



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

Station Information

Station Number: S-290
Waterbody: Souadabscook Stream - Station 290
Town: Hampden
Directions: ABOVE SAWYER LANDFILL

DEP Drainage: Penobscot
HUC8: 01020005
HUC8 Name: Lower Penobscot
Latitude: 44 45 32.67 N
Longitude: 68 53 8.82 W
Stream Order: 3

Sample Information

Log Number: 1553
Subsample Factor: X4

Type of Sample: ROCK BASKET
Replicates: 3

Date Deployed: 7/13/2006
Date Retrieved: 8/10/2006

Classification Attainment

Statutory Class: AA
Model Result with P>.6: B
Date Last Calculated: 5/3/2007

Final Determination: A
Reason for Determination: Best Professional Judgement
Comments: Lake Outlet Effect. Raised finding from Class B to next higher Class.

Model Probabilities

First Stage Model				C or Better Model	
Class A	0.31	Class C	0.03	Class A, B, or C	1.00
Class B	0.67	NA	0.00	Non-Attainment	0.00

B or Better Model		A Model	
Class A or B	1.00	Class A	0.05
Class C or Non-Attainment	0.00	Class B or C or Non-Attainment	0.95

Model Variables

01 Total Mean Abundance	1957.33	18 Relative Abundance Ephemeroptera	0.16
02 Generic Richness	53.00	19 EPT Generic Richness	24.00
03 Plecoptera Mean Abundance	5.33	21 Sum of Abundances: <i>Dicrotendipes</i> , <i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i>	0.00
04 Ephemeroptera Mean Abundance	304.00	23 Relative Generic Richness- Plecoptera	0.04
05 Shannon-Wiener Generic Diversity	3.56	25 Sum of Abundances: <i>Cheumatopsyche</i> , <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>	499.13
06 Hilsenhoff Biotic Index	4.71	26 Sum of Abundances: <i>Acroneuria</i> , <i>Maccaffertium</i> , <i>Stenonema</i>	208.09
07 Relative Abundance - Chironomidae	0.10	28 EP Generic Richness/14	0.86
08 Relative Generic Richness Diptera	0.23	30 Presence of Class A Indicator Taxa/7	0.00
09 <i>Hydropsyche</i> Abundance	42.87		
11 <i>Cheumatopsyche</i> Abundance	476.00		
12 EPT Generic Richness/ Diptera Generic Richness	2.00		
13 Relative Abundance - Oligochaeta	0.00		
15 Perlidae Mean Abundance (Family Functional Group)	5.33		
16 Tanypodinae Mean Abundance (Family Functional Group)	13.60		
17 Chironomini Abundance (Family Functional Group)	70.74		

Five Most Dominant Taxa

Rank	Taxon Name	Percent
1	<i>Cheumatopsyche</i>	24.32
2	<i>Macrostemum</i>	18.65
3	<i>Amnicola</i>	12.13
4	<i>Neureclipsis</i>	11.00
5	<i>Maccaffertium</i>	10.43



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Date Retrieved: 8/10/2006

Sample Collection and Processing Information

Sampling Organization: BIOMONITORING UNIT

Taxonomist: MICHAEL WINNELL

Waterbody Information - Deployment

Temperature: 25.2 deg C
Dissolved Oxygen: 7.3 mg/l
Specific Conductance: 89 uS/cm
Velocity: 24 cm/s
pH:
Wetted Width: 24 m
Bankfull Width:
Depth: 80 cm

Waterbody Information - Retrieval

Temperature: 22.8 deg C
Dissolved Oxygen: 5.6 mg/l
Specific Conductance: 100 uS/cm
Velocity: 29 cm/s
pH: 6.83
Wetted Width: 24 m
Bankfull Width:
Depth: 1.2 cm

Water Chemistry - 8/10/2006

Ammonia As Nitrogen	0.03 mg/l	Soluble Reactive Phosphorus	7 ug/l
Nitrate+nitrite As N	0.01 mg/l	Total Phosphorus	0.032 mg/l
Total Kjeldahl Nitrogen	0.6 mg/l	Total Suspended Solids	<2 mg/l
Dissolved Organic Carbon	7.8 mg/l	Total Dissolved Solids	70 mg/l

