



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

**Station Information**

|                        |                                                     |               |                      |
|------------------------|-----------------------------------------------------|---------------|----------------------|
| <b>Station Number:</b> | <b>S-268</b>                                        | 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**

|                    |             |                 |          |                 |           |
|--------------------|-------------|-----------------|----------|-----------------|-----------|
| <b>Log Number:</b> | <b>2755</b> | Type of Sample: | ROCK BAG | Date Deployed:  | 7/22/2019 |
| Subsample Factor:  | X1          | Replicates:     | 3        | Date Retrieved: | 8/20/2019 |

**Classification Attainment**

|                                  |           |                                  |              |       |           |
|----------------------------------|-----------|----------------------------------|--------------|-------|-----------|
| <b>Statutory Class:</b>          | <b>AA</b> | <b>Final Determination:</b>      | <b>A</b>     | Date: | 3/10/2020 |
| Model Result with $P \geq 0.6$ : | A         | <b>Reason for Determination:</b> | <b>Model</b> |       |           |
| Date Last Calculated:            | 3/10/2020 | Comments:                        |              |       |           |

**Model Probabilities**

|                           |      |                                |      |
|---------------------------|------|--------------------------------|------|
| <u>First Stage Model</u>  |      | <u>C or Better Model</u>       |      |
| Class A                   | 0.54 | Class A, B, or C               | 1.00 |
| Class B                   | 0.40 | Non-Attainment                 | 0.00 |
| <u>B or Better Model</u>  |      | <u>A Model</u>                 |      |
| Class A or B              | 1.00 | Class A                        | 0.84 |
| Class C or Non-Attainment | 0.00 | Class B or C or Non-Attainment | 0.16 |

**Model Variables**

|                                                            |        |                                                                                                                 |       |
|------------------------------------------------------------|--------|-----------------------------------------------------------------------------------------------------------------|-------|
| 01 Total Mean Abundance                                    | 253.00 | 18 Relative Abundance Ephemeroptera                                                                             | 0.39  |
| 02 Generic Richness                                        | 58.00  | 19 EPT Generic Richness                                                                                         | 25.00 |
| 03 Plecoptera Mean Abundance                               | 0.33   | 21 Sum of Abundances: <i>Dicrotendipes</i> ,<br><i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i> | 0.00  |
| 04 Ephemeroptera Mean Abundance                            | 98.00  | 23 Relative Generic Richness- Plecoptera                                                                        | 0.02  |
| 05 Shannon-Wiener Generic Diversity                        | 4.54   | 25 Sum of Abundances: <i>Cheumatopsyche</i> ,<br><i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>     | 32.45 |
| 06 Hilsenhoff Biotic Index                                 | 4.89   | 26 Sum of Abundances: <i>Acroneuria</i> ,<br><i>Maccaffertium</i> , <i>Stenonema</i>                            | 30.00 |
| 07 Relative Abundance - Chironomidae                       | 0.36   | 28 EP Generic Richness/14                                                                                       | 0.86  |
| 08 Relative Generic Richness Diptera                       | 0.31   | 30 Presence of Class A Indicator Taxa/7                                                                         | 0.29  |
| 09 <i>Hydropsyche</i> Abundance                            | 6.67   |                                                                                                                 |       |
| 11 <i>Cheumatopsyche</i> Abundance                         | 2.00   |                                                                                                                 |       |
| 12 EPT Generic Richness/ Diptera<br>Generic Richness       | 1.39   |                                                                                                                 |       |
| 13 Relative Abundance - Oligochaeta                        | 0.00   |                                                                                                                 |       |
| 15 Perlidae Mean Abundance (Family<br>Functional Group)    | 0.33   |                                                                                                                 |       |
| 16 Tanypodinae Mean Abundance<br>(Family Functional Group) | 2.37   |                                                                                                                 |       |
| 17 Chironomini Abundance (Family<br>Functional Group)      | 30.11  |                                                                                                                 |       |

| Five Most Dominant Taxa |                       |         |
|-------------------------|-----------------------|---------|
| Rank                    | Taxon Name            | Percent |
| 1                       | <i>Tricorythodes</i>  | 17.65   |
| 2                       | <i>Maccaffertium</i>  | 11.73   |
| 3                       | <i>Microtendipes</i>  | 7.76    |
| 4                       | <i>Tanytarsus</i>     | 7.09    |
| 5                       | <i>Rheotanytarsus</i> | 5.75    |



