



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

Station Information

Station Number: S-688

Waterbody: Dickey Brook - Station 688

Town: T17 R05 Wels

Directions: UPSTREAM OF RT 161

DEP Drainage: St. John

HUC8: 01010003

HUC8 Name: Fish River

Latitude: 47 9 12.99 N

Longitude: 68 21 45.94 W

Stream Order: 3

Sample Information

Log Number: 1852

Type of Sample: ROCK BAG

Date Deployed: 7/21/2009

Subsample Factor: X4

Replicates: 3

Date Retrieved: 8/18/2009

Classification Attainment

Statutory Class: B

Final Determination: B

Date: 5/7/2010

Model Result with P>.6: B

Reason for Determination: Model

Date Last Calculated: 5/6/2010

Comments:

Model Probabilities

First Stage Model

Class A	0.17	Class C	0.10
Class B	0.74	NA	0.00

B or Better Model

Class A or B	0.98
Class C or Non-Attainment	0.02

C or Better Model

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

A Model

Class A	0.03
Class B or C or Non-Attainment	0.97

Model Variables

01 Total Mean Abundance	901.33	18 Relative Abundance Ephemeroptera	0.16
02 Generic Richness	37.00	19 EPT Generic Richness	19.00
03 Plecoptera Mean Abundance	10.67	21 Sum of Abundances: <i>Dicrotendipes</i> , <i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i>	35.86
04 Ephemeroptera Mean Abundance	148.00	23 Relative Generic Richness- Plecoptera	0.03
05 Shannon-Wiener Generic Diversity	2.69	25 Sum of Abundances: <i>Cheumatopsyche</i> , <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>	130.56
06 Hilsenhoff Biotic Index	4.44	26 Sum of Abundances: <i>Acroneuria</i> , <i>Maccaffertium</i> , <i>Stenonema</i>	90.25
07 Relative Abundance - Chironomidae	0.13	28 EP Generic Richness/14	0.86
08 Relative Generic Richness Diptera	0.27	30 Presence of Class A Indicator Taxa/7	0.00
09 <i>Hydropsyche</i> Abundance	497.48		
11 <i>Cheumatopsyche</i> Abundance	89.18		
12 EPT Generic Richness/ Diptera	1.90		
Generic Richness			
13 Relative Abundance - Oligochaeta	0.00		
15 Perlidae Mean Abundance	10.67		
(Family Functional Group)			
16 Tanypodinae Mean Abundance	0.00		
(Family Functional Group)			
17 Chironomini Abundance (Family	0.00		
Functional Group)			

Five Most Dominant Taxa		
Rank	Taxon Name	Percent
1	<i>Hydropsyche</i>	55.19
2	<i>Maccaffertium</i>	10.01
3	<i>Cheumatopsyche</i>	9.89
4	<i>Cricotopus</i>	3.98
5	<i>Micropsectra</i>	3.98



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Sample Collection and Processing Information

Sampling Organization: BIOMONITORING UNIT

Taxonomist: MICHAEL WINNELL

Waterbody Information - Deployment

Temperature: 21.7 deg C
Dissolved Oxygen: 6.7 mg/l
Specific Conductance: 98 uS/cm
Velocity:
pH: 7.16
Wetted Width: 11.8 m
Bankfull Width: 13.5 m
Depth:

Waterbody Information - Retrieval

Temperature: 23.8 deg C
Dissolved Oxygen: 7.1 mg/l
Specific Conductance: 130 uS/cm
Velocity: 37 cm/s
pH: 7.23
Wetted Width: 10.4 m
Bankfull Width: 11 m
Depth: 27 cm

Water Chemistry - 7/21/2009

Soluble Reactive Phosphorus	7 ug/l	Nitrate+nitrite As N	0.09 mg/l
Total Phosphorus	0.062 mg/l	Total Kjeldahl Nitrogen	0.6 mg/l
Dissolved Organic Carbon	11 mg/l	Total Alkalinity	52 mg/l

Summary of Habitat Characteristics

<u>Landuse Name</u>	<u>Canopy Cover</u>	<u>Terrain</u>
Cultivated	Open	Rolling
Upland Conifer		
<u>Potential Stressor</u>	<u>Location</u>	<u>Substrate</u>
Agricultural Runoff	Above Road Crossing	Boulder 5 %
	Below Agriculture NPS	Gravel 15 %
		Rubble/Cobble 55 %
		Sand 15 %
		Silt 10 %

Landcover Summary - 2004 Data

Total Area (ac)	18561	High Int. Dev. %	0.1	Water %	0.5	Non-vegetated %	0.2
		Med Int. Dev. %	0.1	Wetland %	13.7	Tilled Agriculture %	35.6
		Low Int. Dev. %	1.9	Upland Woody %	37.8	Grassland %	10.0
		Development %	2.1	Natural %	51.7	Human Altered %	47.8
						Impervious %	1.8

Sample Comments



Maine Department of Environmental Protection
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Aquatic Life Taxonomic Inventory Report

