



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

Station Information

Station Number: S-502	River Basin:	Maine Coastal
Waterbody: West Branch Narraguagus River - Station 502	HUC8 Name:	Maine Coastal
Town: Cherryfield	Latitude:	44 38 41.61 N
Directions: END OF SPRAGUE FALLS RD	Longitude:	67 59 33.88 W
	Stream Order:	4

Sample Information

Log Number: 2504	Type of Sample: ROCK BASKET	Date Deployed: 7/27/2016
Subsample Factor: X4	Replicates: 3	Date Retrieved: 8/23/2016

Classification Attainment

Statutory Class: AA	Final Determination: A	Date: 9/11/2017
Model Result with $P \geq 0.6$: B	Reason for Determination: Best Professional Judgement	
Date Last Calculated: 7/25/2017	Comments: Indeterminate for Class A (.40) raised to Class A based on Lake outlet and wetlands upstream which influence community structure.	

Model Probabilities

	<u>First Stage Model</u>			<u>C or Better Model</u>	
Class A	0.40	Class C	0.03	Class A, B, or C	1.00
Class B	0.57	NA	0.00	Non-Attainment	0.00
	<u>B or Better Model</u>			<u>A Model</u>	
Class A or B			1.00	Class A	0.40
Class C or Non-Attainment			0.00	Class B or C or Non-Attainment	0.60

Model Variables

01 Total Mean Abundance	681.33	18 Relative Abundance Ephemeroptera	0.08
02 Generic Richness	31.00	19 EPT Generic Richness	16.00
03 Plecoptera Mean Abundance	14.67	21 Sum of Abundances: <i>Dicrotendipes</i> , <i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i>	0.00
04 Ephemeroptera Mean Abundance	53.33	23 Relative Generic Richness- Plecoptera	0.06
05 Shannon-Wiener Generic Diversity	3.50	25 Sum of Abundances: <i>Cheumatopsyche</i> , <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>	45.02
06 Hilsenhoff Biotic Index	3.99	26 Sum of Abundances: <i>Acroneuria</i> , <i>Maccaffertium</i> , <i>Stenonema</i>	44.00
07 Relative Abundance - Chironomidae	0.14	28 EP Generic Richness/14	0.50
08 Relative Generic Richness Diptera	0.32	30 Presence of Class A Indicator Taxa/7	0.29
09 <i>Hydropsyche</i> Abundance	213.47		
11 <i>Cheumatopsyche</i> Abundance	45.02		
12 EPT Generic Richness/ Diptera Generic Richness	1.60		
13 Relative Abundance - Oligochaeta	0.00		
15 Perlidae Mean Abundance (Family Functional Group)	14.67		
16 Tanypodinae Mean Abundance (Family Functional Group)	1.33		
17 Chironomini Abundance (Family Functional Group)	33.33		

Five Most Dominant Taxa

Rank	Taxon Name	Percent
1	<i>Hydropsyche</i>	31.33
2	<i>Simulium</i>	15.85
3	<i>Chimarra</i>	8.22
4	<i>Tvetenia</i>	7.05
5	<i>Cheumatopsyche</i>	6.61



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Station Number: S-502 Town: Cherryfield Date Deployed: 7/27/2016
Log Number: 2504 Waterbody: West Branch Narraguagus River - Station 502 Date Retrieved: 8/23/2016

Sample Collection and Processing Information

Sampling Organization: BIOMONITORING

Taxonomist: MICHAEL WINNELL

Waterbody Information - Deployment

Temperature: 26.5 deg C
Dissolved Oxygen: 7.55 mg/l
Dissolved Oxygen Saturation: 94.3 %
Specific Conductance: 34.7 uS/cm
Velocity: 45.7 cm/s
pH: 6.84
Wetted Width: 7.7 m
Bankfull Width: 13 m
Depth: 57 cm

Waterbody Information - Retrieval

Temperature: 22.3 deg C
Dissolved Oxygen: 8.58 mg/l
Dissolved Oxygen Saturation: 97.3 %
Specific Conductance: 33.7 uS/cm
Velocity: 64 cm/s
pH: 5.75
Wetted Width: 8.8 m
Bankfull Width: 13 m
Depth: 59 cm

Water Chemistry

Summary of Habitat Characteristics

<u>Landuse Name</u>	<u>Canopy Cover</u>	<u>Terrain</u>	
Upland Conifer	Open	Rolling	
Upland Hardwood			
<u>Potential Stressor</u>	<u>Location</u>	<u>Substrate</u>	
Wetland Headwaters	Above Town	Bedrock	5 %
		Boulder	75 %
		Gravel	5 %
		Rubble/Cobble	15 %

Landcover Summary - 2004 Data

Total Area (ac)	48205	High Int. Dev. %	0.0	Water %	1.3	Non-vegetated %	0.2
		Med Int. Dev. %	0.0	Wetland %	12.7	Tilled Agriculture %	0.2
		Low Int. Dev. %	0.1	Upland Woody %	84.9	Grassland %	0.7
		Development %	0.1	Natural %	94.3	Human Altered %	4.5
						Impervious %	0.1

Sample Comments

7/27/2016: DARK WATER; FISH PRESENT.
8/23/2016: FISH AND FROGS PRESENT.



