



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

Station Information

Station Number: S-268	River Basin:	Maine Coastal
Waterbody: West Branch Sheepscot River - Station 268	HUC8 Name:	St. George-Sheepscot
Town: China	Latitude:	44 22 4.48 N
Directions: WEEKS MILLS - 100 FT UPSTREAM OF DIRIGO RD CROSSING	Longitude:	69 31 52.65 W
	Stream Order:	3

Sample Information

Log Number: 2464	Type of Sample:	ROCK BAG	Date Deployed:	7/6/2016
Subsample Factor: X1	Replicates:	3	Date Retrieved:	8/2/2016

Classification Attainment

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

Model Probabilities

<u>First Stage Model</u>		<u>C or Better Model</u>	
Class A	0.82	Class C	0.00
Class B	0.17	NA	0.00
<u>B or Better Model</u>		<u>A Model</u>	
Class A or B	1.00	Class A	0.92
Class C or Non-Attainment	0.00	Class B or C or Non-Attainment	0.08

Model Variables

01 Total Mean Abundance	130.33	18 Relative Abundance Ephemeroptera	0.38
02 Generic Richness	57.00	19 EPT Generic Richness	21.00
03 Plecoptera Mean Abundance	3.00	21 Sum of Abundances: <i>Dicrotendipes, Micropsectra, Parachironomus, Helobdella</i>	0.00
04 Ephemeroptera Mean Abundance	49.00	23 Relative Generic Richness- Plecoptera	0.04
05 Shannon-Wiener Generic Diversity	4.25	25 Sum of Abundances: <i>Cheumatopsyche, Cricotopus, Tanytarsus, Ablabesmyia</i>	16.53
06 Hilsenhoff Biotic Index	4.50	26 Sum of Abundances: <i>Acroneuria, Maccaffertium, Stenonema</i>	5.33
07 Relative Abundance - Chironomidae	0.27	28 EP Generic Richness/14	0.86
08 Relative Generic Richness Diptera	0.37	30 Presence of Class A Indicator Taxa/7	0.00
09 <i>Hydropsyche</i> Abundance	1.81		
11 <i>Cheumatopsyche</i> Abundance	1.81		
12 EPT Generic Richness/ Diptera Generic Richness	1.00		
13 Relative Abundance - Oligochaeta	0.00		
15 Perlidae Mean Abundance (Family Functional Group)	2.67		
16 Tanypodinae Mean Abundance (Family Functional Group)	1.84		
17 Chironomini Abundance (Family Functional Group)	7.36		

Five Most Dominant Taxa

Rank	Taxon Name	Percent
1	<i>Tricorythodes</i>	29.41
2	<i>Tanytarsus</i>	9.32
3	<i>Psephenus</i>	5.88
4	<i>Paratanytarsus</i>	5.65
5	<i>Dubiraphia</i>	5.12



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Log Number: 2464 Waterbody: West Branch Sheepscot River - Station 268 Date Retrieved: 8/2/2016

Sample Collection and Processing Information

Sampling Organization: BIOMONITORING UNIT Taxonomist: MICHAEL WINNELL

Waterbody Information - Deployment

Temperature: 20.9 deg C
Dissolved Oxygen: 9.3 mg/l
Dissolved Oxygen Saturation: 105.3 %
Specific Conductance: 93.8 uS/cm
Velocity: 12.2 cm/s
pH: 7.57
Wetted Width: 4.8 m
Bankfull Width: 7.1 m
Depth: 25 cm

Waterbody Information - Retrieval

Temperature: 20.7 deg C
Dissolved Oxygen: 10.6 mg/l
Dissolved Oxygen Saturation: 118.1 %
Specific Conductance: 137.5 uS/cm
Velocity:
pH: 7.59
Wetted Width: 4.2 m
Bankfull Width: 7.1 m
Depth: 21 cm

Water Chemistry

Summary of Habitat Characteristics

<u>Landuse Name</u>	<u>Canopy Cover</u>	<u>Terrain</u>	
Pasture	Partly Open	Rolling	
Swamp Hardwood			
<u>Potential Stressor</u>	<u>Location</u>	<u>Substrate</u>	
Agricultural Runoff	Above Road Crossing	Boulder	30 %
		Gravel	20 %
		Rubble/Cobble	35 %
		Sand	10 %
		Silt	5 %

Landcover Summary - 2004 Data

Total Area (ac)	9414	High Int. Dev. %	0.1	Water %	3.6	Non-vegetated %	0.4
		Med Int. Dev. %	0.3	Wetland %	8.4	Tilled Agriculture %	2.6
		Low Int. Dev. %	3.9	Upland Woody %	74.9	Grassland %	5.8
		Development %	4.3	Natural %	82.6	Human Altered %	13.8
						Impervious %	3.3

Sample Comments

LOW WATER ON DEPLOYMENT.
VISIBLE FLOW ON RETRIEVAL, SOMETHING DOWNSTREAM IS DAMMING IT UP. IRON BACTERIA PRESENT.



