



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

Station Information

Station Number: S-505	River Basin: Penobscot
Waterbody: French Stream - Station 505	HUC8 Name: Lower Penobscot
Town: Exeter	Latitude: 44 59 18.35 N
Directions: DOWNSTREAM SITE - CRANE ROAD	Longitude: 69 5 5.96 W
	Stream Order: 3

Sample Information

Log Number: 2498	Type of Sample: ROCK BAG	Date Deployed: 7/25/2016
Subsample Factor: X4	Replicates: 3	Date Retrieved: 8/22/2016

Classification Attainment

Statutory Class: B	Final Determination: B	Date: 8/31/2017
Model Result with $P \geq 0.6$: B	Reason for Determination: Model	
Date Last Calculated: 8/29/2017	Comments:	

Model Probabilities

<u>First Stage Model</u>		<u>C or Better Model</u>	
Class A	0.19	Class C	0.07
Class B	0.74	NA	0.00
<u>B or Better Model</u>		<u>A Model</u>	
Class A or B	0.99	Class A	0.06
Class C or Non-Attainment	0.01	Class B or C or Non-Attainment	0.94

Model Variables

01 Total Mean Abundance	2022.67	18 Relative Abundance Ephemeroptera	0.24
02 Generic Richness	54.00	19 EPT Generic Richness	21.00
03 Plecoptera Mean Abundance	13.33	21 Sum of Abundances: <i>Dicrotendipes</i> , <i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i>	9.38
04 Ephemeroptera Mean Abundance	478.67	23 Relative Generic Richness- Plecoptera	0.04
05 Shannon-Wiener Generic Diversity	4.05	25 Sum of Abundances: <i>Cheumatopsyche</i> , <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>	468.37
06 Hilsenhoff Biotic Index	4.99	26 Sum of Abundances: <i>Acroneuria</i> , <i>Maccaffertium</i> , <i>Stenonema</i>	166.67
07 Relative Abundance - Chironomidae	0.14	28 EP Generic Richness/14	0.86
08 Relative Generic Richness Diptera	0.35	30 Presence of Class A Indicator Taxa/7	0.14
09 <i>Hydropsyche</i> Abundance	437.33		
11 <i>Cheumatopsyche</i> Abundance	390.67		
12 EPT Generic Richness/ Diptera Generic Richness	1.11		
13 Relative Abundance - Oligochaeta	0.00		
15 Perlidae Mean Abundance (Family Functional Group)	10.67		
16 Tanypodinae Mean Abundance (Family Functional Group)	46.89		
17 Chironomini Abundance (Family Functional Group)	84.40		

Five Most Dominant Taxa

Rank	Taxon Name	Percent
1	<i>Hydropsyche</i>	21.62
2	<i>Cheumatopsyche</i>	19.31
3	<i>Oecetis</i>	8.90
4	<i>Maccaffertium</i>	7.71
5	<i>Acerpenna</i>	5.41



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Station Number: S-505 Town: Exeter Date Deployed: 7/25/2016
Log Number: 2498 Waterbody: French Stream - Station 505 Date Retrieved: 8/22/2016

Sample Collection and Processing Information

Sampling Organization: BIOMONITORING UNIT Taxonomist: MICHAEL COLE

Waterbody Information - Deployment

Temperature: 22.5 deg C
Dissolved Oxygen: 8.39 mg/l
Dissolved Oxygen Saturation: 97.5 %
Specific Conductance: 209.6 uS/cm
Velocity: 21.34 cm/s
pH: 7.65
Wetted Width: 7.4 m
Bankfull Width: 9.4 m
Depth: 40 cm

Waterbody Information - Retrieval

Temperature: 20.4 deg C
Dissolved Oxygen: 8.82 mg/l
Dissolved Oxygen Saturation: 98.9 %
Specific Conductance: 249.6 uS/cm
Velocity: 21.34 cm/s
pH: 7.95
Wetted Width: 7 m
Bankfull Width: 9.4 m
Depth: 30 cm

Water Chemistry - 8/22/2016

Nitrate+nitrite As N	0.23 mg/l	Total Phosphorus	46 ug/l
Total Kjeldahl Nitrogen	0.4 mg/l	Total Suspended Solids	4.2 mg/l
Dissolved Organic Carbon	4.7 mg/l	Dissolved Organic Carbon	4.7 mg/l
Total Dissolved Solids	140 mg/l	Orthophosphate As Phosphorus	13 ug/l

