



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

Station Information

Station Number: S-626	River Basin: Maine Coastal
Waterbody: Ducktrap River - Station 626	HUC8 Name: Maine Coastal
Town: Lincolnville	Latitude: 44 18 51.41 N
Directions: UPSTREAM OF TANGLEWOOD 4H CAMP'S SWIMMING AREA	Longitude: 69 2 38.3 W
	Stream Order: 3

Sample Information

Log Number: 2475	Type of Sample: ROCK BAG	Date Deployed: 7/12/2016
Subsample Factor: X1	Replicates: 3	Date Retrieved: 8/9/2016

Classification Attainment

Statutory Class: AA	Final Determination: B	Date: 5/12/2017
Model Result with $P \geq 0.6$: B	Reason for Determination: Model	
Date Last Calculated: 5/11/2017	Comments: Low Flow.	

Model Probabilities

<u>First Stage Model</u>		<u>C or Better Model</u>	
Class A	0.32	Class C	0.10
Class B	0.58	NA	0.00
<u>B or Better Model</u>		<u>A Model</u>	
Class A or B	1.00	Class A	0.08
Class C or Non-Attainment	0.00	Class B or C or Non-Attainment	0.92

Model Variables

01 Total Mean Abundance	335.00	18 Relative Abundance Ephemeroptera	0.12
02 Generic Richness	60.00	19 EPT Generic Richness	25.00
03 Plecoptera Mean Abundance	1.33	21 Sum of Abundances: <i>Dicrotendipes, Micropsectra, Parachironomus, Helobdella</i>	0.00
04 Ephemeroptera Mean Abundance	39.33	23 Relative Generic Richness- Plecoptera	0.05
05 Shannon-Wiener Generic Diversity	4.23	25 Sum of Abundances: <i>Cheumatopsyche, Cricotopus, Tanytarsus, Ablabesmyia</i>	107.95
06 Hilsenhoff Biotic Index	5.76	26 Sum of Abundances: <i>Acroneuria, Maccaffertium, Stenonema</i>	1.29
07 Relative Abundance - Chironomidae	0.53	28 EP Generic Richness/14	0.79
08 Relative Generic Richness Diptera	0.23	30 Presence of Class A Indicator Taxa/7	0.00
09 <i>Hydropsyche</i> Abundance	0.00		
11 <i>Cheumatopsyche</i> Abundance	0.67		
12 EPT Generic Richness/ Diptera Generic Richness	1.79		
13 Relative Abundance - Oligochaeta	0.00		
15 Perlidae Mean Abundance (Family Functional Group)	0.67		
16 Tanypodinae Mean Abundance (Family Functional Group)	20.01		
17 Chironomini Abundance (Family Functional Group)	42.09		

Five Most Dominant Taxa

Rank	Taxon Name	Percent
1	<i>Tanytarsus</i>	28.83
2	<i>Dubiraphia</i>	8.93
3	<i>Microtendipes</i>	8.03
4	<i>Pycnopsyche</i>	4.88
5	<i>Oecetis</i>	4.78



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Sample Collection and Processing Information

Sampling Organization: BIOMONITORING UNIT

Taxonomist: MICHAEL WINNELL

Waterbody Information - Deployment

Temperature: 18.8 deg C
Dissolved Oxygen: 9.3 mg/l
Dissolved Oxygen Saturation: 100 %
Specific Conductance: 51.2 uS/cm
Velocity: 12.2 cm/s
pH: 7.02
Wetted Width: 11.5 m
Bankfull Width: 15.2 m
Depth: 36 cm

Waterbody Information - Retrieval

Temperature: 21.3 deg C
Dissolved Oxygen: 7.35 mg/l
Dissolved Oxygen Saturation: 82.6 %
Specific Conductance: 50.2 uS/cm
Velocity:
pH: 6.85
Wetted Width: 9.5 m
Bankfull Width: 15.2 m
Depth: 23 cm

Water Chemistry - 8/9/2016

Nitrate+nitrite As N	0.02 mg/l	Total Phosphorus	26 ug/l
Total Kjeldahl Nitrogen	0.3 mg/l	Total Suspended Solids	8.7 mg/l
Dissolved Organic Carbon	5.9 mg/l	Total Dissolved Solids	35 mg/l
Orthophosphate As Phosphorus	1 ug/l		

Summary of Habitat Characteristics

<u>Landuse Name</u>	<u>Canopy Cover</u>	<u>Terrain</u>	
Upland Conifer	Partly Open	Flat	
Upland Hardwood			
<u>Potential Stressor</u>	<u>Location</u>	<u>Substrate</u>	
Nps Pollution	Main Stem	Boulder	3 %
		Gravel	32 %
		Rubble/Cobble	5 %
		Sand	50 %
		Silt	10 %

Landcover Summary - 2004 Data

Total Area (ac)	14251	High Int. Dev. %	0.1	Water %	4.2	Non-vegetated %	0.2
		Med Int. Dev. %	0.4	Wetland %	6.5	Tilled Agriculture %	0.0
		Low Int. Dev. %	3.3	Upland Woody %	79.6	Grassland %	5.8
		Development %	3.9	Natural %	84.7	Human Altered %	11.2
						Impervious %	3.6

Sample Comments

LOTS OF BLOWDOWNS.
VISIBLE FLOW AT RETRIEVAL.



