



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

Station Information

Station Number: W-292	Trip ID: 2016-292	River Basin: Maine Coastal
Waterbody: CARD BROOK		HUC8 Name: Maine Coastal
Town: Ellsworth		Latitude: 44 32 12.14 N
Mitigation Monitoring Site: No		Longitude: 68 24 13.67 W

Sample Information

Sample ID: DN-2016-292	Type of Sample: DIPNET	Sampling Organization: BIOMONITORING UNIT
Date Sampled: 6/23/2016	Replicates: 3	Taxonomist: LOTIC INC.
Subsample Factor: X1		

Classification Attainment

Statutory Class: B	Final Determination: A	Date: 8/7/2017
Model Result with $P \geq 0.6$: A	Reason for Determination: Model	
Date Last Calculated: 12/21/2018	Comments:	

Model Probabilities

<u>First Stage Model</u>		<u>C or Better Model</u>	
Class A: 0.93	Class C: 0.00	Class A, B, or C	1.00
Class B: 0.07	NA: 0.00	Non-Attainment	0.00
<u>B or Better Model</u>		<u>A Model</u>	
Class A or B	1.00	Class A	0.93
Class C or Non-Attainment	0.00	Class B or C or Non-Attainment	0.07

Model Variables

		Reference Range (10th or 90th percentile value)
Abundance of Taxa in the Order Ephemeroptera	11.667	≥ 0.000
Relative Richness of Taxa in the Orders Ephemeroptera, Odonata and Tricoptera	0.206	≥ 0.140
Shannon-Wiener Diversity Index	1.471	≥ 2.497
Relative Abundance of Collector-Gatherer Taxa	0.069	≥ 0.131
Abundance of Sensitive Taxa	278.667	≥ 3.424
Richness of Sensitive Taxa	7.000	≥ 3.000
Maine Tolerance Index Score For Wetland Macroinvertebrates	20.218	≤ 29.776
Ratio of MTI Sensitive to Eurytopic Taxa Abundance	104.500	≥ 0.334

Other Variables

Total Mean Abundance	337
Generic Richness:	34
Hilsenhoff Biotic Index:	7.07

Five Most Dominant Taxa

Rank	Taxon Name	Percent
1	<i>Amnicola limosus</i>	81.58
2	<i>Caenis</i>	2.97
3	<i>Bezzia/palpomyia</i>	1.98
4	<i>Hyalella azteca</i>	1.78
5	<i>Ablabesmyia</i>	1.09
5	<i>Polypedilum tritum</i>	1.09



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Surface Water Chemistry

Sample Date: 6/23/2016 11:45:00 AM

Collection Method	Parameter	Value	Units	Qualifier
Grab Sample	Chloride	92	mg/l	
Grab Sample	Chlorophyll A	0.0028	mg/l	
Grab Sample	Chlorophyll A - Phaeophytin	0.0017	mg/l	
Grab Sample	Dissolved Organic Carbon	7.5	mg/l	
Grab Sample	Nitrate + Nitrite As Nitrogen		mg/l	U
Grab Sample	Orthophosphate As Phosphorus	1	ug/l	
Grab Sample	Total Alkalinity	23	mg/l	
Grab Sample	Total Kjeldahl Nitrogen (organic And Nh3) As Nitrogen	0.4	mg/l	
Grab Sample	Total Phosphorus	25	ug/l	
Grab Sample	True Color	100	ptco	
In-situ	Dissolved Oxygen	6.29	mg/l	
In-situ	Dissolved Oxygen Saturation	71.4	%	
In-situ	pH	6.65		
In-situ	Specific Conductance	362	us/cm	
In-situ	Temperature	21	deg c	

Landcover Summary - 2004 Data

Total Area (ac)	3831	High Int. Dev. %	2.8	Water %	0.0	Non-vegetated %	2.7
		Med Int. Dev. %	4.1	Wetland %	16.0	Tilled Agriculture %	4.9
		Low Int. Dev. %	7.3	Upland Woody %	56.2	Grassland %	3.9
		Development %	14.3	Natural %	72.3	Human Altered %	27.7
						Impervious %	6.2
Total Land (ac)	3830	High Int. Dev. %	2.8	Water %	N/A	Non-vegetated %	N/A
		Med Int. Dev. %	4.1	Wetland %	16.0	Tilled Agriculture %	4.9
		Low Int. Dev. %	7.4	Upland Woody %	56.3	Grassland %	3.9
		Development %	14.3	Natural %	72.3	Human Altered %	27.7
						Impervious %	6.2



