



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

Station Information

Station Number: S-840
Waterbody: Orbeton Stream - Station 840
Town: Madrid Twp
Directions: ~500M UPSTREAM OF REEDS MILL ROAD (FOLLOW OBERTON RECREATIONAL PARK TRAIL TO SITE)
DEP Drainage: Kennebec
HUC8: 01030003
HUC8 Name: Lower Kennebec
Latitude: 44 53 20.02 N
Longitude: 70 24 23.42 W
Stream Order: 4

Sample Information

Log Number: 2121
Subsample Factor: X1
Type of Sample: ROCK BAG
Replicates: 3
Date Deployed: 7/23/2012
Date Retrieved: 8/21/2012

Classification Attainment

Statutory Class: A
Model Result with P>.6: A
Date Last Calculated: 4/17/2013
Final Determination: A
Reason for Determination: Model
Date: 4/18/2013
Comments:

Model Probabilities

First Stage Model		C or Better Model	
Class A	0.97	Class A, B, or C	1.00
Class B	0.03	Non-Attainment	0.00
Class C			
NA			
0.00			
B or Better Model		A Model	
Class A or B	1.00	Class A	1.00
Class C or Non-Attainment	0.00	Class B or C or Non-Attainment	0.00

Model Variables

01 Total Mean Abundance	155.00	18 Relative Abundance Ephemeroptera	0.48
02 Generic Richness	41.00	19 EPT Generic Richness	30.00
03 Plecoptera Mean Abundance	20.00	21 Sum of Abundances: <i>Dicrotendipes</i> , <i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i>	0.33
04 Ephemeroptera Mean Abundance	74.33	23 Relative Generic Richness- Plecoptera	0.17
05 Shannon-Wiener Generic Diversity	4.08	25 Sum of Abundances: <i>Cheumatopsyche</i> , <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>	0.67
06 Hilsenhoff Biotic Index	2.54	26 Sum of Abundances: <i>Acroneuria</i> , <i>Maccaffertium</i> , <i>Stenonema</i>	11.21
07 Relative Abundance - Chironomidae	0.05	28 EP Generic Richness/14	1.43
08 Relative Generic Richness Diptera	0.22	30 Presence of Class A Indicator Taxa/7	0.86
09 <i>Hydropsyche</i> Abundance	27.33		
11 <i>Cheumatopsyche</i> Abundance	0.67		
12 EPT Generic Richness/ Diptera	3.33		
Generic Richness			
13 Relative Abundance - Oligochaeta	0.00		
15 Perlidae Mean Abundance (Family	10.67		
Functional Group)			
16 Tanypodinae Mean Abundance	0.33		
(Family Functional Group)			
17 Chironomini Abundance (Family	5.33		
Functional Group)			

Five Most Dominant Taxa

Rank	Taxon Name	Percent
1	<i>Hydropsyche</i>	17.63
2	<i>Rhithrogena</i>	14.93
3	<i>Baetis</i>	13.52
4	<i>Maccaffertium</i>	7.23
5	<i>Ephemerella</i>	5.81



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Sample Collection and Processing Information

Sampling Organization: BIOMONITORING UNIT

Taxonomist: MICHAEL WINNELL

Waterbody Information - Deployment

Temperature:	18.1 deg C
Dissolved Oxygen:	8.9 mg/l
Specific Conductance:	49 uS/cm
Velocity:	61.5 cm/s
pH:	7.32
Wetted Width:	12 m
Bankfull Width:	20 m
Depth:	62 cm

Waterbody Information - Retrieval

Temperature:	19 deg C
Dissolved Oxygen:	8.4 mg/l
Specific Conductance:	55 uS/cm
Velocity:	56.5 cm/s
pH:	7.44
Wetted Width:	12 m
Bankfull Width:	20 m
Depth:	70 cm

Water Chemistry

Summary of Habitat Characteristics

Landuse Name

Upland Conifer

Upland Hardwood

Canopy Cover

Open

Terrain

Hilly

Potential Stressor

Logging

Location

Minimally Disturbed

Substrate

Boulder	85 %
Gravel	5 %
Rubble/Cobble	10 %

Landcover Summary - 2004 Data

Total Area (ac)	27007	High Int. Dev. %	0.0	Water %	0.2	Non-vegetated %	0.1
		Med Int. Dev. %	0.0	Wetland %	0.4	Tilled Agriculture %	0.1
		Low Int. Dev. %	0.6	Upland Woody %	97.9	Grassland %	0.2
		Development %	0.7	Natural %	98.8	Human Altered %	1.0
						Impervious %	0.2

Sample Comments

8/21/12: FISH OBSERVED.
ACTIVE LOGGING IN AREA.



**Maine Department of Environmental Protection
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Aquatic Life Taxonomic Inventory Report**

