



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

Station Information

Station Number: S-391	River Basin: Saco
Waterbody: Mousam River - Station 391	HUC8 Name: Piscataqua-Salmon Falls
Town: Sanford	Latitude: 43 24 22.57 N
Directions: BELOW STP1 - JUST BELOW DISCHARGE	Longitude: 70 42 58.27 W
	Stream Order: 3

Sample Information

Log Number: 2805	Type of Sample: ROCK BAG	Date Deployed: 7/9/2020
Subsample Factor: X1	Replicates: 3	Date Retrieved: 8/6/2020

Classification Attainment

Statutory Class: C	Final Determination: B	Date: 5/12/2021
Model Result with $P \geq 0.6$: B	Reason for Determination: Model	
Date Last Calculated: 5/12/2021	Comments: Indeterminate Class A (0.48) not raised to Class A because of low abundance of stoneflies and mayflies.	

Model Probabilities

<u>First Stage Model</u>		<u>C or Better Model</u>	
Class A	0.59	Class A, B, or C	1.00
Class B	0.38	Non-Attainment	0.00
<u>B or Better Model</u>		<u>A Model</u>	
Class A or B	1.00	Class A	0.48
Class C or Non-Attainment	0.00	Class B or C or Non-Attainment	0.52

Model Variables

01 Total Mean Abundance	406.33	18 Relative Abundance Ephemeroptera	0.06
02 Generic Richness	61.00	19 EPT Generic Richness	19.00
03 Plecoptera Mean Abundance	1.33	21 Sum of Abundances: <i>Dicrotendipes</i> , <i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i>	0.00
04 Ephemeroptera Mean Abundance	25.33	23 Relative Generic Richness- Plecoptera	0.02
05 Shannon-Wiener Generic Diversity	4.72	25 Sum of Abundances: <i>Cheumatopsyche</i> , <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>	84.00
06 Hilsenhoff Biotic Index	4.99	26 Sum of Abundances: <i>Acroneuria</i> , <i>Maccaffertium</i> , <i>Stenonema</i>	13.00
07 Relative Abundance - Chironomidae	0.34	28 EP Generic Richness/14	0.50
08 Relative Generic Richness Diptera	0.26	30 Presence of Class A Indicator Taxa/7	0.14
09 <i>Hydropsyche</i> Abundance	0.00		
11 <i>Cheumatopsyche</i> Abundance	11.00		
12 EPT Generic Richness/ Diptera Generic Richness	1.19		
13 Relative Abundance - Oligochaeta	0.00		
15 Perlidae Mean Abundance (Family Functional Group)	1.33		
16 Tanypodinae Mean Abundance (Family Functional Group)	21.00		
17 Chironomini Abundance (Family Functional Group)	6.33		

Five Most Dominant Taxa

Rank	Taxon Name	Percent
1	<i>Tanytarsus</i>	16.16
2	<i>Gammarus</i>	9.93
3	<i>Amnicola</i>	9.43
4	<i>Rheocricotopus</i>	8.29
5	<i>Physella</i>	5.41



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Station Number: S-391 Town: Sanford Date Deployed: 7/9/2020
Log Number: 2805 Waterbody: Mousam River - Station 391 Date Retrieved: 8/6/2020

Sample Collection and Processing Information

Sampling Organization: BIOMONITORING UNIT Taxonomist: MICHAEL COLE

Waterbody Information - Deployment

Temperature: 24.1 deg C
Dissolved Oxygen: 8.24 mg/l
Dissolved Oxygen Saturation: 99.3 %
Specific Conductance: 137.2 uS/cm
Velocity: 28.3 cm/s
pH: 7.16
Wetted Width: 17.8 m
Bankfull Width: 17.8 m
Depth: 57 cm

Waterbody Information - Retrieval

Temperature: 22.9 deg C
Dissolved Oxygen: 8.51 mg/l
Dissolved Oxygen Saturation: 98.9 %
Specific Conductance: 159.3 uS/cm
Velocity: 14 cm/s
pH: 7.26
Wetted Width: 17.5 m
Bankfull Width: 17.5 m
Depth: 68 cm

Water Chemistry

Summary of Habitat Characteristics

<u>Landuse Name</u>	<u>Canopy Cover</u>	<u>Terrain</u>	
Swamp Hardwood	Partly Open	Rolling	
Urban			
<u>Potential Stressor</u>	<u>Location</u>	<u>Substrate</u>	
Nutrients	Below POTW	Boulder	5 %
		Detritus	5 %
		Gravel	30 %
		Rubble/Cobble	30 %
		Sand	30 %

