



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

Station Information

Station Number: S-506	River Basin:	Penobscot
Waterbody: Burnham Brook - Station 506	HUC8 Name:	Lower Penobscot
Town: Garland	Latitude:	45 2 36.19 N
Directions: CABELL RD CROSSING	Longitude:	69 7 36.65 W
	Stream Order:	2

Sample Information

Log Number: 2870	Type of Sample: ROCK BAG	Date Deployed: 8/5/2021
Subsample Factor: X1	Replicates: 3	Date Retrieved: 9/2/2021

Classification Attainment

Statutory Class: B	Final Determination: I	Date: 12/12/2022
Model Result with $P \geq 0.6$: I	Reason for Determination: Model	
Date Last Calculated: 11/7/2022	Comments:	

Model Probabilities

<u>First Stage Model</u>		<u>C or Better Model</u>	
Class A	0.09	Class A, B, or C	0.99
Class B	0.09	Non-Attainment	0.01
<u>B or Better Model</u>		<u>A Model</u>	
Class A or B	0.01	Class A	0.02
Class C or Non-Attainment	0.99	Class B or C or Non-Attainment	0.98

Model Variables

01 Total Mean Abundance	36.67	18 Relative Abundance Ephemeroptera	0.58
02 Generic Richness	21.00	19 EPT Generic Richness	6.00
03 Plecoptera Mean Abundance	0.00	21 Sum of Abundances: <i>Dicrotendipes</i> , <i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i>	1.33
04 Ephemeroptera Mean Abundance	21.33	23 Relative Generic Richness- Plecoptera	0.00
05 Shannon-Wiener Generic Diversity	3.21	25 Sum of Abundances: <i>Cheumatopsyche</i> , <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>	1.00
06 Hilsenhoff Biotic Index	3.42	26 Sum of Abundances: <i>Acroneuria</i> , <i>Maccaffertium</i> , <i>Stenonema</i>	0.33
07 Relative Abundance - Chironomidae	0.31	28 EP Generic Richness/14	0.36
08 Relative Generic Richness Diptera	0.48	30 Presence of Class A Indicator Taxa/7	0.00
09 <i>Hydropsyche</i> Abundance	0.00		
11 <i>Cheumatopsyche</i> Abundance	0.00		
12 EPT Generic Richness/ Diptera Generic Richness	0.60		
13 Relative Abundance - Oligochaeta	0.00		
15 Perlidae Mean Abundance (Family Functional Group)	0.00		
16 Tanypodinae Mean Abundance (Family Functional Group)	1.33		
17 Chironomini Abundance (Family Functional Group)	8.67		

Five Most Dominant Taxa

Rank	Taxon Name	Percent
1	<i>Paraleptophlebia</i>	37.71
2	<i>Centroptilum</i>	15.45
3	<i>Microtendipes</i>	10.91
4	<i>Chironomus</i>	7.27
5	<i>Dicrotendipes</i>	3.64



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Aquatic Life Classification Attainment Report**

Station Number: S-506 Town: Garland Date Deployed: 8/5/2021
Log Number: 2870 Waterbody: Burnham Brook - Station 506 Date Retrieved: 9/2/2021

Sample Collection and Processing Information

Sampling Organization: BIOMONITORING UNIT Taxonomist: MICHAEL COLE

Waterbody Information - Deployment

Waterbody Information - Retrieval

Temperature: 16.9 deg C
Dissolved Oxygen: 9.6 mg/l
Dissolved Oxygen Saturation: 99.2 %
Specific Conductance: 219.7 uS/cm
Velocity: cm/s
pH: 7.54
Wetted Width: 2.72 m
Bankfull Width: 9.13 m
Depth: 52.66666667 cm

Water Chemistry - 7/8/2021

Nitrate + Nitrite As Nitrogen	0.14 mg/l	Nitrate As Nitrogen	0.14 mg/l
Nitrite As Nitrogen	<0.01 mg/l	Orthophosphate As Phosphorus	8 ug/l
Total Kjeldahl Nitrogen (organic A	0.2 mg/l	Total Phosphorus Mixed Forms (po	27 ug/l

