



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

Station Information

Station Number: S-317	River Basin: Saco
Waterbody: Cole Brook - Station 317	HUC8 Name: Presumpscot
Town: Gray	Latitude: 43 55 25.99 N
Directions: BELOW WEYMOUTH RD. CROSSING	Longitude: 70 20 22.14 W
	Stream Order: 1

Sample Information

Log Number: 2353	Type of Sample: ROCK BAG	Date Deployed: 7/9/2015
Subsample Factor: X1	Replicates: 3	Date Retrieved: 8/6/2015

Classification Attainment

Statutory Class: B	Final Determination: A	Date: 12/9/2015
Model Result with $P \geq 0.6$: A	Reason for Determination: Model	
Date Last Calculated: 12/8/2015	Comments:	

Model Probabilities

<u>First Stage Model</u>		<u>C or Better Model</u>	
Class A	0.73	Class C	0.00
Class B	0.27	NA	0.00
<u>B or Better Model</u>		<u>A Model</u>	
Class A or B	1.00	Class A	0.98
Class C or Non-Attainment	0.00	Class B or C or Non-Attainment	0.02

Model Variables

01 Total Mean Abundance	928.00	18 Relative Abundance Ephemeroptera	0.04
02 Generic Richness	67.00	19 EPT Generic Richness	24.00
03 Plecoptera Mean Abundance	60.33	21 Sum of Abundances: <i>Dicrotendipes</i> , <i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i>	32.29
04 Ephemeroptera Mean Abundance	36.00	23 Relative Generic Richness- Plecoptera	0.06
05 Shannon-Wiener Generic Diversity	3.35	25 Sum of Abundances: <i>Cheumatopsyche</i> , <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>	11.07
06 Hilsenhoff Biotic Index	4.29	26 Sum of Abundances: <i>Acroneuria</i> , <i>Maccaffertium</i> , <i>Stenonema</i>	1.75
07 Relative Abundance - Chironomidae	0.53	28 EP Generic Richness/14	0.86
08 Relative Generic Richness Diptera	0.37	30 Presence of Class A Indicator Taxa/7	0.29
09 <i>Hydropsyche</i> Abundance	90.05		
11 <i>Cheumatopsyche</i> Abundance	5.63		
12 EPT Generic Richness/ Diptera Generic Richness	0.96		
13 Relative Abundance - Oligochaeta	0.00		
15 Perlidae Mean Abundance (Family Functional Group)	0.00		
16 Tanypodinae Mean Abundance (Family Functional Group)	1.02		
17 Chironomini Abundance (Family Functional Group)	413.80		

Five Most Dominant Taxa

Rank	Taxon Name	Percent
1	<i>Polypedilum</i>	42.76
2	<i>Diplectrona</i>	11.35
3	<i>Hydropsyche</i>	9.70
4	<i>Promoresia</i>	7.00
5	<i>Leuctra</i>	5.50



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Log Number: 2353 Waterbody: Cole Brook - Station 317 Date Retrieved: 8/6/2015

Sample Collection and Processing Information

Sampling Organization: BIOMONITORING UNIT Taxonomist: MICHAEL WINNELL

Waterbody Information - Deployment

Temperature: 16.7 deg C
Dissolved Oxygen: 9.36 mg/l
Dissolved Oxygen Saturation:
Specific Conductance: 285.6 uS/cm
Velocity: 45.7 cm/s
pH: 7.33
Wetted Width: 2.5 m
Bankfull Width: 3.5 m
Depth: 14 cm

Waterbody Information - Retrieval

Temperature: 17.9 deg C
Dissolved Oxygen: 9.35 mg/l
Dissolved Oxygen Saturation:
Specific Conductance: 324.8 uS/cm
Velocity: 45.7 cm/s
pH: 7.45
Wetted Width: 2.6 m
Bankfull Width: 3.2 m
Depth: 12.5 cm