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|                              |                                                      |                           |
|------------------------------|------------------------------------------------------|---------------------------|
| <b>Station Number: S-268</b> | Town: China                                          | Date Deployed: 7/22/2019  |
| <b>Log Number: 2755</b>      | Waterbody: West Branch Sheepscot River - Station 268 | Date Retrieved: 8/20/2019 |

**Sample Collection and Processing Information**

Sampling Organization: BIOMONITORING UNIT

Taxonomist: MICHAEL COLE

**Waterbody Information - Deployment**

|                              |             |
|------------------------------|-------------|
| Temperature:                 | 22.6 deg C  |
| Dissolved Oxygen:            | 9.08 mg/l   |
| Dissolved Oxygen Saturation: | 104.2 %     |
| Specific Conductance:        | 102.2 uS/cm |
| Velocity:                    | 12.2 cm/s   |
| pH:                          | 7.61        |
| Wetted Width:                | 4.7 m       |
| Bankfull Width:              | 6.5 m       |
| Depth:                       | 25 cm       |

**Waterbody Information - Retrieval**

|                              |            |
|------------------------------|------------|
| Temperature:                 | 20.8 deg C |
| Dissolved Oxygen:            | 9.02 mg/l  |
| Dissolved Oxygen Saturation: | 99.6 %     |
| Specific Conductance:        | 99.6 uS/cm |
| Velocity:                    | 33.5 cm/s  |
| pH:                          | 7.56       |
| Wetted Width:                | 6.1 m      |
| Bankfull Width:              | 6.5 m      |
| Depth:                       | 22 cm      |

**Water Chemistry**

**Summary of Habitat Characteristics**

|                           |                     |                    |
|---------------------------|---------------------|--------------------|
| <u>Landuse Name</u>       | <u>Canopy Cover</u> | <u>Terrain</u>     |
| Pasture                   | Partly Open         | Rolling            |
| Swamp Hardwood            |                     |                    |
| Upland Hardwood           |                     |                    |
| <u>Potential Stressor</u> | <u>Location</u>     | <u>Substrate</u>   |
| Agricultural Runoff       | Above Road Crossing | Boulder 15 %       |
|                           |                     | Detritus 5 %       |
|                           |                     | Gravel 20 %        |
|                           |                     | Rubble/Cobble 60 % |

**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**

BLACKNOSE DACE PRESENT.



