



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

Station Information

Station Number: S-422

Waterbody: Fish Brook - Station 422

Town: Fairfield

Directions: 50 M UPSTREAM OF RTE 23

DEP Drainage:

HUC8: 01030003

HUC8 Name: Lower Kennebec

Latitude: 44 37 32.73 N

Longitude: 69 39 5.9 W

Stream Order: 1

Sample Information

Log Number: 2103

Type of Sample: ROCK BAG

Date Deployed: 7/12/2012

Subsample Factor: X1

Replicates: 3

Date Retrieved: 8/13/2012

Classification Attainment

Statutory Class: B

Final Determination: NA

Date: 1/16/2013

Model Result with P>.6: NA

Reason for Determination: Model

Date Last Calculated: 1/15/2013

Comments:

Model Probabilities

First Stage Model

Class A	0.00	Class C	0.03
Class B	0.00	NA	0.97

B or Better Model

Class A or B	0.00
Class C or Non-Attainment	1.00

C or Better Model

Class A, B, or C	0.00
Non-Attainment	1.00

A Model

Class A	0.02
Class B or C or Non-Attainment	0.98

Model Variables

01 Total Mean Abundance	61.67	18 Relative Abundance Ephemeroptera	0.01
02 Generic Richness	21.00	19 EPT Generic Richness	3.00
03 Plecoptera Mean Abundance	0.00	21 Sum of Abundances: <i>Dicrotendipes</i> , <i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i>	0.00
04 Ephemeroptera Mean Abundance	0.33	23 Relative Generic Richness- Plecoptera	0.00
05 Shannon-Wiener Generic Diversity	3.02	25 Sum of Abundances: <i>Cheumatopsyche</i> , <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>	1.02
06 Hilsenhoff Biotic Index	6.35	26 Sum of Abundances: <i>Acroneuria</i> , <i>Maccaffertium</i> , <i>Stenonema</i>	0.00
07 Relative Abundance - Chironomidae	0.60	28 EP Generic Richness/14	0.07
08 Relative Generic Richness Diptera	0.38	30 Presence of Class A Indicator Taxa/7	0.14
09 <i>Hydropsyche</i> Abundance	0.00	Five Most Dominant Taxa	
11 <i>Cheumatopsyche</i> Abundance	0.33	Rank	Taxon Name
12 EPT Generic Richness/ Diptera	0.38		Percent
Generic Richness		1	<i>Microtendipes</i>
13 Relative Abundance - Oligochaeta	0.15	2	<i>Limnodrilus</i>
15 Perlidae Mean Abundance (Family	0.00	3	<i>Stictochironomus</i>
Functional Group)		4	<i>Orconectes</i>
16 Tanypodinae Mean Abundance	2.40	5	<i>Ferrissia</i>
(Family Functional Group)			
17 Chironomini Abundance (Family	33.57		
Functional Group)			



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Date Retrieved: 8/13/2012

Sample Collection and Processing Information

Sampling Organization: BIOMONITORING UNIT

Taxonomist: MICHAEL WINNELL

Waterbody Information - Deployment

Temperature: 19.1 deg C
Dissolved Oxygen: 8 mg/l
Specific Conductance: 345 uS/cm
Velocity: 17 cm/s
pH: 7.58
Wetted Width: 4.1 m
Bankfull Width: 4.1 m
Depth: 40 cm

Waterbody Information - Retrieval

Temperature: 19 deg C
Dissolved Oxygen: 8 mg/l
Specific Conductance: 380 uS/cm
Velocity:
pH: 7.87
Wetted Width: 4.1 m
Bankfull Width: 4.1 m
Depth: 35 cm

Water Chemistry - 8/13/2012

Ammonia As Nitrogen	0.02 mg/l	Soluble Reactive Phosphorus	6 ug/l
Nitrate+nitrite As N	0.17 mg/l	Total Phosphorus	0.034 mg/l
Total Kjeldahl Nitrogen	0.3 mg/l	Total Suspended Solids	9.1 mg/l
Dissolved Organic Carbon	2.5 mg/l	Total Dissolved Solids	230 mg/l

