



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

Station Information

Station Number: S-697

Waterbody: Halfmoon Stream - Station 697

Town: Thorndike

Directions: ABOVE RT. 220

DEP Drainage: Kennebec

HUC8 Name: Lower Kennebec

Latitude: 44 34 30.02 N

Longitude: 69 16 33.23 W

Stream Order: 3

Sample Information

Log Number: 2197

Type of Sample: ROCK BAG

Date Deployed: 7/19/2013

Subsample Factor: X4

Replicates: 3

Date Retrieved: 8/13/2013

Classification Attainment

Statutory Class: A

Final Determination: B

Date: 3/4/2014

Model Result with P>.6: B

Reason for Determination: Model

Date Last Calculated: 3/4/2014

Comments:

Model Probabilities

First Stage Model				C or Better Model	
Class A	0.06	Class C	0.26	Class A, B, or C	1.00
Class B	0.68	NA	0.00	Non-Attainment	0.00
B or Better Model				A Model	
Class A or B			0.82	Class A	0.04
Class C or Non-Attainment			0.18	Class B or C or Non-Attainment	0.96

Model Variables

01 Total Mean Abundance	1720.00	18 Relative Abundance Ephemeroptera	0.16
02 Generic Richness	29.00	19 EPT Generic Richness	15.00
03 Plecoptera Mean Abundance	13.33	21 Sum of Abundances: <i>Dicrotendipes</i> , <i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i>	0.00
04 Ephemeroptera Mean Abundance	278.67	23 Relative Generic Richness- Plecoptera	0.03
05 Shannon-Wiener Generic Diversity	3.21	25 Sum of Abundances: <i>Cheumatopsyche</i> , <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>	182.49
06 Hilsenhoff Biotic Index	4.34	26 Sum of Abundances: <i>Acroneuria</i> , <i>Maccaffertium</i> , <i>Stenonema</i>	65.33
07 Relative Abundance - Chironomidae	0.19	28 EP Generic Richness/14	0.50
08 Relative Generic Richness Diptera	0.24	30 Presence of Class A Indicator Taxa/7	0.29
09 <i>Hydropsyche</i> Abundance	728.17	Five Most Dominant Taxa	
11 <i>Cheumatopsyche</i> Abundance	123.83		
12 EPT Generic Richness/ Diptera Generic Richness	2.14	Rank	Taxon Name
13 Relative Abundance - Oligochaeta	0.00		Percent
15 Perlidae Mean Abundance (Family Functional Group)	13.33	1	<i>Hydropsyche</i>
16 Tanypodinae Mean Abundance (Family Functional Group)	25.33	2	<i>Polypedilum</i>
17 Chironomini Abundance (Family Functional Group)	198.67	3	<i>Cheumatopsyche</i>
		4	<i>Baetis</i>
		5	<i>Ephemerella</i>
		6	<i>Stenelmis</i>



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Waterbody: Halfmoon Stream - Station 697

Date Retrieved: 8/13/2013

Sample Collection and Processing Information

Sampling Organization: BIOMONITORING UNIT

Taxonomist: LOTIC INC.

Waterbody Information - Deployment

Temperature: 24.8 deg C
Dissolved Oxygen: 10.2 mg/l
Specific Conductance: 116 uS/cm
Velocity: 46.3 cm/s
pH: 8.59
Wetted Width: 9.9 m
Bankfull Width: 12.5 m
Depth: 45 cm

Waterbody Information - Retrieval

Temperature: 19.8 deg C
Dissolved Oxygen: 9.3 mg/l
Specific Conductance: 90 uS/cm
Velocity: 31.1 cm/s
pH: 7.65
Wetted Width: 11 m
Bankfull Width: 12.5 m
Depth: 55 cm

Water Chemistry - 8/13/2013

Ammonia As Nitrogen	0.01 mg/l	Soluble Reactive Phosphorus	7 ug/l
Nitrate+nitrite As N	0.62 mg/l	Total Phosphorus	0.019 mg/l
Total Kjeldahl Nitrogen	0.2 mg/l	Total Suspended Solids	<2 mg/l
Dissolved Organic Carbon	2.6 mg/l	Total Dissolved Solids	87 mg/l

Summary of Habitat Characteristics

<u>Landuse Name</u>	<u>Canopy Cover</u>	<u>Terrain</u>
Upland Hardwood	Open	Rolling
<u>Potential Stressor</u>	<u>Location</u>	<u>Substrate</u>
Agricultural Runoff	Above Road Crossing	Bedrock 5 %
Nutrients	Below Agriculture NPS	Boulder 35 %
		Gravel 15 %
		Rubble/Cobble 40 %
		Sand 5 %