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Subsample Factor: X1

Replicates: 3

Calculated: 5/11/2017

Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance %	
		Actual	Adjusted			Actual	Adjusted
<i>Hydra</i>	02010101001	0.33	0.33		PR	0.1	0.1
<i>Nais</i>	08020202009		0.33		CG		0.1
<i>Nais communis</i>	08020202009005	0.33			--	0.1	
<i>Aulodrilus</i>	08020202018		0.33		--		0.1
<i>Aulodrilus limnobius</i>	08020202018002	0.33			--	0.1	
<i>Paracapnia</i>	09020203018	0.33	0.33	1	SH	0.1	0.1
<i>Leuctra</i>	09020204020	0.33	0.33	0	SH	0.1	0.1
<i>Acroneuria</i>	09020209042		0.67	0	PR		0.2
<i>Acroneuria lycorias</i>	09020209042125	0.67			--	0.2	
Aeshnidae	09020301	1.33			--	0.4	
<i>Basiaeschna</i>	09020301003		0.78	6	PR		0.2
<i>Basiaeschna janata</i>	09020301003010	0.33			--	0.1	
<i>Boyeria</i>	09020301004		1.56	2	PR		0.5
<i>Boyeria vinosa</i>	09020301004012	0.67			--	0.2	
Gomphidae	09020302	0.67	0.67		--	0.2	0.2
Calopterygidae	09020307	0.67	0.67		--	0.2	0.2
<i>Procloeon</i>	09020401010		8.67		CG		2.6
<i>Procloeon rubropictum</i>	09020401010002	8.67			--	2.6	
<i>Neocloeon (Centroptilum)</i>	09020401017		0.67	2	CG		0.2
<i>Neocloeon (Centroptilum) triangulifer</i>	09020401017001	0.67			--	0.2	
Heptageniidae	09020402	4.00			--	1.2	
<i>Stenacron</i>	09020402014	3.67	8.05	7	SC	1.1	2.4
<i>Stenacron interpunctatum</i>	09020402014045	0.67			--	0.2	
<i>Maccaffertium</i>	09020402015		0.62	4	SC		0.2
<i>Maccaffertium modestum</i>	09020402015051	0.33			--	0.1	
Leptophlebiidae	09020406	6.00	6.00		--	1.8	1.8
<i>Paraleptophlebia</i>	09020406026	0.67	0.67	1	CG	0.2	0.2
<i>Tricorythodes</i>	09020411038	9.67	9.67	4	CG	2.9	2.9
<i>Caenis</i>	09020412040		5.00	7	CG		1.5
<i>Caenis tardata</i>	09020412040137	5.00			--	1.5	
<i>Chimarra</i>	09020601003		0.33	2	CF		0.1
<i>Chimarra aterrima</i>	09020601003002	0.33			--	0.1	
Polycentropodidae	09020603	0.33			--	0.1	
<i>Cernotina</i>	09020603006	13.00	13.24		PR	3.9	4.0
<i>Nyctiophylax</i>	09020603009		0.68	5	PR		0.2
<i>Nyctiophylax moestus</i>	09020603009013	0.67			--	0.2	
<i>Polycentropus</i>	09020603010	1.33	1.36	6	PR	0.4	0.4



