



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

Station Information

**Station Number: S-451**  
Waterbody: Thacher Brook - Station 451  
Town: Biddeford  
Directions: SOUTH ST TO VILLAGE LN TO GLAUDE AVE - WALK  
DOWN TRAIL TO STREAM - LEFT  
DEP Drainage: Piscataqua - Presumpscot - Saco  
HUC8: 01060002  
HUC8 Name: Saco  
Latitude: 43 29 21.14 N  
Longitude: 70 28 55.19 W  
Stream Order: 1

Sample Information

**Log Number: 1960**  
Subsample Factor: X1  
Type of Sample: ROCK BAG  
Replicates: 3  
Date Deployed: 7/22/2010  
Date Retrieved: 8/24/2010

Classification Attainment

**Statutory Class: B**  
Model Result with  $P > .6$ : A  
Date Last Calculated: 3/4/2011  
**Final Determination: A**  
**Reason for Determination: Model**  
Comments:

Model Probabilities

First Stage Model		C or Better Model	
Class A	0.60	Class A, B, or C	1.00
Class B	0.38	Non-Attainment	0.00
Class C			
0.02			
NA			
0.00			
B or Better Model		A Model	
Class A or B	1.00	Class A	0.82
Class C or Non-Attainment	0.00	Class B or C or Non-Attainment	0.18

Model Variables

01 Total Mean Abundance	273.33	18 Relative Abundance Ephemeroptera	0.03
02 Generic Richness	41.00	19 EPT Generic Richness	15.00
03 Plecoptera Mean Abundance	2.67	21 Sum of Abundances: <i>Dicrotendipes</i> , <i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i>	0.00
04 Ephemeroptera Mean Abundance	7.33	23 Relative Generic Richness- Plecoptera	0.02
05 Shannon-Wiener Generic Diversity	2.99	25 Sum of Abundances: <i>Cheumatopsyche</i> , <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>	9.55
06 Hilsenhoff Biotic Index	3.96	26 Sum of Abundances: <i>Acroneuria</i> , <i>Maccaffertium</i> , <i>Stenonema</i>	3.33
07 Relative Abundance - Chironomidae	0.19	28 EP Generic Richness/14	0.43
08 Relative Generic Richness Diptera	0.34	30 Presence of Class A Indicator Taxa/7	0.29
09 <i>Hydropsyche</i> Abundance	113.15		
11 <i>Cheumatopsyche</i> Abundance	8.18		
12 EPT Generic Richness/ Diptera	1.07		
Generic Richness			
13 Relative Abundance - Oligochaeta	0.00		
15 Perlidae Mean Abundance	2.67		
(Family Functional Group)			
16 Tanypodinae Mean Abundance	0.00		
(Family Functional Group)			
17 Chironomini Abundance (Family	19.50		
Functional Group)			

Five Most Dominant Taxa

Rank	Taxon Name	Percent
1	<i>Hydropsyche</i>	41.40
2	<i>Chimarra</i>	22.07
3	<i>Rheotanytarsus</i>	9.64
4	<i>Microtendipes</i>	3.50
5	<i>Polypedilum</i>	3.50



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**Log Number: 1960**

Waterbody: Thatcher Brook - Station 451

Date Retrieved: 8/24/2010

**Sample Collection and Processing Information**

Sampling Organization: BIOMONITORING UNIT

Taxonomist: MICHAEL WINNELL

**Waterbody Information - Deployment**

Temperature: 22.2 deg C  
Dissolved Oxygen: 7.8 mg/l  
Specific Conductance: 197 uS/cm  
Velocity: 69 cm/s  
pH:  
Wetted Width: 9.8 m  
Bankfull Width: 9.8 m  
Depth: 25 cm

**Waterbody Information - Retrieval**

Temperature: 18.7 deg C  
Dissolved Oxygen: 8.2 mg/l  
Specific Conductance: 185 uS/cm  
Velocity: 24 cm/s  
pH: 7.47  
Wetted Width: 7.7 m  
Bankfull Width: 9.8 m  
Depth: 6 cm

**Water Chemistry - 8/24/2010**

Ammonia As Nitrogen	<0.01 mg/l	Soluble Reactive Phosphorus	16 ug/l
Nitrate+nitrite As N	0.11 mg/l	Total Phosphorus	0.027 mg/l
Total Kjeldahl Nitrogen	0.2 mg/l	Total Suspended Solids	4.1 mg/l
Dissolved Organic Carbon	1.8 mg/l	Total Dissolved Solids	110 mg/l

**Summary of Habitat Characteristics**

<u>Landuse Name</u>	<u>Canopy Cover</u>	<u>Terrain</u>
Upland Hardwood	Partly Open	Rolling
Urban		
<u>Potential Stressor</u>	<u>Location</u>	<u>Substrate</u>
Nps Pollution	Below Urban NPS	Boulder 15 %
Urban Runoff		Detritus 5 %
		Gravel 25 %
		Rubble/Cobble 45 %
		Sand 10 %

**Landcover Summary - 2004 Data**

Total Area (ac)	4155	High Int. Dev. %	10.6	Water %	0.0	Non-vegetated %	0.1
		Med Int. Dev. %	3.6	Wetland %	4.9	Tilled Agriculture %	0.9
		Low Int. Dev. %	8.7	Upland Woody %	57.8	Grassland %	5.0
		Development %	22.9	Natural %	63.1	Human Altered %	36.9
						Impervious %	17.8

**Sample Comments**

7/22/2010 WATER VERY HIGH, SILTY, CANNOT SEE BOTTOM.

