



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

Station Information

Station Number: S-688	River Basin:	St. John	
Waterbody:	Dickey Brook - Station 688	HUC8 Name:	Fish
Town:	Cross Lake Twp	Latitude:	47 9 12.99 N
Directions:	UPSTREAM OF RT 161	Longitude:	68 21 45.94 W
		Stream Order:	3

Sample Information

Log Number: 2744	Type of Sample:	ROCK BAG	Date Deployed:	7/10/2019	
Subsample Factor:	X1	Replicates:	3	Date Retrieved:	8/6/2019

Classification Attainment

Statutory Class: B	Final Determination: B	Date:	11/12/2019
Model Result with $P \geq 0.6$:	B	Reason for Determination:	Model
Date Last Calculated:	11/5/2019	Comments:	

Model Probabilities

<u>First Stage Model</u>		<u>C or Better Model</u>	
Class A	0.41	Class C	0.04
Class B	0.55	NA	0.00
<u>B or Better Model</u>		<u>A Model</u>	
Class A or B	1.00	Class A	0.31
Class C or Non-Attainment	0.00	Class B or C or Non-Attainment	0.69

Model Variables

01 Total Mean Abundance	629.33	18 Relative Abundance Ephemeroptera	0.35
02 Generic Richness	54.00	19 EPT Generic Richness	19.00
03 Plecoptera Mean Abundance	2.67	21 Sum of Abundances: <i>Dicrotendipes</i> , <i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i>	1.33
04 Ephemeroptera Mean Abundance	221.00	23 Relative Generic Richness- Plecoptera	0.04
05 Shannon-Wiener Generic Diversity	4.16	25 Sum of Abundances: <i>Cheumatopsyche</i> , <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>	105.67
06 Hilsenhoff Biotic Index	4.82	26 Sum of Abundances: <i>Acroneuria</i> , <i>Maccaffertium</i> , <i>Stenonema</i>	108.67
07 Relative Abundance - Chironomidae	0.29	28 EP Generic Richness/14	0.86
08 Relative Generic Richness Diptera	0.37	30 Presence of Class A Indicator Taxa/7	0.14
09 <i>Hydropsyche</i> Abundance	104.33		
11 <i>Cheumatopsyche</i> Abundance	43.00		
12 EPT Generic Richness/ Diptera Generic Richness	0.95		
13 Relative Abundance - Oligochaeta	0.00		
15 Perlidae Mean Abundance (Family Functional Group)	0.67		
16 Tanypodinae Mean Abundance (Family Functional Group)	13.33		
17 Chironomini Abundance (Family Functional Group)	13.00		

Five Most Dominant Taxa

Rank	Taxon Name	Percent
1	<i>Maccaffertium</i>	17.27
2	<i>Hydropsyche</i>	16.58
3	<i>Rheotanytarsus</i>	10.43
4	<i>Tanytarsus</i>	6.99
5	<i>Cheumatopsyche</i>	6.83



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

Station Number: S-688 Town: Cross Lake Twp Date Deployed: 7/10/2019
Log Number: 2744 Waterbody: Dickey Brook - Station 688 Date Retrieved: 8/6/2019

Sample Collection and Processing Information

Sampling Organization: BIOMONITORING UNIT Taxonomist: MICHAEL COLE

Waterbody Information - Deployment

Temperature: 22.8 deg C
Dissolved Oxygen: 7.91 mg/l
Dissolved Oxygen Saturation: 92 %
Specific Conductance: 146.9 uS/cm
Velocity: 12.2 cm/s
pH: 7.58
Wetted Width: 7.7 m
Bankfull Width: 11.9 m
Depth: 25 cm

Waterbody Information - Retrieval

Temperature: 22.3 deg C
Dissolved Oxygen: 7.89 mg/l
Dissolved Oxygen Saturation: 91.5 %
Specific Conductance: 125.8 uS/cm
Velocity: 36.6 cm/s
pH: 7.55
Wetted Width: 9.2 m
Bankfull Width: 12.6 m
Depth: 15.5 cm

Water Chemistry

Summary of Habitat Characteristics

<u>Landuse Name</u>	<u>Canopy Cover</u>	<u>Terrain</u>	
Cultivated	Dense	Rolling	
Upland Hardwood			
<u>Potential Stressor</u>	<u>Location</u>	<u>Substrate</u>	
Nps Pollution	Below Agriculture NPS	Boulder	15 %
Nutrients		Gravel	20 %
Sedimentation		Rubble/Cobble	60 %
		Sand	5 %