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Log Number: 2121

Subsample Factor: X1

Replicates: 3

Calculated: 4/17/2013

Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance	
		Actual	Adjusted			Actual	Adjusted
<i>Pteronarcys</i>	09020205023		2.00	0	SH		1.3
<i>Pteronarcys biloba</i>	09020205023061	2.00			--	1.3	
<i>Tallaperla</i>	09020206025	0.33	0.33		SH	0.2	0.2
Perlodidae	09020207	4.33			--	2.8	
<i>Isoperla</i>	09020207026	2.00	5.71	2	PR	1.3	3.7
<i>Malirekus</i>	09020207034		0.95		PR		0.6
<i>Malirekus iroquois</i>	09020207034101	0.33			--	0.2	
<i>Sweltsa</i>	09020208040	0.33	0.33		PR	0.2	0.2
Perlidae	09020209	4.00			--	2.6	
<i>Paragnetina</i>	09020209049	0.33	6.40	1	PR	0.2	4.1
<i>Paragnetina immarginata</i>	09020209049149	3.67			--	2.4	
<i>Agneta</i>	09020209050	0.33	4.27	2	PR	0.2	2.8
<i>Agneta capitata</i>	09020209050152	2.33		2	PR	1.5	
Baetidae	09020401	0.33			--	0.2	
<i>Baetis</i>	09020401001	7.00	20.95	4	CG	4.5	13.5
<i>Baetis flavistriga</i>	09020401001004	2.33			--	1.5	
<i>Baetis intercalaris</i>	09020401001008	1.33			--	0.9	
<i>Baetis pluto</i>	09020401001009	3.33			--	2.2	
<i>Baetis tricaudatus</i>	09020401001012	6.67			--	4.3	
<i>Centroptilum</i>	09020401003	0.33	0.34	2	CG	0.2	0.2
<i>Acerpenna</i>	09020401007	0.33	2.37	5	CG	0.2	1.5
<i>Acerpenna macdunnoughi</i>	09020401007001	2.00			--	1.3	
<i>Plauditus</i>	09020401012	0.67	0.68		CG	0.4	0.4
<i>Diphetor</i>	09020401013		0.34		--		0.2
<i>Diphetor hageni</i>	09020401013001	0.33			--	0.2	
Heptageniidae	09020402	3.00			--	1.9	
<i>Epeorus</i>	09020402009	2.67	2.89	0	SC	1.7	1.9
<i>Leucrocota</i>	09020402011	1.00	1.08	1	SC	0.6	0.7
<i>Rhithrogena</i>	09020402013	21.33	23.14	0	SC	13.8	14.9
<i>Maccaffertium</i>	09020402015	5.00	11.21	4	SC	3.2	7.2
<i>Maccaffertium luteum</i>	09020402015049	5.33			--	3.4	
Leptophlebiidae	09020406	0.67	0.67		--	0.4	0.4
<i>Ephemerella</i>	09020410035	8.33	9.00	1	CG	5.4	5.8
<i>Ephemerella invaria</i>	09020410035107	0.67			--	0.4	
<i>Eurylophella</i>	09020410036	0.67	0.67	3	CG	0.4	0.4
<i>Serratella</i>	09020410037		1.00	2	CG		0.6
<i>Serratella serratoidea</i>	09020410037124	1.00			--	0.6	
<i>Dolophilodes</i>	09020601001	0.67	0.67	0	CF	0.4	0.4



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<i>Neureclipsis</i>	09020603008	0.33	0.33	7	CF	0.2	0.2
Hydropsychidae	09020604	0.33			--	0.2	
<i>Cheumatopsyche</i>	09020604015	0.67	0.67	5	CF	0.4	0.4
<i>Hydropsyche</i>	09020604016	13.67	27.33	4	CF	8.8	17.6
<i>Hydropsyche morosa</i>	09020604016030	0.33			--	0.2	
<i>Hydropsyche slossonae</i>	09020604016031	9.67			--	6.2	
<i>Hydropsyche sparna</i>	09020604016032	3.33			--	2.2	
<i>Rhyacophila</i>	09020605019	1.00	2.33	2	PR	0.6	1.5
<i>Rhyacophila fuscula</i>	09020605019060	1.33			PR	0.9	
<i>Glossosoma</i>	09020606020	3.00	3.00	0	SC	1.9	1.9
<i>Brachycentrus</i>	09020609043		6.33	0	CF		4.1
<i>Brachycentrus appalachia</i>	09020609043096	6.33			--	4.1	
<i>Lepidostoma</i>	09020611064	1.67	1.67	1	SH	1.1	1.1
<i>Ceraclea</i>	09020618072	0.33	0.33	3	CG	0.2	0.2
<i>Oecetis</i>	09020618078	0.33	0.33	8	PR	0.2	0.2
<i>Trissopelopia</i>	09021011021		0.33		PR		0.2
<i>Trissopelopia ogemawi</i>	09021011021042	0.33			--	0.2	
<i>Pagastia</i>	09021011025		0.33	1	--		0.2
<i>Pagastia orthogonia</i>	09021011025001	0.33			--	0.2	
<i>Corynoneura</i>	09021011036	0.33	0.33	7	CG	0.2	0.2
<i>Parametriocnemus</i>	09021011053	0.33	0.33	5	CG	0.2	0.2
<i>Micropsectra</i>	09021011070	0.33	0.33	7	CG	0.2	0.2
<i>Rheotanytarsus</i>	09021011072	0.33	0.33	6	CF	0.2	0.2
<i>Tanytarsus</i>	09021011076			6	CF		
<i>Polypedilum</i>	09021011102		4.67	6	SH		3.0
<i>Polypedilum aviceps</i>	09021011102181	4.33			--	2.8	
<i>Polypedilum flavum</i>	09021011102182	0.33			--	0.2	
<i>Robackia</i>	09021011103		0.67		CG		0.4
<i>Robackia demeijerei</i>	09021011103002	0.67			--	0.4	
<i>Simulium</i>	09021012047		7.67	4	CF		4.9
<i>Simulium tuberosum</i>	09021012047067	7.67			--	4.9	
<i>Promoresia</i>	09021113069		1.67		--		1.1
<i>Promoresia tardella</i>	09021113069052	1.67			--	1.1	
<i>Stenelmis</i>	09021113070		1.00	5	SC		0.6
<i>Stenelmis crenata</i>	09021113070055	1.00			--	0.6	