



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

Station Information

Station Number: S-430	River Basin:	Maine Coastal
Waterbody: Passagassawakeag River - Station 430	HUC8 Name:	Maine Coastal
Town: Belfast	Latitude:	44 25 44.08 N
Directions: POORS MILL RD ABOVE KEENE FARM	Longitude:	69 5 35.8 W
	Stream Order:	3

Sample Information

Log Number: 2474	Type of Sample: ROCK BAG	Date Deployed: 7/12/2016
Subsample Factor: X4	Replicates: 3	Date Retrieved: 8/9/2016

Classification Attainment

Statutory Class: B	Final Determination: B	Date: 8/31/2017
Model Result with $P \geq 0.6$: B	Reason for Determination: Model	
Date Last Calculated: 8/30/2017	Comments:	

Model Probabilities

<u>First Stage Model</u>		<u>C or Better Model</u>	
Class A	0.11	Class A, B, or C	1.00
Class B	0.81	Non-Attainment	0.00
<u>B or Better Model</u>		<u>A Model</u>	
Class A or B	0.99	Class A	0.13
Class C or Non-Attainment	0.01	Class B or C or Non-Attainment	0.87

Model Variables

01 Total Mean Abundance	2098.67	18 Relative Abundance Ephemeroptera	0.09
02 Generic Richness	46.00	19 EPT Generic Richness	21.00
03 Plecoptera Mean Abundance	17.33	21 Sum of Abundances: <i>Dicrotendipes, Micropsectra, Parachironomus, Helobdella</i>	0.00
04 Ephemeroptera Mean Abundance	186.67	23 Relative Generic Richness- Plecoptera	0.02
05 Shannon-Wiener Generic Diversity	3.40	25 Sum of Abundances: <i>Cheumatopsyche, Cricotopus, Tanytarsus, Ablabesmyia</i>	201.33
06 Hilsenhoff Biotic Index	5.12	26 Sum of Abundances: <i>Acroneuria, Maccaffertium, Stenonema</i>	70.67
07 Relative Abundance - Chironomidae	0.57	28 EP Generic Richness/14	0.86
08 Relative Generic Richness Diptera	0.35	30 Presence of Class A Indicator Taxa/7	0.29
09 <i>Hydropsyche</i> Abundance	204.00		
11 <i>Cheumatopsyche</i> Abundance	169.33		
12 EPT Generic Richness/ Diptera Generic Richness	1.31		
13 Relative Abundance - Oligochaeta	0.00		
15 Perlidae Mean Abundance (Family Functional Group)	17.33		
16 Tanypodinae Mean Abundance (Family Functional Group)	48.00		
17 Chironomini Abundance (Family Functional Group)	130.67		

Five Most Dominant Taxa

Rank	Taxon Name	Percent
1	<i>Rheotanytarsus</i>	43.96
2	<i>Hydropsyche</i>	9.72
3	<i>Cheumatopsyche</i>	8.07
4	<i>Promoresia</i>	4.83
5	<i>Helicopsyche</i>	3.81



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Sample Collection and Processing Information

Sampling Organization: BIOMONITORING UNIT Taxonomist: MICHAEL COLE

Waterbody Information - Deployment

Temperature: 21.6 deg C
Dissolved Oxygen: 10.75 mg/l
Dissolved Oxygen Saturation: 122.1 %
Specific Conductance: 66.1 uS/cm
Velocity: 36.6 cm/s
pH: 8.19
Wetted Width: 11 m
Bankfull Width: 12 m
Depth: 35 cm

Waterbody Information - Retrieval

Temperature: 21.4 deg C
Dissolved Oxygen: 10.93 mg/l
Dissolved Oxygen Saturation: 122.9 %
Specific Conductance: 74.8 uS/cm
Velocity: 12.192 cm/s
pH: 8.02
Wetted Width: 10 m
Bankfull Width: 12 m
Depth: 31 cm

Water Chemistry - 8/9/2016

Nitrate+nitrite As N	0.02 mg/l	Total Phosphorus	16 ug/l
Total Kjeldahl Nitrogen	0.4 mg/l	Total Suspended Solids	<2 mg/l
Dissolved Organic Carbon	5.3 mg/l	Total Dissolved Solids	58 mg/l
Orthophosphate As Phosphorus	4 ug/l		