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Summary of Habitat Characteristics

<u>Human Disturbance</u>	<u>Landscape-level Cowardin Classification</u>	<u>Hydrogeomorphic Setting</u>
Total Score: 22	System:	Landscape Position:
Hydrologic Modifications: 2	Subsystem:	Lotic Gradient:
Vegetative Modifications: 1	Class 1:	Flow Path:
Chemical Pollutants: 7	Subclass 1:	Land Form:
Watershed: 12	Class 2:	Land Form Type:
Characterization and	Subclass 2:	Waterbody Type:
Non-point Sources:	Class 3:	Waterbody Subtype:
	Subclass 3:	
		Comments:

Dominant Plant Species:

Additional Plant Community Observations: SEDGES, GRASSES, RUSHES

Habitat Classification: AQUATIC MACROPHYTE BED EMERGENT NON-PERSISTENT VEGETATION	Substrate Classification: SILT/MUCK SUBSTRATE
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Average Depth: 34 cm Visible Flow: No Rain In Previous 24 Hours: Unknown

Sample Comments: VERY LOW WATER LEVELS; AQUATIC PLANTS ABOVE WATER LINE IN PLACES

Common Plants Observed

Scientific Name	Common Name	Maine Taxonomic Code	Plant CoC Score	Wetland Indicator Status	Growth Form
<i>Sagittaria</i>		LW-34011401002			
<i>Nuphar lutea ssp. variegata</i>	Variegated yellow pond-lily	LW-34023103002002	4	OBL	FORB/HERB



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Additional Summary Variables

Station Number: W-292	Waterbody: CARD BROOK	Town: Ellsworth
Log Number: DN-2016-292	Subsample Factor: X1	Replicates: 3
		Calculated: 12/21/2018

	Abundance	Relative Abundance	Richness	Relative Richness
EOT Taxa:	17.00	0.050	7	0.21
EPT Taxa:	15.33	0.046	5	0.15
Insects:	53.33	0.158	29	0.85
Non-Insects:	283.33	0.842	5	0.15
Leeches:	0.33	0.001	1	0.03
Oligochaetes:	0.00	0.000	0	0.00
Snails:	276.33	0.821	2	0.06
Bivalves:	0.67	0.002	1	0.03
Isopods:	0.00	0.000	0	0.00
Amphipods:	6.00	0.018	1	0.03
Mites:	0.00	0.000	0	0.00
Stoneflies:	0.00	0.000	0	0.00
Mayflies:	11.67	0.035	2	0.06
Odonates:	1.67	0.005	2	0.06
Caddisflies:	3.67	0.011	3	0.09
Diptera:	30.33	0.090	15	0.44
Hemiptera:	1.67	0.005	2	0.06
Beetles:	4.33	0.013	5	0.15
Chironomids:	23.67	0.070	14	0.41
Tanypodinae Tribe:	7.00	0.021	3	0.09
Chironomiinae Tribe:	13.67	0.041	9	0.26
Orthocloidiinae Tribe:	3.00	0.009	2	0.06
Collector-Filterers:	3.67	0.011	3	0.09
Collector-Gatherers:	23.33	0.069	9	0.26
Predators:	16.67	0.050	7	0.21
Piercers:	2.67	0.008	4	0.12
Shredders:	7.33	0.022	2	0.06
Scrapers:	276.33	0.821	2	0.06
Maine Tolerance:				
Sensitive:	278.67	0.842	7	0.25
Intermediate:	49.67	0.150	16	0.57
Eurytopic:	2.67	0.008	5	0.18
Ratio of MTI Sensitive to Eurytopic	104.50	104.500	1.40	1.40



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Aquatic Life Taxonomic Inventory Report

Station Number: W-292 Waterbody: CARD BROOK Town: Ellsworth
Log Number: DN-2016-292 Subsample Factor: X1 Replicates: 3 Calculated: 12/21/2018