Landcover Summary - 2004 Data

Total Area (ac)	18561	High Int. Dev. %	0.1	Water %	0.5	Non-vegetated %	0.2
		Med Int. Dev. %	0.1	Wetland %	13.7	Tilled Agriculture %	35.6
		Low Int. Dev. %	1.9	Upland Woody %	37.8	Grassland %	10.0
		Development %	2.1	Natural %	51.7	Human Altered %	47.8
						Impervious %	1.8
Total Land (ac)	18463	High Int. Dev. %	0.1	Water %	N/A	Non-vegetated %	N/A
		Med Int. Dev. %	0.1	Wetland %	13.7	Tilled Agriculture %	35.8
		Low Int. Dev. %	1.9	Upland Woody %	38.0	Grassland %	10.1
		Development %	2.1	Natural %	52.0	Human Altered %	48.0
						Impervious %	1.8

Sample Comments

ROCKS ARE SLIMY.



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

Station Number: S-688

Waterbody: Dickey Brook - Station 688

Town: Cross Lake Twp

Log Number: 2744

Subsample Factor: X1

Replicates: 3

Calculated: 11/5/2019

Taxon	Maine Taxonomic Code	Count		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance %	
		(Mean of Samplers)				Actual	Adjusted
		Actual	Adjusted				
Oligochaeta	0802	0.33	0.33		--	0.1	0.1
Cambaridae	09010301	0.33	0.33		--	0.1	0.1
<i>Leuctra</i>	09020204020	2.00	2.00	0	SH	0.3	0.3
<i>Agnatina</i>	09020209050		0.67	2	PR		0.1
<i>Agnatina capitata</i>	09020209050152	0.67		2	PR	0.1	
<i>Boyeria</i>	09020301004		2.00	2	PR		0.3
<i>Boyeria grafiana</i>	09020301004011	2.00			--	0.3	
Gomphidae	09020302	0.33	0.33		--	0.1	0.1
Calopterygidae	09020307	0.67	0.67		--	0.1	0.1
<i>Baetis</i>	09020401001		20.67	4	CG		3.3
<i>Baetis flavistriga</i>	09020401001004	19.00			--	3.0	
<i>Baetis intercalaris</i>	09020401001008	1.67			--	0.3	
<i>Acerpenna</i>	09020401007		36.67	5	CG		5.8
<i>Acerpenna macdunnoughi</i>	09020401007001	36.67			--	5.8	
<i>Heptagenia</i>	09020402010	0.33	0.33	2	SC	0.1	0.1
<i>Leucrocuta</i>	09020402011	13.67	13.67	1	SC	2.2	2.2
<i>Stenacron</i>	09020402014	28.33	28.33	7	SC	4.5	4.5
<i>Maccaffertium</i>	09020402015	73.00	108.67	4	SC	11.6	17.3
<i>Maccaffertium ithaca</i>	09020402015048	0.33			--	0.1	
<i>Maccaffertium modestum</i>	09020402015051	12.33			--	2.0	
<i>Maccaffertium vicarium</i>	09020402015055	23.00			--	3.7	
<i>Isonychia</i>	09020404018	0.33	2.33	2	CF	0.1	0.4
<i>Isonychia bicolor</i>	09020404018059	2.00			--	0.3	
Leptophlebiidae	09020406	5.00	5.00		--	0.8	0.8
<i>Ephemera</i>	09020407027	1.00	1.00	1	CG	0.2	0.2
<i>Caenis</i>	09020412040	4.33	4.33	7	CG	0.7	0.7
<i>Chimarra</i>	09020601003		1.00	2	CF		0.2
<i>Chimarra obscura</i>	09020601003003	1.00			--	0.2	
<i>Psychomyia</i>	09020602005		1.67	2	CG		0.3
<i>Psychomyia flavida</i>	09020602005006	1.67			--	0.3	
<i>Polycentropus</i>	09020603010	25.67	25.67	6	PR	4.1	4.1
Hydropsychidae	09020604				--		
<i>Cheumatopsyche</i>	09020604015	43.00	43.00	5	CF	6.8	6.8
<i>Hydropsyche</i>	09020604016	33.33	104.33	4	CF	5.3	16.6
<i>Hydropsyche bronta</i>	09020604016029	38.00			--	6.0	
<i>Hydropsyche morosa</i>	09020604016030	1.67			--	0.3	
<i>Hydropsyche slossonae</i>	09020604016031	2.67			--	0.4	