Water Chemistry

Summary of Habitat Characteristics

<u>Landuse Name</u>	<u>Canopy Cover</u>	<u>Terrain</u>	
Cultivated	Dense	Rolling	
Upland Hardwood			
<u>Potential Stressor</u>	<u>Location</u>	<u>Substrate</u>	
Agricultural Runoff	Below Agriculture NPS	Clay	5 %
Nps Pollution	Below Road Crossing	Detritus	5 %
		Gravel	30 %
		Sand	60 %

Landcover Summary - 2004 Data

Total Area (ac)	1336	High Int. Dev. %	2.0	Water %	0.0	Non-vegetated %	0.0
		Med Int. Dev. %	1.0	Wetland %	10.8	Tilled Agriculture %	9.8
		Low Int. Dev. %	9.8	Upland Woody %	56.7	Grassland %	3.3
		Development %	12.8	Natural %	67.5	Human Altered %	32.5
						Impervious %	9.7

Sample Comments

7/9/2015: SAND-GRAVEL MOVEMENT SINCE LAST SAMPLED. STREAM HAS CHANGED SIGNIFICANTLY. 96.7% DO.
8/6/2015: 99.6% DO.



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Aquatic Life Taxonomic Inventory Report**

Station Number: S-317

Waterbody: Cole Brook - Station 317

Town: Gray

Log Number: 2353

Subsample Factor: X1

Replicates: 3

Calculated: 12/8/2015

Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance	
		Actual	Adjusted			Actual	Adjusted
<i>Hydra</i>	02010101001	1.33	1.33		PR	0.1	0.1
Rhabditophora	0301	2.67	2.67		--	0.3	0.3
<i>Lumbriculus</i>	08020101002	1.00	1.00		CG	0.1	0.1
Enchytraeidae	08020201	0.67	0.67		--	0.1	0.1
<i>Nais</i>	08020202009		0.67		CG		0.1
<i>Nais communis</i>	08020202009005	0.67			--	0.1	
<i>Aulodrilus</i>	08020202018		0.33		--		0.0
<i>Aulodrilus pluriseta</i>	08020202018004	0.33			--	0.0	
<i>Helobdella</i>	08030101005		0.67		--		0.1
<i>Helobdella modesta</i>	08030101005004	0.67			--	0.1	
<i>Hyalella</i>	09010203006	0.33	0.33	8	CG	0.0	0.0
<i>Leuctra</i>	09020204020	4.00	51.00	0	SH	0.4	5.5
<i>Leuctra ferruginea</i>	09020204020050	2.00			--	0.2	
<i>Leuctra truncata</i>	09020204020058	45.00			--	4.8	
Perlodidae	09020207	1.67	1.67		--	0.2	0.2
<i>Isoperla</i>	09020207026	0.67	7.33	2	PR	0.1	0.8
<i>Isoperla holochlora</i>	09020207026076	6.67			--	0.7	
<i>Sweltsa</i>	09020208040	0.33	0.33		PR	0.0	0.0
<i>Boyeria</i>	09020301004	1.33	1.33	2	PR	0.1	0.1
<i>Calopteryx</i>	09020307043		1.33	5	PR		0.1
<i>Calopteryx maculata</i>	09020307043088	1.33			--	0.1	
Baetidae	09020401	0.33			--	0.0	
<i>Baetis</i>	09020401001	1.67	1.74	4	CG	0.2	0.2
<i>Acerpenna</i>	09020401007	0.33	5.92	5	CG	0.0	0.6
<i>Acerpenna macdunnoughi</i>	09020401007001	0.67			--	0.1	
<i>Acerpenna pygmaea</i>	09020401007011	4.67			--	0.5	
Heptageniidae	09020402	1.00			--	0.1	
<i>Heptagenia</i>	09020402010		0.58	2	SC		0.1
<i>Heptagenia flavescens</i>	09020402010038	0.33			--	0.0	
<i>Maccaffertium</i>	09020402015	1.00	1.75	4	SC	0.1	0.2
Leptophlebiidae	09020406	13.33	13.33		--	1.4	1.4
<i>Paraleptophlebia</i>	09020406026	6.33	6.33	1	CG	0.7	0.7
<i>Ephemerella</i>	09020410035	0.33	0.33	1	CG	0.0	0.0
<i>Eurylophella</i>	09020410036	6.00	6.00	3	CG	0.6	0.6
<i>Dolophilodes</i>	09020601001		16.33	0	CF		1.8
<i>Dolophilodes distinctus</i>	09020601001001	16.33			--	1.8	
<i>Polycentropus</i>	09020603010	0.33	0.33	6	PR	0.0	0.0
Hydropsychidae	09020604	34.33			--	3.7	



