



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

Station Information

Station Number: S-972	River Basin: Penobscot
Waterbody: Sedgeunkedunk Stream - Station 972	HUC8 Name: Lower Penobscot
Town: Orrington	Latitude: 44 45 19.02 N
Directions: ALONG BREWER LAKE ROAD, LARGE TURNOUT AREA, TOWARD DOWNSTREAM SIDE OF TURNOUT, WALK DOWNSTREAM PAST RESEARCH AREA	Longitude: 68 46 10.77 W Stream Order: 2

Sample Information

Log Number: 2493	Type of Sample: ROCK BAG	Date Deployed: 7/21/2016
Subsample Factor: X1	Replicates: 3	Date Retrieved: 8/18/2016

Classification Attainment

Statutory Class: B	Final Determination: A	Date: 4/7/2017
Model Result with $P \geq 0.6$: A	Reason for Determination: Model	
Date Last Calculated: 4/5/2017	Comments:	

Model Probabilities

<u>First Stage Model</u>		<u>C or Better Model</u>	
Class A	0.75	Class A, B, or C	1.00
Class B	0.23	Non-Attainment	0.00
		<u>A Model</u>	
<u>B or Better Model</u>		Class A	0.83
Class A or B	0.99	Class B or C or Non-Attainment	0.17
Class C or Non-Attainment	0.01		

Model Variables

01 Total Mean Abundance	54.00	18 Relative Abundance Ephemeroptera	0.12
02 Generic Richness	27.00	19 EPT Generic Richness	9.00
03 Plecoptera Mean Abundance	3.67	21 Sum of Abundances: <i>Dicrotendipes</i> , <i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i>	0.00
04 Ephemeroptera Mean Abundance	6.67	23 Relative Generic Richness- Plecoptera	0.04
05 Shannon-Wiener Generic Diversity	4.02	25 Sum of Abundances: <i>Cheumatopsyche</i> , <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>	5.00
06 Hilsenhoff Biotic Index	4.30	26 Sum of Abundances: <i>Acroneuria</i> , <i>Maccaffertium</i> , <i>Stenonema</i>	9.67
07 Relative Abundance - Chironomidae	0.15	28 EP Generic Richness/14	0.29
08 Relative Generic Richness Diptera	0.22	30 Presence of Class A Indicator Taxa/7	0.14
09 <i>Hydropsyche</i> Abundance	0.33		
11 <i>Cheumatopsyche</i> Abundance	1.33		
12 EPT Generic Richness/ Diptera Generic Richness	1.50		
13 Relative Abundance - Oligochaeta	0.00		
15 Perlidae Mean Abundance (Family Functional Group)	3.67		
16 Tanypodinae Mean Abundance (Family Functional Group)	4.00		
17 Chironomini Abundance (Family Functional Group)	2.33		

Five Most Dominant Taxa

Rank	Taxon Name	Percent
1	<i>Macronychus</i>	20.37
2	<i>Maccaffertium</i>	11.11
3	<i>Calopteryx</i>	8.02
4	<i>Boyeria</i>	6.79
5	<i>Oecetis</i>	6.79



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Station Number: S-972 Town: Orrington Date Deployed: 7/21/2016
Log Number: 2493 Waterbody: Sedgeunkedunk Stream - Station 972 Date Retrieved: 8/18/2016

Sample Collection and Processing Information

Sampling Organization: BIOMONITORING UNIT Taxonomist: MICHAEL COLE

Waterbody Information - Deployment

Temperature: 20.4 deg C
Dissolved Oxygen: 9.95 mg/l
Dissolved Oxygen Saturation: 109.9 %
Specific Conductance: 36.5 uS/cm
Velocity: 9.1 cm/s
pH: 7.5
Wetted Width: 4.2 m
Bankfull Width: 8.9 m
Depth: 20 cm

Waterbody Information - Retrieval

Temperature: 18.9 deg C
Dissolved Oxygen: 9.47 mg/l
Dissolved Oxygen Saturation: 102 %
Specific Conductance: 114.5 uS/cm
Velocity: 7.48
pH: 7.48
Wetted Width: 3.4 m
Bankfull Width: 8.9 m
Depth: 16 cm

Water Chemistry

Summary of Habitat Characteristics

<u>Landuse Name</u>	<u>Canopy Cover</u>	<u>Terrain</u>	
Swamp Conifer	Partly Open	Rolling	
Swamp Hardwood			
Upland Conifer			
Upland Hardwood			
<u>Potential Stressor</u>	<u>Location</u>	<u>Substrate</u>	
Nps Pollution	Above Town	Bedrock	30 %
		Boulder	10 %
		Gravel	5 %
		Rubble/Cobble	40 %
		Sand	5 %
		Silt	10 %

Landcover Summary - 2004 Data

Sample Comments

7/21/2016: CULVERT DIRECTING LITTLE TRIB INTO STREAM, JUST ABOVE BAGS; VERY SILTY; FISH AND FROGS PRESENT.
8/18/2016: SILTY; FLOW VISIBLE AT RETRIEVAL; FISH AND FROGS.