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Aquatic Life Taxonomic Inventory Report**

Station Number: S-268

Waterbody: West Branch Sheepscot River - Station 268 Town: China

Log Number: 2464

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	0.3	0.3
<i>Orconectes</i>	09010301008	0.33	0.33		CG	0.3	0.3
Sminthuridae	09020104	0.33	0.33		--	0.3	0.3
<i>Leuctra</i>	09020204020		0.33	0	SH		0.3
<i>Leuctra truncata</i>	09020204020058	0.33			--	0.3	
<i>Acroneuria</i>	09020209042		2.67	0	PR		2.0
<i>Acroneuria lycorias</i>	09020209042125	2.67			--	2.0	
<i>Boyeria</i>	09020301004		1.67	2	PR		1.3
<i>Boyeria vinosa</i>	09020301004012	1.67			--	1.3	
Gomphidae	09020302	0.33			--	0.3	
<i>Hagenius</i>	09020302008		0.50	1	PR		0.4
<i>Hagenius brevistylus</i>	09020302008015	0.33			PR	0.3	
<i>Gomphus</i>	09020302012	0.33	0.50	5	PR	0.3	0.4
Corduliidae	09020305	0.33	0.33		--	0.3	0.3
<i>Calopteryx</i>	09020307043		0.33	5	PR		0.3
<i>Calopteryx maculata</i>	09020307043088	0.33			--	0.3	
<i>Acerpenna</i>	09020401007		0.33	5	CG		0.3
<i>Acerpenna pygmaea</i>	09020401007011	0.33			--	0.3	
<i>Procloeon</i>	09020401010		3.00		CG		2.3
<i>Procloeon rubropictum</i>	09020401010002	3.00			--	2.3	
Heptageniidae	09020402	0.67	0.67		--	0.5	0.5
<i>Maccaffertium</i>	09020402015	2.33	2.67	4	SC	1.8	2.0
<i>Maccaffertium modestum</i>	09020402015051	0.33			--	0.3	
Leptophlebiidae	09020406	2.67	2.67		--	2.0	2.0
<i>Paraleptophlebia</i>	09020406026	0.33	0.33	1	CG	0.3	0.3
Ephemerellidae	09020410	0.33	0.33		--	0.3	0.3
<i>Ephemerella</i>	09020410035	0.33	0.33	1	CG	0.3	0.3
<i>Tricorythodes</i>	09020411038	38.33	38.33	4	CG	29.4	29.4
<i>Caenis</i>	09020412040		0.33	7	CG		0.3
<i>Caenis tardata</i>	09020412040137	0.33			--	0.3	
Polycentropodidae	09020603	0.33	0.33		--	0.3	0.3
Hydropsychidae	09020604	0.33			--	0.3	
<i>Cheumatopsyche</i>	09020604015	1.67	1.81	5	CF	1.3	1.4
<i>Hydropsyche</i>	09020604016	0.67	1.81	4	CF	0.5	1.4
<i>Hydropsyche morosa</i>	09020604016030	0.67			--	0.5	
<i>Hydropsyche depravata species group</i>	09020604016041	0.33			CF	0.3	
<i>Macrostemum</i>	09020604018		0.72	3	CF		0.6