**Maine Department of Environmental Protection
Biological Monitoring Program
Aquatic Life Taxonomic Inventory Report**

Station Number: S-502

Waterbody: West Branch Narraguagus River - Station 50 Town: Cherryfield

Log Number: 2504

Subsample Factor: X4

Replicates: 3

Calculated: 7/25/2017

Taxon	Maine Taxonomic Code	Count		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance %	
		(Mean of Samplers)				Actual	Adjusted
		Actual	Adjusted				
Perlidae	09020209	2.67	2.67		--	0.4	0.4
<i>Acroneuria</i>	09020209042	1.33	12.00	0	PR	0.2	1.8
<i>Acroneuria abnormis</i>	09020209042121	9.33		0	PR	1.4	
<i>Acroneuria lycorias</i>	09020209042125	1.33			--	0.2	
<i>Macromia</i>	09020304021		1.33	2	PR		0.2
<i>Macromia illinoiensis</i>	09020304021045	1.33			--	0.2	
<i>Baetis</i>	09020401001	2.67	4.00	4	CG	0.4	0.6
<i>Baetis flavistriga</i>	09020401001004	1.33			--	0.2	
<i>Acerpenna</i>	09020401007	5.33	10.67	5	CG	0.8	1.6
<i>Acerpenna pygmaea</i>	09020401007011	5.33			--	0.8	
<i>Epeorus</i>	09020402009	2.67	2.67	0	SC	0.4	0.4
<i>Leucrocuta</i>	09020402011	4.00	4.00	1	SC	0.6	0.6
<i>Maccaffertium</i>	09020402015	17.33	32.00	4	SC	2.5	4.7
<i>Maccaffertium luteum</i>	09020402015049	12.00			--	1.8	
<i>Maccaffertium modestum</i>	09020402015051	2.67			--	0.4	
<i>Chimarra</i>	09020601003	20.00	56.00	2	CF	2.9	8.2
<i>Chimarra aterrima</i>	09020601003002	1.33			--	0.2	
<i>Chimarra obscura</i>	09020601003003	6.67			--	1.0	
<i>Chimarra socia</i>	09020601003004	28.00			--	4.1	
Polycentropodidae	09020603	1.33	1.33		--	0.2	0.2
<i>Neureclipsis</i>	09020603008	22.67	22.67	7	CF	3.3	3.3
Hydropsychidae	09020604	24.00			--	3.5	
<i>Cheumatopsyche</i>	09020604015	41.33	45.02	5	CF	6.1	6.6
<i>Hydropsyche</i>	09020604016	124.00	213.47	4	CF	18.2	31.3
<i>Hydropsyche bronta</i>	09020604016029	14.67			--	2.2	
<i>Hydropsyche morosa</i>	09020604016030	10.67			--	1.6	
<i>Hydropsyche sparna</i>	09020604016032	44.00			--	6.5	
<i>Hydropsyche depravata species group</i>	09020604016041	1.33			CF	0.2	
<i>Hydropsyche placoda</i>	09020604016059	1.33			--	0.2	
<i>Macrostemum</i>	09020604018		34.85	3	CF		5.1
<i>Macrostemum zebratum</i>	09020604018054	32.00			--	4.7	
<i>Brachycentrus</i>	09020609043		10.67	0	CF		1.6
<i>Brachycentrus appalachia</i>	09020609043096	10.67			--	1.6	
<i>Lepidostoma</i>	09020611064	6.67	6.67	1	SH	1.0	1.0
<i>Oecetis</i>	09020618078	1.33	4.00	8	PR	0.2	0.6
<i>Oecetis avara</i>	09020618078153	1.33			--	0.2	
<i>Oecetis persimilis</i>	09020618078157	1.33			--	0.2	



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Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance %	
		Actual	Adjusted			Actual	Adjusted
<i>Rheopelopia</i>	09021011017		1.33		PR		0.2
<i>Rheopelopia acra group</i>	09021011017036	1.33			--	0.2	
<i>Eukiefferiella</i>	09021011041	1.33	1.33	8	CG	0.2	0.2
<i>Nanocladius</i>	09021011049		4.00	3	CG		0.6
<i>Nanocladius spiniplenus</i>	09021011049090				--		
<i>Nanocladius downesi</i>	09021011049092	4.00			--	0.6	
<i>Tvetenia</i>	09021011065		48.00	5	CG		7.0
<i>Tvetenia vitracies</i>	09021011065113	48.00			--	7.0	
<i>Rheotanytarsus</i>	09021011072		10.67	6	CF		1.6
<i>Rheotanytarsus exiguus group</i>	09021011072127	2.67			CF	0.4	
<i>Rheotanytarsus pellucidus</i>	09021011072128	8.00			CF	1.2	
<i>Microtendipes</i>	09021011094		4.00	6	CF		0.6
<i>Microtendipes rydalensis group</i>	09021011094168	4.00			--	0.6	
<i>Polypedilum</i>	09021011102		28.00	6	SH		4.1
<i>Polypedilum aviceps</i>	09021011102181	10.67			--	1.6	
<i>Polypedilum flavum</i>	09021011102182	17.33			--	2.5	
<i>Stenochironomus</i>	09021011105	1.33	1.33	5	CG	0.2	0.2
<i>Simulium</i>	09021012047	13.33	108.00	4	CF	2.0	15.9
<i>Simulium fibrinflatum</i>	09021012047059	16.00			--	2.3	
<i>Simulium jenningsi species group</i>	09021012047070	78.67			CF	11.5	
<i>Hemerodromia</i>	09021016057	2.67	2.67	3	PR	0.4	0.4
<i>Promoresia</i>	09021113069		2.67		--		0.4
<i>Promoresia tardella</i>	09021113069052	2.67			--	0.4	
<i>Stenelmis</i>	09021113070		1.33	5	SC		0.2
<i>Stenelmis concinna</i>	09021113070054	1.33			--	0.2	
Hydrobiidae	10010104	1.33	1.33		--	0.2	0.2
<i>Ferrissia</i>	10010204035		2.67		SC		0.4
<i>Ferrissia rivularis</i>	10010204035066	2.67			--	0.4	