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Calculated: 12/8/2015

Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance	
		Actual	Adjusted			Actual	Adjusted
<i>Diplectrona</i>	09020604014		105.32	0	CF		11.3
<i>Diplectrona modesta</i>	09020604014025	87.33			--	9.4	
<i>Cheumatopsyche</i>	09020604015	4.67	5.63	5	CF	0.5	0.6
<i>Hydropsyche</i>	09020604016	51.67	90.05	4	CF	5.6	9.7
<i>Hydropsyche sparna</i>	09020604016032	23.00			--	2.5	
<i>Rhyacophila</i>	09020605019	0.67	3.33	2	PR	0.1	0.4
<i>Rhyacophila fuscula</i>	09020605019060	2.67			PR	0.3	
<i>Pycnopsyche</i>	09020610049		4.67	4	SH		0.5
<i>Pycnopsyche gentilis</i>	09020610049108	4.67			--	0.5	
<i>Psychoglypha</i>	09020610060		0.67	0	SH		0.1
<i>Psychoglypha subborealis</i>	09020610060120	0.67			--	0.1	
<i>Lepidostoma</i>	09020611064	7.67	7.67	1	SH	0.8	0.8
<i>Psilotreta</i>	09020614068	1.33	2.00	0	SC	0.1	0.2
<i>Psilotreta labida</i>	09020614068133	0.33			--	0.0	
<i>Psilotreta frontalis</i>	09020614068134	0.33			--	0.0	
<i>Molanna</i>	09020615069	1.33	2.67	6	SC	0.1	0.3
<i>Molanna blenda</i>	09020615069133	1.33			--	0.1	
<i>Oecetis</i>	09020618078	0.33	0.33	8	PR	0.0	0.0
<i>Nigronia</i>	09020701003		0.67	0	PR		0.1
<i>Nigronia serricornis</i>	09020701003003	0.67			--	0.1	
<i>Dicranota</i>	09021001005	1.67	1.67	3	PR	0.2	0.2
<i>Bezzia/palpomyia</i>	09021010043	1.67	1.67	6	PR	0.2	0.2
Chironomidae	09021011	9.67			--	1.0	
<i>Rheopelopia</i>	09021011017		0.34		PR		0.0
<i>Rheopelopia acra group</i>	09021011017036	0.33			--	0.0	
<i>Trissopelopia</i>	09021011021		0.34		PR		0.0
<i>Trissopelopia ogemawi</i>	09021011021042	0.33			--	0.0	
<i>Zavrelimyia</i>	09021011022		0.34	8	PR		0.0
<i>Zavrelimyia thryptica group</i>	09021011022045	0.33			PR	0.0	
<i>Pagastia</i>	09021011025		0.34	1	--		0.0
<i>Pagastia orthogonia</i>	09021011025001	0.33			--	0.0	
<i>Corynoneura</i>	09021011036	2.00	2.04	7	CG	0.2	0.2
<i>Eukiefferiella</i>	09021011041		0.34	8	CG		0.0
<i>Eukiefferiella brehmi group</i>	09021011041073	0.33			--	0.0	
<i>Parametriocnemus</i>	09021011053	5.00	5.10	5	CG	0.5	0.5
<i>Rheocricotopus</i>	09021011057		2.04	6	CG		0.2
<i>Rheocricotopus robacki</i>	09021011057105	2.00			--	0.2	
<i>Thienemanniella</i>	09021011062		0.34	6	CG		0.0