Summary of Habitat Characteristics

<u>Landuse Name</u>	<u>Canopy Cover</u>	<u>Terrain</u>	
Pasture	Partly Open	Rolling	
Upland Conifer			
Upland Hardwood			
<u>Potential Stressor</u>	<u>Location</u>	<u>Substrate</u>	
Agricultural Runoff	Above Town	Boulder	60 %
	Below Agriculture NPS	Gravel	5 %
		Rubble/Cobble	30 %
		Sand	5 %

Landcover Summary - 2004 Data

Total Area (ac)	20138	High Int. Dev. %	0.1	Water %	2.9	Non-vegetated %	0.4
		Med Int. Dev. %	0.3	Wetland %	8.5	Tilled Agriculture %	2.9
		Low Int. Dev. %	3.0	Upland Woody %	75.1	Grassland %	7.0
		Development %	3.4	Natural %	83.6	Human Altered %	13.6
						Impervious %	2.7

Sample Comments



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Station Number: S-430

Waterbody: Passagassawakeag River - Station 430

Town: Belfast

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Subsample Factor: X4

Replicates: 3

Calculated: 8/30/2017

Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance %	
		Actual	Adjusted			Actual	Adjusted
<i>Acroneuria</i>	09020209042		17.33	0	PR		0.8
<i>Acroneuria abnormis</i>	09020209042121	17.33		0	PR	0.8	
Gomphidae	09020302	1.33	1.33		--	0.1	0.1
<i>Baetis</i>	09020401001	2.67	41.33	4	CG	0.1	2.0
<i>Baetis flavistriga</i>	09020401001004	2.67			--	0.1	
<i>Baetis intercalaris</i>	09020401001008	34.67			--	1.7	
<i>Baetis pluto</i>	09020401001009	1.33			--	0.1	
<i>Acerpenna</i>	09020401007		2.67	5	CG		0.1
<i>Acerpenna pygmaea</i>	09020401007011	2.67			--	0.1	
<i>Plauditus</i>	09020401012	1.33	1.33		CG	0.1	0.1
<i>Isxaeon</i>	09020401015		9.33		--		0.4
<i>Isxaeon anoka</i>	09020401015001	9.33			--	0.4	
<i>Epeorus</i>	09020402009		1.33	0	SC		0.1
<i>Epeorus vitreus</i>	09020402009033	1.33			--	0.1	
<i>Leucrocuta</i>	09020402011	29.33	29.33	1	SC	1.4	1.4
<i>Maccaffertium</i>	09020402015	16.00	53.33	4	SC	0.8	2.5
<i>Maccaffertium mediopunctatum</i>	09020402015050	1.33			--	0.1	
<i>Maccaffertium modestum</i>	09020402015051	1.33			--	0.1	
<i>Maccaffertium vicarium</i>	09020402015055	34.67			--	1.7	
<i>Isonychia</i>	09020404018		17.33	2	CF		0.8
<i>Isonychia bicolor</i>	09020404018059	17.33			--	0.8	
<i>Ephemerella</i>	09020410035	10.67	10.67	1	CG	0.5	0.5
<i>Serratella</i>	09020410037		6.67	2	CG		0.3
<i>Serratella deficiens (Teloganopsis deficiens)</i>	09020410037121	4.00			--	0.2	
<i>Serratella serratoides</i>	09020410037124	2.67			--	0.1	
<i>Tricorythodes</i>	09020411038	13.33	13.33	4	CG	0.6	0.6
<i>Chimarra</i>	09020601003		16.00	2	CF		0.8
<i>Chimarra socia</i>	09020601003004	16.00			--	0.8	
<i>Neureclipsis</i>	09020603008	49.33	49.33	7	CF	2.4	2.4
<i>Cheumatopsyche</i>	09020604015	169.33	169.33	5	CF	8.1	8.1
<i>Hydropsyche</i>	09020604016	16.00	204.00	4	CF	0.8	9.7
<i>Hydropsyche morosa</i>	09020604016030	77.33			--	3.7	
<i>Hydropsyche sparna</i>	09020604016032	97.33			--	4.6	
<i>Hydropsyche betteni</i>	09020604016037	12.00			--	0.6	
<i>Hydropsyche scalaris species group</i>	09020604016048	1.33			--	0.1	
<i>Macrostemum</i>	09020604018	10.67	10.67	3	CF	0.5	0.5
<i>Rhyacophila</i>	09020605019	1.33	1.33	2	PR	0.1	0.1