8/24/2010 FISH. TOP OF BAGS 1 AND 2 STICKING OUT OF THE WATER; BAG 3 WAS 1/4 OUT OF THE WATER; HOBO WAS ON BAG 1 AND THE TIP OF THE PROBE WAS OUT OF THE WATER.



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Subsample Factor: X1

Replicates: 3

Calculated: 3/4/2011

Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance	
		Actual	Adjusted			Actual	Adjusted
<i>Pristina</i>	08020202004		0.33		--		0.1
<i>Pristina osborni</i>	08020202004007	0.33			--	0.1	
<i>Acroneuria</i>	09020209042	0.67	2.67	0	PR	0.2	1.0
<i>Acroneuria abnormis</i>	09020209042121	2.00		0	PR	0.7	
<i>Boyeria</i>	09020301004		0.67	2	PR		0.2
<i>Boyeria vinosa</i>	09020301004012	0.67			--	0.2	
Calopterygidae	09020307	1.00	1.00		--	0.4	0.4
Coenagrionidae	09020309	0.33	0.33		--	0.1	0.1
<i>Baetis</i>	09020401001	2.33	2.33	4	CG	0.9	0.9
<i>Acerpenna</i>	09020401007	0.33	0.33	5	CG	0.1	0.1
<i>Maccaffertium</i>	09020402015	0.67	0.67	4	SC	0.2	0.2
Leptophlebiidae	09020406	0.67	0.67		--	0.2	0.2
<i>Serratella</i>	09020410037		3.33	2	CG		1.2
<i>Serratella (Teloganopsis) deficiens</i>	09020410037121	3.33			--	1.2	
<i>Microvelia</i>	09020510025	5.67	5.67		PR	2.1	2.1
Philopotamidae	09020601	0.33	0.33		--	0.1	0.1
<i>Chimarra</i>	09020601003	60.33	60.33	2	CF	22.1	22.1
<i>Polycentropus</i>	09020603010	1.33	1.33	6	PR	0.5	0.5
<i>Phylocentropus</i>	09020603011	0.33	0.33	5	CF	0.1	0.1
Hydropsychidae	09020604	7.67			--	2.8	
<i>Cheumatopsyche</i>	09020604015	7.67	8.18	5	CF	2.8	3.0
<i>Hydropsyche</i>	09020604016	26.67	113.15	4	CF	9.8	41.4
<i>Hydropsyche depravata complex</i>	09020604016041	79.33			CF	29.0	
<i>Pycnopsyche</i>	09020610049	0.33	0.33	4	SH	0.1	0.1
<i>Psilotreta</i>	09020614068	0.33	0.33	0	SC	0.1	0.1
<i>Oecetis</i>	09020618078	0.67	7.67	8	PR	0.2	2.8
<i>Oecetis persimilis</i>	09020618078157	7.00			--	2.6	
<i>Nigronia</i>	09020701003		1.67	0	PR		0.6
<i>Nigronia serricornis</i>	09020701003003	1.67			--	0.6	
<i>Tipula</i>	09021001002	2.67	2.67	4	SH	1.0	1.0
Chironomidae	09021011	1.33			--	0.5	
<i>Paramerina</i>	09021011013				--		
<i>Corynoneura</i>	09021011036	0.67	0.68	7	CG	0.2	0.3
<i>Cricotopus</i>	09021011037		0.68	7	SH		0.3
<i>Cricotopus bicinctus</i>	09021011037057	0.67			--	0.2	
<i>Heterotrissocladius</i>	09021011044		0.34	0	CG		0.1
<i>Heterotrissocladius marcidus</i>	09021011044083	0.33			--	0.1	
<i>Nanocladius</i>	09021011049	0.33	0.34	3	CG	0.1	0.1



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<i>Parametriocnemus</i>	09021011053	0.33	0.34	5	CG	0.1	0.1
<i>Tvetenia</i>	09021011065		3.08	5	CG		1.1
<i>Tvetenia paucunca</i>	09021011065114	3.00			--	1.1	
<i>Rheotanytarsus</i>	09021011072	25.67	26.34	6	CF	9.4	9.6
<i>Tanytarsus</i>	09021011076	0.67	0.68	6	CF	0.2	0.3
<i>Microtendipes</i>	09021011094		9.58	6	CF		3.5
<i>Microtendipes rydalensis group</i>	09021011094168	9.33			--	3.4	
<i>Nilothauma</i>	09021011095	0.33	0.34	2	--	0.1	0.1
<i>Polypedilum</i>	09021011102		9.58	6	SH		3.5
<i>Polypedilum aviceps</i>	09021011102181	9.00			--	3.3	
<i>Polypedilum flavum</i>	09021011102182	0.33			--	0.1	
<i>Hemerodromia</i>	09021016057	2.33	2.33	3	PR	0.9	0.9
<i>Roederiodes</i>	09021016058	0.33	0.33	3	PR	0.1	0.1
<i>Psephenus</i>	09021108058		0.33	4	SC		0.1
<i>Psephenus herricki</i>	09021108058028	0.33			--	0.1	
<i>Ectopria</i>	09021109059		0.33	5	SC		0.1
<i>Ectopria leechi</i>	09021109059030	0.33			--	0.1	
<i>Microcylloepus</i>	09021113066	0.33	0.33	3	--	0.1	0.1
<i>Optioservus</i>	09021113067	0.33	0.33	3	SC	0.1	0.1
Limncharidae	09030110	0.33	0.33		--	0.1	0.1
<i>Pisidium</i>	10020201002	2.67	2.67		CF	1.0	1.0