Taxon	Maine Taxonomic Code	Count (Mean of Samples)		Hilsenhoff Biotic Index	Functional Feeding Group	Maine Tolerance Index	Tribe	Taxa Group
		Actual	Adjusted					
Erpobdellidae	08030203	0.33	0.33	--	--	--	--	Leech
Hyalella	09010203006	0.00	6.00	8	CG	24.5-I	--	Amphipod
<i>Hyalella azteca</i>	09010203006011	6.00	0.00	--	--	--	--	Amphipod
Sympetrum	09020306041	1.33	1.33	10	PR	37-I	--	Dragonfly/damselfly
Coenagrionidae	09020309	0.33	0.33	--	--	--	--	Dragonfly/damselfly
Callibaetis	09020401002	1.67	1.67	9	CG	40.5-I	--	Mayfly
Caenis	09020412040	10.00	10.00	7	CG	22.1-I	--	Mayfly
Sigara	09020501007	0.67	0.67	--	P	--	--	True Bug
Belostoma	09020502009	1.00	1.00	--	PR	41.7-I	--	True Bug
Oxyethira	09020607028	0.67	0.67	3	P	22-S	--	Caddisfly
Phryganeidae	09020608	2.00	2.00	--	--	--	--	Caddisfly
Mystacides	09020618075	1.00	1.00	4	CG	18.2-S	--	Caddisfly
Bezzia/palpomyia	09021010043	6.67	6.67	6	PR	26.9-I	--	Fly: Biting Midge
Ablabesmyia	09021011001	3.67	3.67	8	PR	23.6-I	T	Fly: Midge
Labrundinia	09021011008	0.00	0.33	7	PR	18.1-S	T	Fly: Midge
<i>Labrundinia neopilosella</i>	09021011008021	0.33	0.00	--	--	--	T	Fly: Midge
Procladius	09021011015	3.00	3.00	9	PR	25.1-I	T	Fly: Midge
Corynoneura	09021011036	2.67	2.67	7	CG	40.1-I	--	Fly: Midge
Psectrocladius	09021011056	0.33	0.33	8	CG	22-S	--	Fly: Midge
Paratanytarsus	09021011071	0.33	0.33	6	--	43-E	Y	Fly: Midge
Tanytarsus	09021011076	2.67	2.67	6	CF	25.7-I	Y	Fly: Midge
Chironomus	09021011080	0.33	0.33	10	CG	27.4-I	C	Fly: Midge
Cladopelma	09021011081	1.00	1.00	9	CG	27.9-I	C	Fly: Midge
Cryptotendipes	09021011083	1.33	1.33	6	--	7.1-S	C	Fly: Midge
Glyptotendipes	09021011088	0.33	0.33	10	SH	43-E	C	Fly: Midge
Microtendipes	09021011094	0.00	0.33	6	CF	22.3-I	C	Fly: Midge
<i>Microtendipes pedellus group</i>	09021011094166	0.33	0.00	--	--	--	C	Fly: Midge
Paratendipes	09021011100	0.33	0.33	8	CG	20.8-S	C	Fly: Midge
Polypedilum	09021011102	1.33	7.00	6	SH	24.2-I	C	Fly: Midge
<i>Polypedilum flavum</i>	09021011102182	1.33	0.00	--	--	--	C	Fly: Midge
<i>Polypedilum tritum</i>	09021011102191	3.67	0.00	--	--	--	C	Fly: Midge
<i>Polypedilum halterale group</i>	09021011102193	0.67	0.00	--	--	--	C	Fly: Midge
Haliphus	09021101001	0.33	0.33	--	P	67.1-E	--	Beetle
Peltodytes	09021101002	1.00	1.00	--	P	56.2-E	--	Beetle
Dytiscidae	09021103	0.33	0.33	--	--	--	--	Beetle



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		Actual	Adjusted						
Tropisternus	09021105038	0.67	0.67	--	PR	61.8-E	--	Beetle	
Chrysomelidae	09021114	2.00	2.00	--	--	--	--	Beetle	
Amnicola	10010104013	0.00	274.67	--	SC	18.7-S	--	Snail	
<i>Amnicola limosus</i>	10010104013018	274.67	0.00	--	--	--	--	Snail	
Helisoma	10010203030	1.67	1.67	--	SC	42.8-I	--	Snail	
Sphaerium	10020201003	0.67	0.67	--	CF	24.8-I	--	Clam	