Summary of Habitat Characteristics

Landuse Name

Canopy Cover

Terrain

Upland Conifer

Open

Hilly

Upland Hardwood

Potential Stressor

Location

Substrate

Above Point Source

Boulder 55 %

Gravel 5 %

Rubble/Cobble 40 %

Landcover Summary - 2004 Data

Total Area (ac)	106169	High Int. Dev. %	0.2	Water %	1.4	Non-vegetated %	0.3
		Med Int. Dev. %	0.5	Wetland %	11.1	Tilled Agriculture %	4.4
		Low Int. Dev. %	3.7	Upland Woody %	71.7	Grassland %	6.1
		Development %	4.4	Natural %	82.8	Human Altered %	15.8
						Impervious %	3.2

Sample Comments



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Subsample Factor: X4

Replicates: 3

Calculated: 5/3/2007

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
Planariidae	03010101	8.00			--	0.4	
<i>Cura</i>	03010102001		4.00		--		0.2
<i>Cura foremanii</i>	03010102001001	1.33			--	0.1	
<i>Girardia</i>	03010102002		8.00		--		0.4
<i>Girardia tigrina</i>	03010102002001	2.67			--	0.1	
<i>Prostoma</i>	04010101001	1.33	1.33		--	0.1	0.1
<i>Nais</i>	08020202009		1.33		CG		0.1
<i>Nais communis</i>	08020202009005	1.33			--	0.1	
<i>Stylaria</i>	08020202014		1.33		CG		0.1
<i>Stylaria lacustris</i>	08020202014002	1.33			--	0.1	
<i>Acroneuria</i>	09020209042		4.00	0	PR		0.2
<i>Acroneuria abnormis</i>	09020209042121	4.00		0	PR	0.2	
<i>Perlesta</i>	09020209046	1.33	1.33	5	PR	0.1	0.1
<i>Boyeria</i>	09020301004		1.33	2	PR		0.1
<i>Boyeria grafiana</i>	09020301004011	1.33			--	0.1	
<i>Argia</i>	09020309048		1.33	7	PR		0.1
<i>Argia fumipennis</i>	09020309048101	1.33			--	0.1	
<i>Enallagma</i>	09020309051	1.33	1.33	9	PR	0.1	0.1
Baetidae	09020401	2.67			--	0.1	
<i>Baetis</i>	09020401001		8.44	4	CG		0.4
<i>Baetis flavistriga</i>	09020401001004	6.67			--	0.3	
<i>Baetis intercalaris</i>	09020401001008	1.33			--	0.1	
<i>Acerpenna</i>	09020401007	5.33	21.11	5	CG	0.3	1.1
<i>Acerpenna pygmaea</i>	09020401007011	14.67			--	0.7	
<i>Procladius</i>	09020401010	1.33	1.41		CG	0.1	0.1
<i>Plautidius</i>	09020401012	18.67	19.70		CG	1.0	1.0
Heptageniidae	09020402	46.67			--	2.4	
<i>Stenacron</i>	09020402014		11.91	7	SC		0.6
<i>Stenacron interpunctatum</i>	09020402014045	9.33			--	0.5	
<i>Maccaffertium</i>	09020402015	124.00	204.09	4	SC	6.3	10.4
<i>Maccaffertium luteum</i>	09020402015049	1.33			--	0.1	
<i>Maccaffertium modestum</i>	09020402015051	34.67			--	1.8	
Leptophlebiidae	09020406	1.33	1.33		--	0.1	0.1
Ephemerellidae	09020410	1.33	1.33		--	0.1	0.1
<i>Ephemerella</i>	09020410035	1.33	1.33	1	CG	0.1	0.1
<i>Tricorythodes</i>	09020411038	33.33	33.33	4	CG	1.7	1.7
<i>Chimarra</i>	09020601003	22.67	22.67	2	CF	1.2	1.2



