<i>Tvetenia</i>	09021011065		17.47	5	CG		4.1
<i>Tvetenia vitracies</i>	09021011065113	9.00			--	2.1	
<i>Tvetenia paucunsa</i>	09021011065114	8.00			--	1.9	
<i>Cladotanytarsus</i>	09021011068			7	CG		
<i>Micropsectra</i>	09021011070	5.67	5.82	7	CG	1.3	1.4
<i>Paratanytarsus</i>	09021011071			6	--		
<i>Rheotanytarsus</i>	09021011072	74.67	76.74	6	CF	17.5	18.0
<i>Stempellinella</i>	09021011074			2	--		
<i>Tanytarsus</i>	09021011076	15.00	15.42	6	CF	3.5	3.6
<i>Microtendipes</i>	09021011094		0.34	6	CF		0.1
<i>Microtendipes pedellus group</i>	09021011094166	0.33			--	0.1	
<i>Nilothauma</i>	09021011095	1.33	1.37	2	--	0.3	0.3
<i>Phaenopsectra</i>	09021011101		0.34	7	SC		0.1
<i>Phaenopsectra obediens</i>	09021011101182	0.33			SC	0.1	



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		Actual	Adjusted			Actual	Adjusted
<i>Polypedilum</i>	09021011102		23.98	6	SH		5.6
<i>Polypedilum aviceps</i>	09021011102181	8.67			--	2.0	
<i>Polypedilum flavum</i>	09021011102182	3.00			--	0.7	
<i>Polypedilum illinoense group</i>	09021011102185	1.67			--	0.4	
<i>Polypedilum laetum</i>	09021011102186	2.00			--	0.5	
<i>Polypedilum scalaenum group</i>	09021011102189	6.67			--	1.6	
<i>Polypedilum albicorne</i>	09021011102195	1.33			--	0.3	
<i>Robackia</i>	09021011103		0.69		CG		0.2
<i>Robackia demeijerei</i>	09021011103002	0.67			--	0.2	
<i>Saetheria</i>	09021011132		1.37		--		0.3
<i>Saetheria tylus</i>	09021011132001	1.33			--	0.3	
<i>Hemerodromia</i>	09021016057	4.00	4.00	3	PR	0.9	0.9
<i>Roederiodes</i>	09021016058	0.67	0.67	3	PR	0.2	0.2
<i>Neoplasta</i>	09021016064	2.00	2.00		PR	0.5	0.5
<i>Neoporus</i>	09021103033	0.33	0.33		--	0.1	0.1
<i>Dineutus</i>	09021104032	0.67	0.67	2	--	0.2	0.2
<i>Gyrinus</i>	09021104033	0.33	0.33	2	PR	0.1	0.1
<i>Oulimnius</i>	09021113068		0.33		--		0.1
<i>Oulimnius latiusculus</i>	09021113068049	0.33			--	0.1	
<i>Promoresia</i>	09021113069		4.67		--		1.1
<i>Promoresia tardella</i>	09021113069052	4.67			--	1.1	
<i>Stenelmis</i>	09021113070	0.33	1.00	5	SC	0.1	0.2
<i>Stenelmis crenata</i>	09021113070055	0.67			--	0.2	
<i>Amnicola</i>	10010104013		1.00		SC		0.2
<i>Amnicola limosa</i>	10010104013018	1.00			--	0.2	
<i>Ferrissia</i>	10010204035		0.33		SC		0.1
<i>Ferrissia rivularis</i>	10010204035066	0.33			--	0.1	