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Replicates: 3

Calculated: 5/11/2017

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		Actual	Adjusted			Actual	Adjusted
<i>Macrostemum zebratum</i>	09020604018054	0.67			--	0.5	
<i>Oxyethira</i>	09020607028	0.33	0.33	3	P	0.3	0.3
<i>Pycnopsyche</i>	09020610049	6.00	6.00	4	SH	4.6	4.6
Leptoceridae	09020618				--		
<i>Ceraclea</i>	09020618072	0.67	0.67	3	CG	0.5	0.5
<i>Mystacides</i>	09020618075		5.33	4	CG		4.1
<i>Mystacides sepulchralis</i>	09020618075147	5.33			--	4.1	
<i>Oecetis</i>	09020618078	0.33	0.33	8	PR	0.3	0.3
<i>Nigronia</i>	09020701003		1.33	0	PR		1.0
<i>Nigronia serricornis</i>	09020701003003	1.33			--	1.0	
Chironomidae	09021011	3.33			--	2.6	
<i>Paramerina</i>	09021011013	0.33	0.37		--	0.3	0.3
<i>Rheopelopia</i>	09021011017		0.37		PR		0.3
<i>Rheopelopia acra group</i>	09021011017036	0.33			--	0.3	
<i>Trissopelopia</i>	09021011021		0.74		PR		0.6
<i>Trissopelopia ogemawi</i>	09021011021042	0.67			--	0.5	
<i>Zavrelimyia</i>	09021011022		0.37	8	PR		0.3
<i>Zavrelimyia thryptica group</i>	09021011022045	0.33			PR	0.3	
<i>Cricotopus</i>	09021011037	1.67	2.58	7	SH	1.3	2.0
<i>Cricotopus bicinctus</i>	09021011037057	0.67			--	0.5	
<i>Eukiefferiella</i>	09021011041		0.37	8	CG		0.3
<i>Eukiefferiella brehmi group</i>	09021011041073	0.33			--	0.3	
<i>Nanocladius</i>	09021011049	0.33	0.37	3	CG	0.3	0.3
<i>Orthocladius</i>	09021011050		0.74	6	CG		0.6
<i>Orthocladius annectens</i>	09021011050092	0.67			--	0.5	
<i>Thienemanniella</i>	09021011062		0.37	6	CG		0.3
<i>Thienemanniella lobapodema</i>	09021011062114	0.33			--	0.3	
<i>Tvetenia</i>	09021011065		0.37	5	CG		0.3
<i>Tvetenia paucunca</i>	09021011065114	0.33			--	0.3	
<i>Cladotanytarsus</i>	09021011068		0.37	7	CG		0.3
<i>Cladotanytarsus acornutus</i>	09021011068121	0.33			--	0.3	
<i>Paratanytarsus</i>	09021011071		7.36	6	--		5.6
<i>Paratanytarsus dissimilis</i>	09021011071125	6.67			--	5.1	
<i>Rheotanytarsus</i>	09021011072		0.37	6	CF		0.3
<i>Rheotanytarsus exiguus group</i>	09021011072127	0.33			CF	0.3	
<i>Stempellina</i>	09021011073		0.37	2	CG		0.3
<i>Stempellina johannsenii</i>	09021011073129	0.33			--	0.3	
<i>Stempellinella</i>	09021011074		0.74	2	--		0.6



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<i>Stempellinella leptocelloides</i>	09021011074001	0.33			--	0.3	
<i>Stempellinella fimbriata</i>	09021011074002	0.33			--	0.3	
<i>Tanytarsus</i>	09021011076	6.00	12.15	6	CF	4.6	9.3
<i>Tanytarsus buckleyi</i>	09021011076139	5.00			CF	3.8	
<i>Lauterborniella</i>	09021011092		1.10		CG		0.8
<i>Lauterborniella agrayloides</i>	09021011092001	1.00			--	0.8	
<i>Microtendipes</i>	09021011094		5.15	6	CF		4.0
<i>Microtendipes pedellus group</i>	09021011094166	4.00			--	3.1	
<i>Microtendipes rydalensis group</i>	09021011094168	0.67			--	0.5	
<i>Phaenopsectra</i>	09021011101		0.37	7	SC		0.3
<i>Phaenopsectra obediens</i>	09021011101182	0.33			SC	0.3	
<i>Polypedilum</i>	09021011102		0.74	6	SH		0.6
<i>Polypedilum scalaenum group</i>	09021011102189	0.33			--	0.3	
<i>Polypedilum illinoense</i>	09021011102204	0.33			--	0.3	
<i>Atherix</i>	09021015055	0.33	0.33	2	PR	0.3	0.3
<i>Psephenus</i>	09021108058		7.67	4	SC		5.9
<i>Psephenus herricki</i>	09021108058028	7.67			--	5.9	
<i>Ectopria</i>	09021109059	0.33	0.33	5	SC	0.3	0.3
<i>Dubiraphia</i>	09021113064		6.67	6	--		5.1
<i>Dubiraphia minima</i>	09021113064036	5.33			--	4.1	
<i>Dubiraphia quadrinotata</i>	09021113064037	1.33			--	1.0	
<i>Macronychus</i>	09021113065		0.33	4	--		0.3
<i>Macronychus glabratus</i>	09021113065040	0.33			--	0.3	
<i>Optioservus</i>	09021113067	0.67	0.67	3	SC	0.5	0.5
<i>Stenelmis</i>	09021113070	1.00	4.00	5	SC	0.8	3.1
<i>Stenelmis crenata</i>	09021113070055	3.00			--	2.3	