Landcover Summary - 2004 Data

Total Area (ac)	20308	High Int. Dev. %	0.1	Water %	0.3	Non-vegetated %	0.1
		Med Int. Dev. %	0.3	Wetland %	1.4	Tilled Agriculture %	7.3
		Low Int. Dev. %	2.9	Upland Woody %	78.0	Grassland %	9.6
		Development %	3.3	Natural %	79.4	Human Altered %	20.3
						Impervious %	2.7

Sample Comments

8/13/2013 - WATER LEVEL APPEARED TO BE 2-3 FEET HIGHER DURING STORM EVENT,
HATCHERY/FISH ODOR



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

Station Number: S-697

Waterbody: Halfmoon Stream - Station 697

Town: Thorndike

Log Number: 2197

Subsample Factor: X4

Replicates: 3

Calculated: 3/4/2014

Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance	
		Actual	Adjusted			Actual	Adjusted
<i>Agnetina</i>	09020209050		13.33	2	PR		0.8
<i>Agnetina capitata</i>	09020209050152	13.33		2	PR	0.8	
<i>Baetis</i>	09020401001		97.33	4	CG		5.7
<i>Baetis brunneicolor</i>	09020401001003	16.00			--	0.9	
<i>Baetis flavistriga</i>	09020401001004	58.67			--	3.4	
<i>Baetis intercalaris</i>	09020401001008	22.67			--	1.3	
<i>Heterocloeon</i>	09020401005	22.67	22.67	2	SC	1.3	1.3
<i>Maccaffertium</i>	09020402015		65.33	4	SC		3.8
<i>Maccaffertium vicarium</i>	09020402015055	65.33			--	3.8	
<i>Isonychia</i>	09020404018	5.33	5.33	2	CF	0.3	0.3
<i>Ephemerella</i>	09020410035	82.67	82.67	1	CG	4.8	4.8
<i>Tricorythodes</i>	09020411038	5.33	5.33	4	CG	0.3	0.3
Hydropsychidae	09020604	237.33			--	13.8	
<i>Cheumatopsyche</i>	09020604015	89.33	123.83	5	CF	5.2	7.2
<i>Hydropsyche</i>	09020604016		728.17	4	CF		42.3
<i>Hydropsyche bronta</i>	09020604016029	468.00			--	27.2	
<i>Hydropsyche sparna</i>	09020604016032	57.33			--	3.3	
<i>Hydroptila</i>	09020607026	65.33	65.33	6	P	3.8	3.8
<i>Brachycentrus</i>	09020609043		10.67	0	CF		0.6
<i>Brachycentrus appalachia</i>	09020609043096	10.67			--	0.6	
<i>Psilotreta</i>	09020614068	16.00	16.00	0	SC	0.9	0.9
<i>Helicopsyche</i>	09020616070	16.00	16.00	3	SC	0.9	0.9
<i>Triaenodes</i>	09020618077	2.67	2.67	6	SH	0.2	0.2
<i>Oecetis</i>	09020618078	28.00	28.00	8	PR	1.6	1.6
<i>Nigronia</i>	09020701003		2.67	0	PR		0.2
<i>Nigronia serricornis</i>	09020701003003	2.67			--	0.2	
<i>Tipula</i>	09021001002	5.33	5.33	4	SH	0.3	0.3
<i>Thienemannimyia</i>	09021011020		25.33	3	PR		1.5
<i>Thienemannimyia/arctopelopia</i> group	09021011020041	25.33			--	1.5	
<i>Pagastia</i>	09021011025	2.67	2.67	1	--	0.2	0.2
<i>Cricotopus</i>	09021011037		58.67	7	SH		3.4
<i>Cricotopus bicinctus</i>	09021011037057	17.33			--	1.0	
<i>Cricotopus trifascia</i>	09021011037070	41.33			--	2.4	
<i>Parametriocnemus</i>	09021011053	5.33	5.33	5	CG	0.3	0.3
<i>Rheotanytarsus</i>	09021011072	28.00	28.00	6	CF	1.6	1.6
<i>Polypedilum</i>	09021011102		198.67	6	SH		11.6
<i>Polypedilum aviceps</i>	09021011102181	198.67			--	11.6	



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<i>Dineutus</i>	09021104032	4.00	4.00	2	--	0.2	0.2
<i>Psephenus</i>	09021108058	10.67	10.67	4	SC	0.6	0.6
<i>Ectopria</i>	09021109059	2.67	2.67	5	SC	0.2	0.2
<i>Stenelmis</i>	09021113070	82.67	82.67	5	SC	4.8	4.8
<i>Helisoma</i>	10010203030	4.00	4.00		SC	0.2	0.2
<i>Sphaerium</i>	10020201003	6.67	6.67		CF	0.4	0.4