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		Actual	Adjusted			Actual	Adjusted
Hydroptilidae	09020607				--		
<i>Lepidostoma</i>	09020611064	2.67	2.67	1	SH	0.1	0.1
<i>Helicopsyche</i>	09020616070	80.00	80.00	3	SC	3.8	3.8
<i>Oecetis</i>	09020618078		21.33	8	PR		1.0
<i>Oecetis persimilis</i>	09020618078157	21.33			--	1.0	
<i>Nigronia</i>	09020701003		1.33	0	PR		0.1
<i>Nigronia serricornis</i>	09020701003003	1.33			--	0.1	
<i>Tipula</i>	09021001002	1.33	1.33	4	SH	0.1	0.1
Chironomidae	09021011				--		
<i>Pentaneura</i>	09021011014	5.33	5.33	6	PR	0.3	0.3
<i>Thienemannimyia</i>	09021011020		42.67	3	PR		2.0
<i>Thienemannimyia group</i>	09021011020041	42.67			--	2.0	
<i>Cricotopus</i>	09021011037	21.33	21.33	7	SH	1.0	1.0
<i>Orthocladius</i>	09021011050	5.33	5.33	6	CG	0.3	0.3
<i>Rheocricotopus</i>	09021011057	5.33	5.33	6	CG	0.3	0.3
<i>Thienemanniella</i>	09021011062	5.33	5.33	6	CG	0.3	0.3
<i>Tvetenia</i>	09021011065		32.00	5	CG		1.5
<i>Tvetenia vitracies</i>	09021011065113	32.00			--	1.5	
<i>Rheotanytarsus</i>	09021011072		922.67	6	CF		44.0
<i>Rheotanytarsus exiguus group</i>	09021011072127	901.33			CF	42.9	
<i>Rheotanytarsus pellucidus</i>	09021011072128	21.33			CF	1.0	
<i>Stempellinella</i>	09021011074	5.33	5.33	2	--	0.3	0.3
<i>Sublettea</i>	09021011075		5.33		--		0.3
<i>Sublettea coffmani</i>	09021011075131	5.33			--	0.3	
<i>Tanytarsus</i>	09021011076	10.67	10.67	6	CF	0.5	0.5
<i>Microtendipes</i>	09021011094		53.33	6	CF		2.5
<i>Microtendipes rydalensis group</i>	09021011094168	53.33			--	2.5	
<i>Nilothauma</i>	09021011095	2.67	2.67	2	--	0.1	0.1
<i>Polypedilum</i>	09021011102		74.67	6	SH		3.6
<i>Polypedilum aviceps</i>	09021011102181	37.33			--	1.8	
<i>Polypedilum flavum</i>	09021011102182	37.33			--	1.8	
<i>Hemerodromia</i>	09021016057	8.00	8.00	3	PR	0.4	0.4
<i>Dineutus</i>	09021104032	2.67	2.67	2	--	0.1	0.1
<i>Psephenus</i>	09021108058		18.67	4	SC		0.9
<i>Psephenus herricki</i>	09021108058028	18.67			--	0.9	
<i>Dubiraphia</i>	09021113064	5.33	5.33	6	--	0.3	0.3
<i>Macronychus</i>	09021113065		5.33	4	--		0.3
<i>Macronychus glabratus</i>	09021113065040	5.33			--	0.3	



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<i>Microcylloepus</i>	09021113066		1.33	3	--		0.1
<i>Microcylloepus pusillus</i>	09021113066041	1.33			--	0.1	
<i>Promoresia</i>	09021113069		101.33		--		4.8
<i>Promoresia elegans</i>	09021113069051	92.00			--	4.4	
<i>Promoresia tardella</i>	09021113069052	9.33			--	0.4	
<i>Stenelmis</i>	09021113070	1.33	1.33	5	SC	0.1	0.1