**Maine Department of Environmental Protection
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Aquatic Life Taxonomic Inventory Report**

Station Number: S-972

Waterbody: Sedgeunkedunk Stream - Station 972

Town: Orrington

Log Number: 2493

Subsample Factor: X1

Replicates: 3

Calculated: 4/5/2017

Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance %	
		Actual	Adjusted			Actual	Adjusted
<i>Acroneuria</i>	09020209042	0.67	3.67	0	PR	1.2	6.8
<i>Acroneuria arenosa</i>	09020209042122	0.33			--	0.6	
<i>Acroneuria carolinensis</i>	09020209042123	2.67			--	4.9	
<i>Boyeria</i>	09020301004		3.67	2	PR		6.8
<i>Boyeria grafiana</i>	09020301004011	0.33			--	0.6	
<i>Boyeria vinosa</i>	09020301004012	3.33			--	6.2	
<i>Calopteryx</i>	09020307043	4.33	4.33	5	PR	8.0	8.0
<i>Argia</i>	09020309048	1.00	1.00	7	PR	1.9	1.9
<i>Acerpenna</i>	09020401007		0.33	5	CG		0.6
<i>Acerpenna macdunnoughi</i>	09020401007001	0.33			--	0.6	
<i>Leucrocuta</i>	09020402011	0.33	0.33	1	SC	0.6	0.6
<i>Maccaffertium</i>	09020402015	5.67	6.00	4	SC	10.5	11.1
<i>Maccaffertium modestum</i>	09020402015051	0.33			--	0.6	
<i>Microvelia</i>	09020510025	0.33	0.33		PR	0.6	0.6
<i>Neureclipsis</i>	09020603008	0.33	0.33	7	CF	0.6	0.6
<i>Cheumatopsyche</i>	09020604015	1.33	1.33	5	CF	2.5	2.5
<i>Hydropsyche</i>	09020604016		0.33	4	CF		0.6
<i>Hydropsyche morosa</i>	09020604016030	0.33			--	0.6	
<i>Pycnopsyche</i>	09020610049	0.33	0.33	4	SH	0.6	0.6
<i>Oecetis</i>	09020618078	0.33	3.67	8	PR	0.6	6.8
<i>Oecetis avara</i>	09020618078153	0.33			--	0.6	
<i>Oecetis persimilis</i>	09020618078157	3.00			--	5.6	
<i>Nigronia</i>	09020701003		2.67	0	PR		4.9
<i>Nigronia serricornis</i>	09020701003003	2.67			--	4.9	
Chironomidae	09021011				--		
<i>Ablabesmyia</i>	09021011001	3.00	3.00	8	PR	5.6	5.6
<i>Thienemannimyia</i>	09021011020		1.00	3	PR		1.9
<i>Thienemannimyia group</i>	09021011020041	1.00			--	1.9	
<i>Rheotanytarsus</i>	09021011072		1.33	6	CF		2.5
<i>Rheotanytarsus pellucidus</i>	09021011072128	1.33			CF	2.5	
<i>Tanytarsus</i>	09021011076	0.67	0.67	6	CF	1.2	1.2
<i>Microtendipes</i>	09021011094		2.00	6	CF		3.7
<i>Microtendipes rydalensis group</i>	09021011094168	2.00			--	3.7	
<i>Polypedilum</i>	09021011102		0.33	6	SH		0.6
<i>Polypedilum illinoense group</i>	09021011102185	0.33			--	0.6	
<i>Psephenus</i>	09021108058		0.67	4	SC		1.2
<i>Psephenus herricki</i>	09021108058028	0.67			--	1.2	



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<i>Dubiraphia</i>	09021113064	2.33	2.33	6	--	4.3	4.3
<i>Macronychus</i>	09021113065		11.00	4	--		20.4
<i>Macronychus glabratus</i>	09021113065040	11.00			--	20.4	
<i>Promoesia</i>	09021113069		2.00		--		3.7
<i>Promoesia tardella</i>	09021113069052	2.00			--	3.7	
Physidae	10010202	0.33	0.33		SC	0.6	0.6
<i>Gyraulius</i>	10010203029		0.33		SC		0.6
<i>Gyraulius parvus</i>	10010203029057	0.33			--	0.6	
<i>Ferrissia</i>	10010204035	0.67	0.67		SC	1.2	1.2