Summary of Habitat Characteristics

<u>Landuse Name</u>	<u>Canopy Cover</u>	<u>Terrain</u>
Swamp Hardwood	Partly Open	Rolling
<u>Potential Stressor</u>	<u>Location</u>	<u>Substrate</u>
Agricultural Runoff	Above Agriculture NPS	Clay 25 %
Gravel Pit	Above Road Crossing	Detritus 15 %
Nps Pollution	Below In-place Contamination	Rubble/Cobble 40 %
	Below Landfill	Silt 20 %

Landcover Summary - 2004 Data

Total Area (ac)	1850	High Int. Dev. %	0.8	Water %	0.0	Non-vegetated %	0.0
		Med Int. Dev. %	1.4	Wetland %	6.7	Tilled Agriculture %	9.2
		Low Int. Dev. %	4.1	Upland Woody %	67.4	Grassland %	8.9
		Development %	6.3	Natural %	74.2	Human Altered %	25.8
						Impervious %	4.2

Sample Comments

8/13/12: FLOW VISIBLE.

7/12/12: BEAVER ACTIVITY. WATER CLOUDY DURING DEPLOYMENT AND RETRIEVAL.



Maine Department of Environmental Protection
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Aquatic Life Taxonomic Inventory Report

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Subsample Factor: X1

Replicates: 3

Calculated: 1/15/2013

Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance	
		Actual	Adjusted			Actual	Adjusted
Naididae	08020202	6.33			--	10.3	
<i>Nais</i>	08020202009		3.11		CG		5.0
<i>Nais behningi</i>	08020202009003	0.33			--	0.5	
<i>Nais communis</i>	08020202009005	0.67			--	1.1	
<i>Limnodrilus</i>	08020202022		6.22		CG		10.1
<i>Limnodrilus hoffmeisteri</i>	08020202022003	2.00			--	3.2	
<i>Hyaella</i>	09010203006		1.00	8	CG		1.6
<i>Hyaella azteca</i>	09010203006011	1.00			--	1.6	
<i>Orconectes</i>	09010301008	2.33	4.33		CG	3.8	7.0
<i>Orconectes virilis</i>	09010301008016	2.00			--	3.2	
<i>Eurylophella</i>	09020410036	0.33	0.33	3	CG	0.5	0.5
<i>Cheumatopsyche</i>	09020604015	0.33	0.33	5	CF	0.5	0.5
<i>Pycnopsyche</i>	09020610049	2.33	2.33	4	SH	3.8	3.8
<i>Chauliodes</i>	09020701001	0.33	0.33	4	PR	0.5	0.5
<i>Sialis</i>	09020702004	0.67	0.67	4	PR	1.1	1.1
Chironomidae	09021011	1.00			--	1.6	
<i>Natarsia</i>	09021011011		0.34	8	PR		0.6
<i>Natarsia baltimorea</i>	09021011011026	0.33			--	0.5	
<i>Paramerina</i>	09021011013	0.67	0.69		--	1.1	1.1
<i>Zavrelimyia</i>	09021011022		1.37	8	PR		2.2
<i>Zavrelimyia thryptica group</i>	09021011022045	1.33			PR	2.2	
<i>Cladotanytarsus</i>	09021011068	0.33	0.34	7	CG	0.5	0.6
<i>Tanytarsus</i>	09021011076	0.67	0.69	6	CF	1.1	1.1
<i>Chironomus</i>	09021011080	1.33	1.37	10	CG	2.2	2.2
<i>Microtendipes</i>	09021011094		27.75	6	CF		45.0
<i>Microtendipes pedellus group</i>	09021011094166	27.00			--	43.8	
<i>Stictochironomus</i>	09021011106	4.33	4.45	9	CG	7.0	7.2
Elmidae	09021113	0.33	0.33		--	0.5	0.5
<i>Optioservus</i>	09021113067	0.67	0.67	3	SC	1.1	1.1
<i>Lymnaea</i>	10010201022		1.00		SC		1.6
<i>Lymnaea columella</i>	10010201022038	1.00			--	1.6	
<i>Ferrissia</i>	10010204035		4.00		SC		6.5
<i>Ferrissia fragilis</i>	10010204035064	1.33			--	2.2	
<i>Ferrissia rivularis</i>	10010204035066	2.67			--	4.3	