Summary of Habitat Characteristics

<u>Landuse Name</u>	<u>Canopy Cover</u>	<u>Terrain</u>	
Cultivated	Open	Rolling	
Pasture			
Upland Hardwood			
<u>Potential Stressor</u>	<u>Location</u>	<u>Substrate</u>	
Agricultural Runoff	Below Agriculture NPS	Boulder	5 %
Nutrients	Below Road Crossing	Gravel	10 %
		Rubble/Cobble	85 %

Landcover Summary - 2004 Data

Total Area (ac)	23851	High Int. Dev. %	0.1	Water %	0.2	Non-vegetated %	0.0
		Med Int. Dev. %	0.3	Wetland %	6.2	Tilled Agriculture %	13.8
		Low Int. Dev. %	3.7	Upland Woody %	70.6	Grassland %	5.2
		Development %	4.1	Natural %	76.9	Human Altered %	22.9
						Impervious %	2.3

Sample Comments

7/25/2016: FILAMENTOUS ALGAE; FROGS AND FISH PRESENT.
8/22/2016: 1 IN. OF RAIN IN MORNING; WATER CLOUDY; FROGS AND FISH PRESENT.



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

Station Number: S-505

Waterbody: French Stream - Station 505

Town: Exeter

Log Number: 2498

Subsample Factor: X4

Replicates: 3

Calculated: 8/29/2017

Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance %	
		Actual	Adjusted			Actual	Adjusted
<i>Girardia</i>	03010102002	48.00	48.00		--	2.4	2.4
<i>Hyalella</i>	09010203006	1.33	1.33	8	CG	0.1	0.1
<i>Paracapnia</i>	09020203018	2.67	2.67	1	SH	0.1	0.1
<i>Acroneuria</i>	09020209042		10.67	0	PR		0.5
<i>Acroneuria abnormis</i>	09020209042121	2.67		0	PR	0.1	
<i>Acroneuria arenosa</i>	09020209042122	8.00			--	0.4	
Gomphidae	09020302	1.33	1.33		--	0.1	0.1
Coenagrionidae	09020309	9.33	9.33		--	0.5	0.5
<i>Argia</i>	09020309048	1.33	1.33	7	PR	0.1	0.1
<i>Acerpenna</i>	09020401007		109.33	5	CG		5.4
<i>Acerpenna pygmaea</i>	09020401007011	109.33			--	5.4	
<i>Procloeon</i>	09020401010	28.00	28.00		CG	1.4	1.4
<i>Leucrocuta</i>	09020402011	14.67	14.67	1	SC	0.7	0.7
<i>Stenacron</i>	09020402014	80.00	80.00	7	SC	4.0	4.0
<i>Maccaffertium</i>	09020402015	106.67	156.00	4	SC	5.3	7.7
<i>Maccaffertium modestum</i>	09020402015051	1.33			--	0.1	
<i>Maccaffertium vicarium</i>	09020402015055	48.00			--	2.4	
<i>Isonychia</i>	09020404018	2.67	2.67	2	CF	0.1	0.1
Leptophlebiidae	09020406	4.00	4.00		--	0.2	0.2
<i>Ephemerella</i>	09020410035	36.00	36.00	1	CG	1.8	1.8
<i>Tricorythodes</i>	09020411038	21.33	21.33	4	CG	1.1	1.1
<i>Caenis</i>	09020412040	26.67	26.67	7	CG	1.3	1.3
<i>Chimarra</i>	09020601003		5.33	2	CF		0.3
<i>Chimarra obscura</i>	09020601003003	1.33			--	0.1	
<i>Chimarra socia</i>	09020601003004	4.00			--	0.2	
<i>Nyctiophylax</i>	09020603009	1.33	1.33	5	PR	0.1	0.1
<i>Polycentropus</i>	09020603010	48.00	48.00	6	PR	2.4	2.4
<i>Cheumatopsyche</i>	09020604015	390.67	390.67	5	CF	19.3	19.3
<i>Hydropsyche</i>	09020604016	25.33	437.33	4	CF	1.3	21.6
<i>Hydropsyche bronta</i>	09020604016029	208.00			--	10.3	
<i>Hydropsyche morosa</i>	09020604016030	130.67			--	6.5	
<i>Hydropsyche betteni</i>	09020604016037	4.00			--	0.2	
<i>Hydropsyche scalaris species group</i>	09020604016048	69.33			--	3.4	
<i>Hydroptila</i>	09020607026	8.00	8.00	6	P	0.4	0.4
<i>Helicopsyche</i>	09020616070	9.33	9.33	3	SC	0.5	0.5
<i>Mystacides</i>	09020618075		1.33	4	CG		0.1
<i>Mystacides sepulchralis</i>	09020618075147	1.33			--	0.1	



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Aquatic Life Taxonomic Inventory Report**