Summary of Habitat Characteristics

<u>Landuse Name</u>	<u>Canopy Cover</u>	<u>Terrain</u>	
Cultivated	Dense	Rolling	
Pasture			
Upland Conifer			
Upland Hardwood			
<u>Potential Stressor</u>	<u>Location</u>	<u>Substrate</u>	
Agricultural Runoff	Above Agriculture NPS	Boulder	10 %
	Below Agriculture NPS	Gravel	30 %
		Rubble/Cobble	40 %
		Silt	20 %

Landcover Summary - 2004 Data

Total Area (ac)	1518	High Int. Dev. %	0.0	Water %	0.0	Non-vegetated %	0.0
		Med Int. Dev. %	0.1	Wetland %	0.1	Tilled Agriculture %	7.3
		Low Int. Dev. %	2.8	Upland Woody %	88.3	Grassland %	1.4
		Development %	2.9	Natural %	88.4	Human Altered %	11.6
						Impervious %	1.6
Total Land (ac)	1518	High Int. Dev. %	0.0	Water %	N/A	Non-vegetated %	N/A
		Med Int. Dev. %	0.1	Wetland %	0.1	Tilled Agriculture %	7.3
		Low Int. Dev. %	2.8	Upland Woody %	88.3	Grassland %	1.4
		Development %	2.9	Natural %	88.4	Human Altered %	11.6
						Impervious %	1.6

Sample Comments

No Visible Flow



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

Station Number: S-506

Waterbody: Burnham Brook - Station 506

Town: Garland

Log Number: 2870

Subsample Factor: X1

Replicates: 3

Calculated: 11/7/2022

Taxon	Maine Taxonomic Code	Count		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance %	
		(Mean of Samplers)				Actual	Adjusted
		Actual	Adjusted				
<i>Orconectes</i>	09010301008	1.00	1.00		CG	2.7	2.7
Aeshnidae	09020301	0.33	0.33		--	0.9	0.9
<i>Aeshna</i>	09020301001	0.33	0.33	5	PR	0.9	0.9
<i>Centroptilum</i>	09020401003	5.67	5.67	2	CG	15.5	15.5
<i>Acerpenna</i>	09020401007		0.67	5	CG		1.8
<i>Acerpenna macdunnoughi</i>	09020401007001	0.33			--	0.9	
<i>Acerpenna pygmaea</i>	09020401007011	0.33			--	0.9	
<i>Maccaffertium</i>	09020402015	0.33	0.33	4	SC	0.9	0.9
Leptophlebiidae	09020406	3.00			--	8.2	
<i>Paraleptophlebia</i>	09020406026	11.00	13.83	1	CG	30.0	37.7
<i>Neoleptophlebia</i>	09020406027	0.67	0.84		--	1.8	2.3
<i>Oligostomis</i>	09020608039	1.00	1.00	2	PR	2.7	2.7
<i>Sialis</i>	09020702004	1.00	1.00	4	PR	2.7	2.7
<i>Ablabesmyia</i>	09021011001	0.33	0.33	8	PR	0.9	0.9
<i>Paramerina</i>	09021011013	0.33	0.33		--	0.9	0.9
<i>Thienemannimyia</i>	09021011020		0.67	3	PR		1.8
<i>Thienemannimyia group</i>	09021011020041	0.67			--	1.8	
<i>Cricotopus</i>	09021011037	0.33	0.67	7	SH	0.9	1.8
<i>Cricotopus tremulus</i>	09021011037068	0.33			--	0.9	
<i>Rheotanytarsus</i>	09021011072		0.67	6	CF		1.8
<i>Rheotanytarsus pellucidus</i>	09021011072128	0.67			CF	1.8	
<i>Chironomus</i>	09021011080	2.67	2.67	10	CG	7.3	7.3
<i>Dicrotendipes</i>	09021011085	1.33	1.33	8	CG	3.6	3.6
<i>Microtendipes</i>	09021011094		4.00	6	CF		10.9
<i>Microtendipes pedellus group</i>	09021011094166	4.00			--	10.9	
<i>Polypedilum</i>	09021011102		0.33	6	SH		0.9
<i>Polypedilum flavum</i>	09021011102182	0.33			--	0.9	
<i>Stenochironomus</i>	09021011105	0.33	0.33	5	CG	0.9	0.9
<i>Ferrissia</i>	10010204035	0.33	0.33		SC	0.9	0.9