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Replicates: 3

Calculated: 5/6/2010

Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance	
		Actual	Adjusted			Actual	Adjusted
<i>Turbellaria</i>	0301	1.33	1.33		--	0.1	0.1
<i>Agnetina</i>	09020209050		10.67	2	PR		1.2
<i>Agnetina capitata</i>	09020209050152	10.67		2	PR	1.2	
<i>Boyeria</i>	09020301004		5.33	2	PR		0.6
<i>Boyeria vinosa</i>	09020301004012	5.33			--	0.6	
Baetidae	09020401	2.67			--	0.3	
<i>Baetis</i>	09020401001		2.91	4	CG		0.3
<i>Baetis flavistriga</i>	09020401001004	1.33			--	0.1	
<i>Baetis intercalaris</i>	09020401001008	1.33			--	0.1	
<i>Acerpenna</i>	09020401007	8.00	13.09	5	CG	0.9	1.5
<i>Acerpenna macdunnoughi</i>	09020401007001	4.00			--	0.4	
<i>Plauditus</i>	09020401012	4.00	5.82		CG	0.4	0.6
<i>Plauditus cingulatus</i>	09020401012003	1.33			--	0.1	
<i>Dipheter</i>	09020401013		1.45		--		0.2
<i>Dipheter hageni</i>	09020401013001	1.33			--	0.1	
<i>Iswaeon</i>	09020401015		8.73		--		1.0
<i>Iswaeon anoka</i>	09020401015001	8.00			--	0.9	
Heptageniidae	09020402	16.00			--	1.8	
<i>Stenacron</i>	09020402014	9.33	11.08	7	SC	1.0	1.2
<i>Maccaffertium</i>	09020402015	41.33	90.25	4	SC	4.6	10.0
<i>Maccaffertium luteum</i>	09020402015049	29.33			--	3.3	
<i>Maccaffertium mediopunctatum</i>	09020402015050	5.33			--	0.6	
<i>Isonychia</i>	09020404018	4.00	4.00	2	CF	0.4	0.4
Leptophlebiidae	09020406	1.33	1.33		--	0.1	0.1
<i>Tricorythodes</i>	09020411038	4.00	4.00	4	CG	0.4	0.4
<i>Caenis</i>	09020412040	1.33	5.33	7	CG	0.1	0.6
<i>Caenis macafferti</i>	09020412040132	4.00			--	0.4	
<i>Dolophilodes</i>	09020601001	1.33	1.33	0	CF	0.1	0.1
<i>Chimarra</i>	09020601003	1.33	1.33	2	CF	0.1	0.1
Polycentropodidae	09020603	1.33			--	0.1	
<i>Cernotina</i>	09020603006	2.67	3.56		PR	0.3	0.4
<i>Polycentropus</i>	09020603010	1.33	1.78	6	PR	0.1	0.2
Hydropsychidae	09020604	25.33			--	2.8	
<i>Cheumatopsyche</i>	09020604015	85.33	89.18	5	CF	9.5	9.9
<i>Hydropsyche</i>	09020604016	154.67	497.48	4	CF	17.2	55.2
<i>Hydropsyche bronta</i>	09020604016029	56.00			--	6.2	
<i>Hydropsyche morosa</i>	09020604016030	37.33			--	4.1	
<i>Hydropsyche slossonae</i>	09020604016031	93.33			--	10.4	



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		Actual	Adjusted			Actual	Adjusted
<i>Hydropsyche sparna</i>	09020604016032	24.00			--	2.7	
<i>Hydropsyche depravata complex</i>	09020604016041	110.67			CF	12.3	
<i>Hydroptila</i>	09020607026	1.33	1.33	6	P	0.1	0.1
<i>Nigronia</i>	09020701003		1.33	0	PR		0.1
<i>Nigronia serricornis</i>	09020701003003	1.33			--	0.1	
<i>Antocha</i>	09021001004	1.33	1.33	3	CG	0.1	0.1
Chironomidae	09021011	4.00			--	0.4	
<i>Nilotanytus fimbriatus</i>	09021011012027				--		
<i>Potthastia</i>	09021011026		1.38	2	CG		0.2
<i>Potthastia gaedii</i>	09021011026045	1.33			--	0.1	
<i>Cricotopus</i>	09021011037	2.67	35.86	7	SH	0.3	4.0
<i>Cricotopus bicinctus</i>	09021011037057	8.00			--	0.9	
<i>Cricotopus vierriensis</i>	09021011037071	1.33			--	0.1	
<i>Cricotopus luciae</i>	09021011037073	2.67			--	0.3	
<i>Cricotopus politus</i>	09021011037077	6.67			--	0.7	
<i>Cricotopus triannulatus/infuscatus</i>	09021011037078	13.33			SH	1.5	
<i>Parametriocnemus</i>	09021011053	1.33	1.38	5	CG	0.1	0.2
<i>Tvetenia</i>	09021011065		24.83	5	CG		2.8
<i>Tvetenia vitracies</i>	09021011065113	20.00			--	2.2	
<i>Tvetenia paucunca</i>	09021011065114	4.00			--	0.4	
<i>Micropsectra</i>	09021011070	34.67	35.86	7	CG	3.8	4.0
<i>Paratanytarsus</i>	09021011071	2.67	2.76	6	--	0.3	0.3
<i>Rheotanytarsus</i>	09021011072	12.00	12.41	6	CF	1.3	1.4
<i>Tanytarsus</i>	09021011076	5.33	5.52	6	CF	0.6	0.6
<i>Atherix</i>	09021015055	2.67	2.67	2	PR	0.3	0.3
<i>Dubiraphia</i>	09021113064	2.67	2.67	6	--	0.3	0.3
<i>Optioservus</i>	09021113067	2.67	5.33	3	SC	0.3	0.6
<i>Optioservus ovalis</i>	09021113067046	1.33			--	0.1	
<i>Optioservus trivittatus</i>	09021113067048	1.33			--	0.1	
<i>Stenelmis</i>	09021113070		4.00	5	SC		0.4
<i>Stenelmis crenata</i>	09021113070055	4.00			--	0.4	
<i>Ferrissia</i>	10010204035		1.33		SC		0.1
<i>Ferrissia rivularis</i>	10010204035066	1.33			--	0.1	
<i>Pisidium</i>	10020201002	1.33	1.33		CF	0.1	0.1