Station Number: S-505

Waterbody: French Stream - Station 505

Town: Exeter

Log Number: 2498

Subsample Factor: X4

Replicates: 3

Calculated: 8/29/2017

Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance %	
		Actual	Adjusted			Actual	Adjusted
<i>Oecetis</i>	09020618078		180.00	8	PR		8.9
<i>Oecetis avara</i>	09020618078153	180.00			--	8.9	
<i>Nigronia</i>	09020701003		2.67	0	PR		0.1
<i>Nigronia serricornis</i>	09020701003003	2.67			--	0.1	
Chironomidae	09021011	1.33			--	0.1	
<i>Ablabesmyia</i>	09021011001	6.67	6.70	8	PR	0.3	0.3
<i>Nilotanytus</i>	09021011012		9.38	6	PR		0.5
<i>Nilotanytus fimbriatus</i>	09021011012027	9.33			--	0.5	
<i>Pentaneura</i>	09021011014	2.67	2.68	6	PR	0.1	0.1
<i>Thienemannimyia</i>	09021011020		28.13	3	PR		1.4
<i>Thienemannimyia group</i>	09021011020041	28.00			--	1.4	
<i>Pagastia</i>	09021011025	1.33	1.34	1	--	0.1	0.1
<i>Cricotopus</i>	09021011037		5.36	7	SH		0.3
<i>Cricotopus bicinctus</i>	09021011037057	5.33			--	0.3	
<i>Nanocladius</i>	09021011049	12.00	12.06	3	CG	0.6	0.6
<i>Psectrocladius</i>	09021011056	2.67	2.68	8	CG	0.1	0.1
<i>Rheocricotopus</i>	09021011057	5.33	5.36	6	CG	0.3	0.3
<i>Tvetenia</i>	09021011065		1.34	5	CG		0.1
<i>Tvetenia vitracies</i>	09021011065113	1.33			--	0.1	
<i>Rheotanytarsus</i>	09021011072		53.59	6	CF		2.6
<i>Rheotanytarsus exiguus group</i>	09021011072127	53.33			CF	2.6	
<i>Tanytarsus</i>	09021011076	65.33	65.65	6	CF	3.2	3.2
<i>Dicrotendipes</i>	09021011085	9.33	9.38	8	CG	0.5	0.5
<i>Microtendipes</i>	09021011094		54.93	6	CF		2.7
<i>Microtendipes pedellus group</i>	09021011094166	1.33			--	0.1	
<i>Microtendipes rydalensis group</i>	09021011094168	53.33			--	2.6	
<i>Nilothauma</i>	09021011095	1.33	1.34	2	--	0.1	0.1
<i>Phaenopsectra</i>	09021011101	8.00	8.04	7	SC	0.4	0.4
<i>Polypedilum</i>	09021011102		9.38	6	SH		0.5
<i>Polypedilum flavum</i>	09021011102182	9.33			--	0.5	
<i>Xenochironomus</i>	09021011108		1.34	0	PR		0.1
<i>Xenochironomus xenolabis</i>	09021011108200	1.33			--	0.1	
<i>Hemerodromia</i>	09021016057	17.33	17.33	3	PR	0.9	0.9
<i>Psephenus</i>	09021108058		26.67	4	SC		1.3
<i>Psephenus herricki</i>	09021108058028	26.67			--	1.3	
<i>Ectopria</i>	09021109059		1.33	5	SC		0.1
<i>Ectopria nervosa</i>	09021109059029	1.33			--	0.1	
<i>Dubiraphia</i>	09021113064	9.33	9.33	6	--	0.5	0.5



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Waterbody: French Stream - Station 505

Town: Exeter

Log Number: 2498

Subsample Factor: X4

Replicates: 3

Calculated: 8/29/2017

Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance %	
		Actual	Adjusted			Actual	Adjusted
<i>Macronychus</i>	09021113065		10.67	4	--		0.5
<i>Macronychus glabratus</i>	09021113065040	10.67			--	0.5	
<i>Optioservus</i>	09021113067	4.00	9.33	3	SC	0.2	0.5
<i>Optioservus ovalis</i>	09021113067046	5.33			--	0.3	
<i>Promoresia</i>	09021113069		6.67		--		0.3
<i>Promoresia elegans</i>	09021113069051	5.33			--	0.3	
<i>Promoresia tardella</i>	09021113069052	1.33			--	0.1	
<i>Stenelmis</i>	09021113070	4.00	24.00	5	SC	0.2	1.2
<i>Stenelmis crenata</i>	09021113070055	20.00			--	1.0	
<i>Pisidium</i>	10020201002	1.33	1.33		CF	0.1	0.1