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

Station Number: S-688
Log Number: 2744

Waterbody: Dickey Brook - Station 688
Subsample Factor: X1

Town: Cross Lake Twp
Replicates: 3
Calculated: 11/5/2019

Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance %	
		Actual	Adjusted			Actual	Adjusted
<i>Hydropsyche sparna</i>	09020604016032	0.33			--	0.1	
<i>Hydropsyche betteni</i>	09020604016037	28.33			--	4.5	
<i>Pycnopsyche</i>	09020610049	1.00	1.00	4	SH	0.2	0.2
<i>Oecetis</i>	09020618078	0.33	0.33	8	PR	0.1	0.1
<i>Nigronia</i>	09020701003		3.00	0	PR		0.5
<i>Nigronia serricornis</i>	09020701003003	3.00			--	0.5	
<i>Sialis</i>	09020702004	0.67	0.67	4	PR	0.1	0.1
<i>Antocha</i>	09021001004	1.33	1.33	3	CG	0.2	0.2
<i>Ablabesmyia</i>	09021011001	4.00	4.00	8	PR	0.6	0.6
<i>Thienemannimyia</i>	09021011020		9.33	3	PR		1.5
<i>Thienemannimyia group</i>	09021011020041	9.33			--	1.5	
<i>Brillia</i>	09021011033	1.33	1.33	5	SH	0.2	0.2
<i>Cricotopus</i>	09021011037	5.33	14.67	7	SH	0.8	2.3
<i>Cricotopus bicinctus</i>	09021011037057	9.33			--	1.5	
<i>Nanocladius</i>	09021011049	1.33	1.33	3	CG	0.2	0.2
<i>Orthocladius</i>	09021011050	5.00	5.00	6	CG	0.8	0.8
<i>Parametriocnemus</i>	09021011053	0.33	0.33	5	CG	0.1	0.1
<i>Thienemanniella</i>	09021011062	0.67	0.67	6	CG	0.1	0.1
<i>Tvetenia</i>	09021011065		2.00	5	CG		0.3
<i>Tvetenia vitracies</i>	09021011065113	0.33			--	0.1	
<i>Tvetenia paucunca</i>	09021011065114	1.67			--	0.3	
<i>Micropsectra</i>	09021011070	1.33	1.33	7	CG	0.2	0.2
<i>Paratanytarsus</i>	09021011071	11.33	11.33	6	--	1.8	1.8
<i>Rheotanytarsus</i>	09021011072		65.67	6	CF		10.4
<i>Rheotanytarsus exiguus group</i>	09021011072127	65.67			CF	10.4	
<i>Stempellinella</i>	09021011074	5.67	5.67	2	--	0.9	0.9
<i>Tanytarsus</i>	09021011076	44.00	44.00	6	CF	7.0	7.0
<i>Microtendipes</i>	09021011094		3.00	6	CF		0.5
<i>Microtendipes pedellus group</i>	09021011094166	3.00			--	0.5	
<i>Phaenopsectra</i>	09021011101		5.33	7	SC		0.8
<i>Phaenopsectra obediens group</i>	09021011101180	5.33			--	0.8	
<i>Polypedilum</i>	09021011102		4.33	6	SH		0.7
<i>Polypedilum aviceps</i>	09021011102181	4.00			--	0.6	
<i>Polypedilum flavum</i>	09021011102182	0.33			--	0.1	
<i>Stenochironomus</i>	09021011105	0.33	0.33	5	CG	0.1	0.1
<i>Atherix</i>	09021015055	4.33	4.33	2	PR	0.7	0.7
<i>Psephenus</i>	09021108058		8.67	4	SC		1.4
<i>Psephenus herricki</i>	09021108058028	8.67			--	1.4	



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

Station Number: S-688
Log Number: 2744

Waterbody: Dickey Brook - Station 688
Subsample Factor: X1

Town: Cross Lake Twp
Replicates: 3
Calculated: 11/5/2019

Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance %	
		Actual	Adjusted			Actual	Adjusted
<i>Dubiraphia</i>	09021113064	14.67	14.67	6	--	2.3	2.3
<i>Optioservus</i>	09021113067		1.33	3	SC		0.2
<i>Optioservus fastiditus</i>	09021113067044	0.67			--	0.1	
<i>Optioservus trivittatus</i>	09021113067048	0.67			--	0.1	
<i>Promoresia</i>	09021113069		0.67		--		0.1
<i>Promoresia tardella</i>	09021113069052	0.67			--	0.1	
<i>Stenelmis</i>	09021113070	8.00	8.00	5	SC	1.3	1.3
<i>Amnicola</i>	10010104013	0.33	0.33		SC	0.1	0.1
<i>Ferrissia</i>	10010204035	2.00	2.00		SC	0.3	0.3
Sphaeriidae	10020201	0.33	0.33		CF	0.1	0.1