



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

Station Information

Station Number: S-769	River Basin:	Kennebec
Waterbody: Hardy Brook - Station 769	HUC8 Name:	Lower Kennebec
Town: Madrid Twp	Latitude:	44 55 25.14 N
Directions: RT 142 - E. MADRID RD, GO 6.2 MILES, LEFT ON TO B W GISCOM TRUST CROSSING, 1.3 MILES ON LEFT	Longitude:	70 24 58.32 W
	Stream Order:	3

Sample Information

Log Number: 2578	Type of Sample: ROCK BAG	Date Deployed: 7/24/2017
Subsample Factor: X1	Replicates: 1	Date Retrieved: 8/21/2017

Classification Attainment

Statutory Class: A	Final Determination: I	Date: 4/5/2018
Model Result with $P \geq 0.6$: A	Reason for Determination: Best Professional Judgement	
Date Last Calculated: 4/2/2018	Comments: One bag retrieved. One bag dry and one bag buried. Resample.	

Model Probabilities

<u>First Stage Model</u>		<u>C or Better Model</u>	
Class A	0.88	Class A, B, or C	1.00
Class B	0.12	Non-Attainment	0.00
<u>B or Better Model</u>		<u>A Model</u>	
Class A or B	1.00	Class A	0.98
Class C or Non-Attainment	0.00	Class B or C or Non-Attainment	0.02

Model Variables

01 Total Mean Abundance	71.00	18 Relative Abundance Ephemeroptera	0.21
02 Generic Richness	26.00	19 EPT Generic Richness	14.00
03 Plecoptera Mean Abundance	22.00	21 Sum of Abundances: <i>Dicrotendipes</i> , <i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i>	1.00
04 Ephemeroptera Mean Abundance	15.00	23 Relative Generic Richness- Plecoptera	0.23
05 Shannon-Wiener Generic Diversity	4.31	25 Sum of Abundances: <i>Cheumatopsyche</i> , <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>	1.00
06 Hilsenhoff Biotic Index	3.63	26 Sum of Abundances: <i>Acroneuria</i> , <i>Maccaffertium</i> , <i>Stenonema</i>	0.00
07 Relative Abundance - Chironomidae	0.23	28 EP Generic Richness/14	0.79
08 Relative Generic Richness Diptera	0.38	30 Presence of Class A Indicator Taxa/7	0.00
09 <i>Hydropsyche</i> Abundance	9.00		
11 <i>Cheumatopsyche</i> Abundance	0.00		
12 EPT Generic Richness/ Diptera Generic Richness	1.40		
13 Relative Abundance - Oligochaeta	0.01		
15 Perlidae Mean Abundance (Family Functional Group)	13.00		
16 Tanypodinae Mean Abundance (Family Functional Group)	2.00		
17 Chironomini Abundance (Family Functional Group)	3.00		

Five Most Dominant Taxa

Rank	Taxon Name	Percent
1	<i>Agetina</i>	14.08
2	<i>Hydropsyche</i>	12.68
3	<i>Baetis</i>	8.45
4	<i>Sweltsa</i>	5.63
5	<i>Ephemerella</i>	5.63
6	Hydropsychidae	5.63



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

Station Number: S-769
Log Number: 2578

Town: Madrid Twp
Waterbody: Hardy Brook - Station 769

Date Deployed: 7/24/2017
Date Retrieved: 8/21/2017

Sample Collection and Processing Information

Sampling Organization: BIOMONITORING UNIT

Taxonomist: MICHAEL WINNELL

Waterbody Information - Deployment

Temperature: 15.6 deg C
Dissolved Oxygen: 10.87 mg/l
Dissolved Oxygen Saturation: 112.1 %
Specific Conductance: 31.7 uS/cm
Velocity: 12.2 cm/s
pH: 7.96
Wetted Width: 4.5 m
Bankfull Width: 10.9 m
Depth: 34 cm

Waterbody Information - Retrieval

Temperature: 17.8 deg C
Dissolved Oxygen: 10.58 mg/l
Dissolved Oxygen Saturation: 114.1 %
Specific Conductance: 32.2 uS/cm
Velocity: 18.3 cm/s
pH: 6.63
Wetted Width: 4.1 m
Bankfull Width: 10.9 m
Depth: 26 cm

Water Chemistry

Summary of Habitat Characteristics

<u>Landuse Name</u>	<u>Canopy Cover</u>	<u>Terrain</u>	
Upland Conifer	Partly Open	Hilly	
Upland Hardwood			
<u>Potential Stressor</u>	<u>Location</u>	<u>Substrate</u>	
Logging	Below Forestry NPS	Boulder	45 %
		Gravel	40 %
		Rubble/Cobble	10 %
		Sand	5 %

Landcover Summary - 2004 Data

Total Area (ac)	14777	High Int. Dev. %	0.0	Water %	0.2	Non-vegetated %	0.2
		Med Int. Dev. %	0.0	Wetland %	0.5	Tilled Agriculture %	0.1
		Low Int. Dev. %	0.4	Upland Woody %	98.5	Grassland %	0.0
		Development %	0.4	Natural %	99.0	Human Altered %	0.7
						Impervious %	0.0

Sample Comments

7/24/17: ERODED BANKS, STREAM VERY GRAVELLY.