Landcover Summary - 2004 Data

Total Area (ac)	29468	High Int. Dev. %	2.0	Water %	6.9	Non-vegetated %	0.1
		Med Int. Dev. %	2.1	Wetland %	4.3	Tilled Agriculture %	0.5
		Low Int. Dev. %	3.6	Upland Woody %	73.2	Grassland %	5.3
		Development %	7.7	Natural %	77.5	Human Altered %	15.6
						Impervious %	6.1

Sample Comments



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Aquatic Life Taxonomic Inventory Report

Station Number: S-391

Waterbody: Mousam River - Station 391

Town: Sanford

Log Number: 2805

Subsample Factor: X1

Replicates: 3

Calculated: 5/12/2021

Taxon	Maine Taxonomic Code	Count		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance %	
		(Mean of Samplers)				Actual	Adjusted
		Actual	Adjusted				
<i>Girardia</i>	03010102002	9.67	9.67		--	2.4	2.4
<i>Prostoma</i>	04010101001	11.33	11.33		--	2.8	2.8
<i>Nais</i>	08020202009	0.67	0.67		CG	0.2	0.2
<i>Caecidotea</i>	09010101001	0.33	0.33	8	SH	0.1	0.1
<i>Gammarus</i>	09010201003	40.33	40.33	4	--	9.9	9.9
<i>Acroneuria</i>	09020209042		1.33	0	PR		0.3
<i>Acroneuria abnormis</i>	09020209042121	0.33		0	PR	0.1	
<i>Acroneuria lycorias</i>	09020209042125	1.00			--	0.2	
Odonata	090203	0.33	0.33		--	0.1	0.1
<i>Boyeria</i>	09020301004	1.67	8.33	2	PR	0.4	2.1
<i>Boyeria vinosa</i>	09020301004012	6.67			--	1.6	
Gomphidae	09020302	0.33	0.33		--	0.1	0.1
Corduliidae	09020305	1.00	1.00		--	0.2	0.2
<i>Calopteryx</i>	09020307043	8.67	8.67	5	PR	2.1	2.1
Coenagrionidae	09020309	1.00	1.00		--	0.2	0.2
<i>Argia</i>	09020309048	12.00	12.00	7	PR	3.0	3.0
<i>Labiobaetis</i>	09020401009	1.67	1.67		--	0.4	0.4
<i>Iswaeon</i>	09020401015		0.33		--		0.1
<i>Iswaeon anoka</i>	09020401015001	0.33			--	0.1	
<i>Stenacron</i>	09020402014	0.33	0.33	7	SC	0.1	0.1
<i>Maccaffertium</i>	09020402015	9.00	11.67	4	SC	2.2	2.9
<i>Maccaffertium modestum</i>	09020402015051	2.67			--	0.7	
<i>Tricorythodes</i>	09020411038	8.00	8.00	4	CG	2.0	2.0
<i>Caenis</i>	09020412040	3.33	3.33	7	CG	0.8	0.8
<i>Chimarra</i>	09020601003		8.33	2	CF		2.1
<i>Chimarra aterrima</i>	09020601003002	6.67			--	1.6	
<i>Chimarra obscura</i>	09020601003003	0.33			--	0.1	
<i>Chimarra socia</i>	09020601003004	1.33			--	0.3	
<i>Neureclipsis</i>	09020603008	0.33	0.33	7	CF	0.1	0.1
<i>Nyctiophylax</i>	09020603009	0.33	0.33	5	PR	0.1	0.1
<i>Polycentropus</i>	09020603010	5.00	5.00	6	PR	1.2	1.2
<i>Cheumatopsyche</i>	09020604015	11.00	11.00	5	CF	2.7	2.7
<i>Macrostemum</i>	09020604018	0.33	0.33	3	CF	0.1	0.1
<i>Brachycentrus</i>	09020609043		3.00	0	CF		0.7
<i>Brachycentrus numerosus</i>	09020609043098	3.00			--	0.7	
<i>Pycnopsyche</i>	09020610049	1.00	1.00	4	SH	0.2	0.2
<i>Lepidostoma</i>	09020611064	2.33	2.33	1	SH	0.6	0.6



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Log Number: 2805 Subsample Factor: X1 Replicates: 3 Calculated: 5/12/2021

Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance %	
		Actual	Adjusted			Actual	Adjusted
<i>Mystacides</i>	09020618075		2.00	4	CG		0.5
<i>Mystacides sepulchralis</i>	09020618075147	2.00			--	0.5	
<i>Triaenodes</i>	09020618077	0.33	0.33	6	SH	0.1	0.1
<i>Oecetis</i>	09020618078	2.00	2.00	8	PR	0.5	0.5
<i>Nigronia</i>	09020701003		0.67	0	PR		0.2
<i>Nigronia serricornis</i>	09020701003003	0.67			--	0.2	
<i>Ablabesmyia</i>	09021011001	6.67	6.67	8	PR	1.6	1.6
<i>Labrundinia</i>	09021011008		1.67	7	PR		0.4
<i>Labrundinia pilosella</i>	09021011008022	1.67			--	0.4	
<i>Nilotanytus</i>	09021011012		2.00	6	PR		0.5
<i>Nilotanytus fimbriatus</i>	09021011012027	2.00			--	0.5	
<i>Pentaneura</i>	09021011014	1.33	1.33	6	PR	0.3	0.3
<i>Thienemannimyia</i>	09021011020		8.67	3	PR		2.1
<i>Thienemannimyia group</i>	09021011020041	8.67			--	2.1	
<i>Trissopelopia</i>	09021011021		0.67		PR		0.2
<i>Trissopelopia ogemawi</i>	09021011021042	0.67			--	0.2	
<i>Cricotopus</i>	09021011037		0.67	7	SH		0.2
<i>Cricotopus bicinctus</i>	09021011037057	0.67			--	0.2	
<i>Nanocladius</i>	09021011049	0.67	0.67	3	CG	0.2	0.2
<i>Orthocladius</i>	09021011050	0.67	0.67	6	CG	0.2	0.2
<i>Psectrocladius</i>	09021011056	0.33	0.33	8	CG	0.1	0.1
<i>Rheocricotopus</i>	09021011057	33.67	33.67	6	CG	8.3	8.3
<i>Rheotanytarsus</i>	09021011072		8.33	6	CF		2.1
<i>Rheotanytarsus exiguus group</i>	09021011072127	5.00			CF	1.2	
<i>Rheotanytarsus pellucidus</i>	09021011072128	3.33			CF	0.8	
<i>Tanytarsus</i>	09021011076	65.67	65.67	6	CF	16.2	16.2
<i>Microtendipes</i>	09021011094		4.33	6	CF		1.1
<i>Microtendipes rydalensis group</i>	09021011094168	4.33			--	1.1	
<i>Polypedilum</i>	09021011102		2.00	6	SH		0.5
<i>Polypedilum illinoense group</i>	09021011102185	2.00			--	0.5	
<i>Hemerodromia</i>	09021016057	0.67	0.67	3	PR	0.2	0.2
<i>Psephenus</i>	09021108058		2.00	4	SC		0.5
<i>Psephenus herricki</i>	09021108058028	2.00			--	0.5	
Elmidae	09021113	1.00			--	0.2	
<i>Ancyronyx</i>	09021113063		1.72	6	--		0.4
<i>Ancyronyx variegatus</i>	09021113063034	1.67			CG	0.4	
<i>Dubiraphia</i>	09021113064	4.67	4.83	6	--	1.1	1.2
<i>Macronychus</i>	09021113065		7.58	4	--		1.9



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		Actual	Adjusted			Actual	Adjusted
<i>Macronychus glabratus</i>	09021113065040	7.33			--	1.8	
<i>Microcylloepus</i>	09021113066		2.41	3	--		0.6
<i>Microcylloepus pusillus</i>	09021113066041	2.33			--	0.6	
<i>Optioservus</i>	09021113067	6.00	8.27	3	SC	1.5	2.0
<i>Optioservus elegans</i>	09021113067051	2.00			--	0.5	
<i>Oulimnius</i>	09021113068	1.00	1.03		--	0.2	0.3
<i>Stenelmis</i>	09021113070	4.33	4.48	5	SC	1.1	1.1
Gastropoda	1001	5.33	5.33		--	1.3	1.3
<i>Amnicola</i>	10010104013	38.33	38.33		SC	9.4	9.4
<i>Physella</i>	10010202027	22.00	22.00		SC	5.4	5.4
<i>Gyraulus</i>	10010203029	0.67	0.67		SC	0.2	0.2
<i>Menetus</i>	10010203031		2.67		--		0.7
<i>Menetus dilatatus</i>	10010203031059	2.67			--	0.7	
Sphaeriidae	10020201	4.67			CF	1.1	
<i>Musculium</i>	10020201001	0.67	1.29		CF	0.2	0.3
<i>Pisidium</i>	10020201002	4.33	8.38		CF	1.1	2.1