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<i>Thienemanniella xena</i>	09021011062110	0.33			--	0.0	
<i>Tvetenia</i>	09021011065		13.60	5	CG		1.5
<i>Tvetenia paucunca</i>	09021011065114	13.33			--	1.4	
<i>Micropsectra</i>	09021011070	31.00	31.62	7	CG	3.3	3.4
<i>Paratanytarsus</i>	09021011071		1.36	6	--		0.1
<i>Paratanytarsus longistylus</i>	09021011071126	1.33		6	--	0.1	
<i>Rheotanytarsus</i>	09021011072		13.94	6	CF		1.5
<i>Rheotanytarsus exiguus group</i>	09021011072127	0.33			CF	0.0	
<i>Rheotanytarsus pellucidus</i>	09021011072128	13.33			CF	1.4	
<i>Stempellinella</i>	09021011074		0.34	2	--		0.0
<i>Stempellinella fimbriata</i>	09021011074002	0.33			--	0.0	
<i>Tanytarsus</i>	09021011076	5.33	5.44	6	CF	0.6	0.6
<i>Microtendipes</i>	09021011094		17.00	6	CF		1.8
<i>Microtendipes rydalensis group</i>	09021011094168	16.67			--	1.8	
<i>Polypedilum</i>	09021011102		396.80	6	SH		42.8
<i>Polypedilum aviceps</i>	09021011102181	389.00			--	41.9	
<i>Macropelopia</i>	09021011111		0.34		P		0.0
<i>Macropelopia decedens</i>	09021011111002	0.33			--	0.0	
<i>Brundiniella</i>	09021011115		0.34		--		0.0
<i>Brundiniella eumorpha</i>	09021011115001	0.33			--	0.0	
<i>Simulium</i>	09021012047	0.33	2.67	4	CF	0.0	0.3
<i>Simulium tuberosum</i>	09021012047067	1.33			--	0.1	
<i>Simulium jenningsi species group</i>	09021012047070	0.67			CF	0.1	
<i>Simulium venustum/verecundum complex</i>	09021012047072	0.33			CF	0.0	
<i>Chrysops</i>	09021014052	1.00	1.00	6	CG	0.1	0.1
<i>Roederiodes</i>	09021016058	2.33	2.33	3	PR	0.3	0.3
<i>Neoplasta</i>	09021016064	4.33	4.33		PR	0.5	0.5
<i>Optioservus</i>	09021113067		0.33	3	SC		0.0
<i>Optioservus ovalis</i>	09021113067046	0.33			--	0.0	
<i>Oulimnius</i>	09021113068		6.33		--		0.7
<i>Oulimnius latiusculus</i>	09021113068049	6.33			--	0.7	
<i>Promoresia</i>	09021113069		65.00		--		7.0
<i>Promoresia elegans</i>	09021113069051	1.00			--	0.1	
<i>Promoresia tardella</i>	09021113069052	64.00			--	6.9	
<i>Stenelmis</i>	09021113070	2.33	2.67	5	SC	0.3	0.3
<i>Stenelmis crenata</i>	09021113070055	0.33			--	0.0	
<i>Physa</i>	10010202027	0.33	0.33		SC	0.0	0.0



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		Actual	Adjusted			Actual	Adjusted
<i>Sphaeriidae</i>	10020201	0.33	0.33		CF	0.0	0.0
<i>Pisidium</i>	10020201002	0.33	1.00		CF	0.0	0.1
<i>Pisidium casertanum</i>	10020201002006	0.67			CF	0.1	