8/21/17: LOT'S OF GRAVEL AND SAND MOVEMENT. ONE BAG DRY, ONE BAG BURIED. ONLY ONE BAG PROCESSED.



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

Station Number: S-769

Waterbody: Hardy Brook - Station 769

Town: Madrid Twp

Log Number: 2578

Subsample Factor: X1

Replicates: 1

Calculated: 4/2/2018

Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance %	
		Actual	Adjusted			Actual	Adjusted
<i>Nais</i>	08020202009		1.00		CG		1.4
<i>Nais communis</i>	08020202009005	1.00			--	1.4	
Plecoptera	090202	1.00	1.00		--	1.4	1.4
<i>Pteronarcys</i>	09020205023		1.00	0	SH		1.4
<i>Pteronarcys biloba</i>	09020205023061	1.00			--	1.4	
Perlodidae	09020207	1.00	1.00		--	1.4	1.4
<i>Haploperla</i>	09020208037		2.00	1	PR		2.8
<i>Haploperla brevis</i>	09020208037112	2.00			--	2.8	
<i>Sweltsa</i>	09020208040	4.00	4.00		PR	5.6	5.6
Perlidae	09020209	3.00	3.00		--	4.2	4.2
<i>Agnatina</i>	09020209050	8.00	10.00	2	PR	11.3	14.1
<i>Agnatina capitata</i>	09020209050152	2.00		2	PR	2.8	
<i>Cordulegaster</i>	09020303019	1.00	1.00	3	PR	1.4	1.4
Baetidae	09020401	2.00	2.00		--	2.8	2.8
<i>Baetis</i>	09020401001	2.00	6.00	4	CG	2.8	8.5
<i>Baetis flavistriga</i>	09020401001004	2.00			--	2.8	
<i>Baetis tricaudatus</i>	09020401001012	2.00			--	2.8	
<i>Rhithrogena</i>	09020402013	2.00	2.00	0	SC	2.8	2.8
<i>Hexagenia</i>	09020407028	1.00	1.00	6	CG	1.4	1.4
<i>Ephemerella</i>	09020410035	4.00	4.00	1	CG	5.6	5.6
Hydropsychidae	09020604	4.00	4.00		--	5.6	5.6
<i>Hydropsyche</i>	09020604016	4.00	9.00	4	CF	5.6	12.7
<i>Hydropsyche slossonae</i>	09020604016031	3.00			--	4.2	
<i>Hydropsyche sparna</i>	09020604016032	2.00			--	2.8	
<i>Rhyacophila</i>	09020605019	1.00	1.00	2	PR	1.4	1.4
Limnephilidae	09020610				--		
<i>Tipula</i>	09021001002	1.00	1.00	4	SH	1.4	1.4
<i>Dicranota</i>	09021001005	1.00	1.00	3	PR	1.4	1.4
<i>Ablabesmyia</i>	09021011001		1.00	8	PR		1.4
<i>Ablabesmyia mallochi</i>	09021011001004	1.00			--	1.4	
<i>Rheopelopia</i>	09021011017		1.00		PR		1.4
<i>Rheopelopia acra group</i>	09021011017036	1.00			--	1.4	
<i>Corynoneura</i>	09021011036	3.00	3.00	7	CG	4.2	4.2
<i>Parametriocnemus</i>	09021011053	2.00	2.00	5	CG	2.8	2.8
<i>Thienemanniella</i>	09021011062		3.00	6	CG		4.2
<i>Thienemanniella xena</i>	09021011062110	3.00			--	4.2	
<i>Tvetenia</i>	09021011065		2.00	5	CG		2.8



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

Station Number: S-769

Waterbody: Hardy Brook - Station 769

Town: Madrid Twp

Log Number: 2578

Subsample Factor: X1

Replicates: 1

Calculated: 4/2/2018

Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance %	
		Actual	Adjusted			Actual	Adjusted
<i>Tvetenia paucunca</i>	09021011065114	2.00			--	2.8	
<i>Micropsectra</i>	09021011070	1.00	1.00	7	CG	1.4	1.4
<i>Polypedilum</i>	09021011102		3.00	6	SH		4.2
<i>Polypedilum aviceps</i>	09021011102181	1.00			--	1.4	
<i>Polypedilum albicorne</i>	09021011102195	2.00			--	2.8	