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		Actual	Adjusted			Actual	Adjusted
Polycentropodidae	09020603	8.00			--	0.4	
<i>Cernotina</i>	09020603006	9.33	9.66		PR	0.5	0.5
<i>Neureclipsis</i>	09020603008	208.00	215.26	7	CF	10.6	11.0
<i>Nyctiophylax</i>	09020603009		1.38	5	PR		0.1
<i>Nyctiophylax moestus</i>	09020603009013	1.33			--	0.1	
<i>Polycentropus</i>	09020603010	10.67	11.04	6	PR	0.5	0.6
Hydropsychidae	09020604	86.67			--	4.4	
<i>Cheumatopsyche</i>	09020604015	429.33	476.00	5	CF	21.9	24.3
<i>Hydropsyche</i>	09020604016	16.00	42.87	4	CF	0.8	2.2
<i>Hydropsyche morosa</i>	09020604016030	8.00			--	0.4	
<i>Hydropsyche depravata complex</i>	09020604016041	14.67			CF	0.7	
<i>Macrostemum</i>	09020604018		365.13	3	CF		18.7
<i>Macrostemum zebratum</i>	09020604018054	329.33			--	16.8	
<i>Micrasema</i>	09020609044		1.33	2	SH		0.1
<i>Micrasema wataga</i>	09020609044101	1.33			--	0.1	
<i>Ceraclea</i>	09020618072	10.67	10.67	3	CG	0.5	0.5
<i>Nectopsyche</i>	09020618074	1.33	1.33	3	SH	0.1	0.1
<i>Oecetis</i>	09020618078	4.00	12.00	8	PR	0.2	0.6
<i>Oecetis persimilis</i>	09020618078157	8.00			--	0.4	
<i>Nigronia</i>	09020701003		1.33	0	PR		0.1
<i>Nigronia serricornis</i>	09020701003003	1.33			--	0.1	
Chironomidae	09021011	4.00			--	0.2	
<i>Nilotanytus</i>	09021011012		2.72	6	PR		0.1
<i>Nilotanytus fimbriatus</i>	09021011012027	2.67			--	0.1	
<i>Pentaneura</i>	09021011014		10.88	6	PR		0.6
<i>Pentaneura inconspicua</i>	09021011014028	10.67			--	0.5	
<i>Rheocricotopus</i>	09021011057		1.36	6	CG		0.1
<i>Rheocricotopus robacki</i>	09021011057105	1.33			--	0.1	
<i>Synorthocladius</i>	09021011061	2.67	2.72	2	CG	0.1	0.1
<i>Tvetenia</i>	09021011065		20.41	5	CG		1.0
<i>Tvetenia vitracies</i>	09021011065113	20.00			--	1.0	
<i>Rheotanytarsus</i>	09021011072	66.67	68.02	6	CF	3.4	3.5
<i>Tanytarsus</i>	09021011076	16.00	23.13	6	CF	0.8	1.2
<i>Tanytarsus glabrescens</i>	09021011076134	6.67			--	0.3	
<i>Microtendipes</i>	09021011094		29.93	6	CF		1.5
<i>Microtendipes rydalensis group</i>	09021011094168	29.33			--	1.5	
<i>Polypedilum</i>	09021011102	1.33	40.81	6	SH	0.1	2.1
<i>Polypedilum flavum</i>	09021011102182	38.67			--	2.0	



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<i>Helopelopia</i>	09021011114	1.33	1.36	6	PR	0.1	0.1
<i>Simulium</i>	09021012047	1.33	2.67	4	CF	0.1	0.1
<i>Simulium jenningsi</i>	09021012047060	1.33			--	0.1	
<i>Hemerodromia</i>	09021016057	2.67	2.67	3	PR	0.1	0.1
<i>Dineutus</i>	09021104032	1.33	1.33	2	--	0.1	0.1
<i>Stenelmis</i>	09021113070	2.67	4.00	5	SC	0.1	0.2
<i>Stenelmis mirabilis</i>	09021113070059	1.33			--	0.1	
<i>Valvata</i>	10010101001	1.33	1.33		SC	0.1	0.1
<i>Amnicola</i>	10010104013	5.33	237.33		SC	0.3	12.1
<i>Amnicola limosa</i>	10010104013018	149.33			--	7.6	
<i>Amnicola grana</i>	10010104013019	82.67			--	4.2	
<i>Stagnicola</i>	10010201025	1.33	1.33		--	0.1	0.1
<i>Physa</i>	10010202026	2.67	2.67		SC	0.1	0.1
<i>Musculium</i>	10020201001	1.33	1.33		CF	0.1	0.1