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		Actual	Adjusted			Actual	Adjusted
<i>Phylocentropus</i>	09020603011	1.33	1.36	5	CF	0.4	0.4
<i>Plectrocnemia</i>	09020603012	1.67	1.70	6	PR	0.5	0.5
<i>Cheumatopsyche</i>	09020604015	0.67	0.67	5	CF	0.2	0.2
<i>Macrostemum</i>	09020604018		0.33	3	CF		0.1
<i>Macrostemum zebratum</i>	09020604018054	0.33			--	0.1	
<i>Oxyethira</i>	09020607028	4.00	4.00	3	P	1.2	1.2
<i>Pycnopsyche</i>	09020610049	16.33	16.33	4	SH	4.9	4.9
<i>Molanna</i>	09020615069		0.67	6	SC		0.2
<i>Molanna blenda</i>	09020615069133	0.67			--	0.2	
<i>Helicopsyche</i>	09020616070		0.33	3	SC		0.1
<i>Helicopsyche borealis</i>	09020616070137	0.33			--	0.1	
<i>Mystacides</i>	09020618075		2.67	4	CG		0.8
<i>Mystacides sepulchralis</i>	09020618075147	2.67			--	0.8	
<i>Oecetis</i>	09020618078		16.00	8	PR		4.8
<i>Oecetis inconspicua complex</i>	09020618078156	16.00			--	4.8	
<i>Nigronia</i>	09020701003		2.67	0	PR		0.8
<i>Nigronia serricornis</i>	09020701003003	2.67			--	0.8	
<i>Sialis</i>	09020702004	0.67	0.67	4	PR	0.2	0.2
Chironomidae	09021011	6.00			--	1.8	
<i>Ablabesmyia</i>	09021011001		10.00	8	PR		3.0
<i>Ablabesmyia mallochi</i>	09021011001004	9.67			--	2.9	
<i>Conchapelopia</i>	09021011004	1.33	1.38	6	PR	0.4	0.4
<i>Labrundinia</i>	09021011008		4.48	7	PR		1.3
<i>Labrundinia pilosella</i>	09021011008022	4.33			--	1.3	
<i>Meropelopia</i>	09021011010	2.00	2.07		--	0.6	0.6
<i>Paramerina</i>	09021011013		0.69		--		0.2
<i>Paramerina anomala</i>	09021011013001	0.67			--	0.2	
<i>Zavrelimyia</i>	09021011022		1.38	8	PR		0.4
<i>Zavrelimyia sinuosa group</i>	09021011022046	1.33			--	0.4	
<i>Cricotopus</i>	09021011037		0.69	7	SH		0.2
<i>Cricotopus bicinctus</i>	09021011037057	0.67			--	0.2	
<i>Orthocladius</i>	09021011050		4.14	6	CG		1.2
<i>Orthocladius annectens</i>	09021011050092	4.00			--	1.2	
<i>Paratanytarsus</i>	09021011071		13.11	6	--		3.9
<i>Paratanytarsus dissimilis</i>	09021011071125	12.67			--	3.8	
<i>Tanytarsus</i>	09021011076	85.33	96.59	6	CF	25.5	28.8
<i>Tanytarsus buckleyi</i>	09021011076139	8.00			CF	2.4	
<i>Microtendipes</i>	09021011094		26.91	6	CF		8.0



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<i>Microtendipes pedellus group</i>	09021011094166	22.67			--	6.8	
<i>Microtendipes rydalensis group</i>	09021011094168	3.33			--	1.0	
<i>Nilothauma</i>	09021011095	0.67	0.69	2	--	0.2	0.2
<i>Polypedilum</i>	09021011102		14.49	6	SH		4.3
<i>Polypedilum aviceps</i>	09021011102181	1.33			--	0.4	
<i>Polypedilum scalaenum group</i>	09021011102189	12.67			--	3.8	
<i>Zavreliella</i>	09021011133		1.38		--		0.4
<i>Zavreliella marmorata</i>	09021011133010	1.33			--	0.4	
Dytiscidae	09021103	0.33	0.33		--	0.1	0.1
<i>Gyrinus</i>	09021104033	1.67	1.67	2	PR	0.5	0.5
<i>Helichus</i>	09021112062		1.33	5	SH		0.4
<i>Helichus basalis</i>	09021112062031	1.33			--	0.4	
Elmidae	09021113	0.33			--	0.1	
<i>Dubiraphia</i>	09021113064	0.67	29.91	6	--	0.2	8.9
<i>Dubiraphia minima</i>	09021113064036	29.00			--	8.7	
<i>Macronychus</i>	09021113065		2.35	4	--		0.7
<i>Macronychus glabratus</i>	09021113065040	2.33			--	0.7	
<i>Optioservus</i>	09021113067	3.00	4.03	3	SC	0.9	1.2
<i>Optioservus ovalis</i>	09021113067046	1.00			--	0.3	
<i>Promoresia</i>	09021113069		3.70		--		1.1
<i>Promoresia elegans</i>	09021113069051	2.00			--	0.6	
<i>Promoresia tardella</i>	09021113069052	1.67			--	0.5	
<i>Stenelmis</i>	09021113070		1.34	5	SC		0.4
<i>Stenelmis crenata</i>	09021113070055	1.33			--	0.4	
<i>Clathrosperchon</i>	09030118001	0.33	0.33		--	0.1	0.1
<i>Amnicola</i>	10010104013		2.33		SC		0.7
<i>Amnicola limosus</i>	10010104013018	2.33			--	0.7	
<i>Physa</i>	10010202027	0.33	0.33		SC	0.1	0.1
<i>Pisidium</i>	10020201002	1.00	1.00		CF	0.3	0.3