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**Station Number: S-268**

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

**Log Number: 2755**

Subsample Factor: X1

Replicates: 3

Calculated: 3/10/2020

| Taxon                         | Maine<br>Taxonomic<br>Code | Count<br>(Mean of Samplers) |          | Hilsenhoff<br>Biotic<br>Index | Functional<br>Feeding<br>Group | Relative<br>Abundance % |          |
|-------------------------------|----------------------------|-----------------------------|----------|-------------------------------|--------------------------------|-------------------------|----------|
|                               |                            | Actual                      | Adjusted |                               |                                | Actual                  | Adjusted |
| <i>Erpobdella</i>             | 08030203002                | 0.33                        | 0.33     |                               | --                             | 0.1                     | 0.1      |
| <i>Gammarus</i>               | 09010201003                | 2.67                        | 2.67     | 4                             | --                             | 1.1                     | 1.1      |
| <i>Orconectes</i>             | 09010301008                | 0.33                        | 0.33     |                               | CG                             | 0.1                     | 0.1      |
| <i>Acroneuria</i>             | 09020209042                |                             | 0.33     | 0                             | PR                             |                         | 0.1      |
| <i>Acroneuria lycorias</i>    | 09020209042125             | 0.33                        |          |                               | --                             | 0.1                     |          |
| <i>Boyeria</i>                | 09020301004                |                             | 1.33     | 2                             | PR                             |                         | 0.5      |
| <i>Boyeria grafiana</i>       | 09020301004011             | 0.33                        |          |                               | --                             | 0.1                     |          |
| <i>Boyeria vinosa</i>         | 09020301004012             | 1.00                        |          |                               | --                             | 0.4                     |          |
| Calopterygidae                | 09020307                   | 3.67                        | 3.67     |                               | --                             | 1.4                     | 1.4      |
| Coenagrionidae                | 09020309                   | 0.33                        | 0.33     |                               | --                             | 0.1                     | 0.1      |
| <i>Baetis</i>                 | 09020401001                |                             | 2.67     | 4                             | CG                             |                         | 1.1      |
| <i>Baetis flavistriga</i>     | 09020401001004             | 1.33                        |          |                               | --                             | 0.5                     |          |
| <i>Baetis intercalaris</i>    | 09020401001008             | 1.33                        |          |                               | --                             | 0.5                     |          |
| <i>Acerpenna</i>              | 09020401007                |                             | 4.00     | 5                             | CG                             |                         | 1.6      |
| <i>Acerpenna macdunnoughi</i> | 09020401007001             | 4.00                        |          |                               | --                             | 1.6                     |          |
| <i>Proclleon</i>              | 09020401010                | 1.67                        | 1.67     |                               | CG                             | 0.7                     | 0.7      |
| <i>Dipheter</i>               | 09020401013                |                             | 1.33     |                               | --                             |                         | 0.5      |
| <i>Dipheter hageni</i>        | 09020401013001             | 1.33                        |          |                               | --                             | 0.5                     |          |
| <i>Leucrocuta</i>             | 09020402011                | 2.33                        | 2.33     | 1                             | SC                             | 0.9                     | 0.9      |
| <i>Stenacron</i>              | 09020402014                | 0.67                        | 0.67     | 7                             | SC                             | 0.3                     | 0.3      |
| <i>Maccaffertium</i>          | 09020402015                | 14.67                       | 29.67    | 4                             | SC                             | 5.8                     | 11.7     |
| <i>Maccaffertium modestum</i> | 09020402015051             | 0.33                        |          |                               | --                             | 0.1                     |          |
| <i>Maccaffertium vicarium</i> | 09020402015055             | 14.67                       |          |                               | --                             | 5.8                     |          |
| <i>Paraleptophlebia</i>       | 09020406026                | 6.33                        | 6.33     | 1                             | CG                             | 2.5                     | 2.5      |
| <i>Eurylophella</i>           | 09020410036                | 0.67                        | 1.33     | 3                             | CG                             | 0.3                     | 0.5      |
| <i>Eurylophella funeralis</i> | 09020410036115             | 0.67                        |          |                               | SH                             | 0.3                     |          |
| <i>Tricorythodes</i>          | 09020411038                | 44.67                       | 44.67    | 4                             | CG                             | 17.7                    | 17.7     |
| <i>Caenis</i>                 | 09020412040                | 3.33                        | 3.33     | 7                             | CG                             | 1.3                     | 1.3      |
| <i>Chimarra</i>               | 09020601003                |                             | 0.33     | 2                             | CF                             |                         | 0.1      |
| <i>Chimarra aterrima</i>      | 09020601003002             | 0.33                        |          |                               | --                             | 0.1                     |          |
| <i>Polycentropus</i>          | 09020603010                | 2.67                        | 2.67     | 6                             | PR                             | 1.1                     | 1.1      |
| <i>Cheumatopsyche</i>         | 09020604015                | 2.00                        | 2.00     | 5                             | CF                             | 0.8                     | 0.8      |
| <i>Hydropsyche</i>            | 09020604016                |                             | 6.67     | 4                             | CF                             |                         | 2.6      |
| <i>Hydropsyche sparna</i>     | 09020604016032             | 0.33                        |          |                               | --                             | 0.1                     |          |
| <i>Hydropsyche betteni</i>    | 09020604016037             | 6.33                        |          |                               | --                             | 2.5                     |          |
| <i>Macrostemum</i>            | 09020604018                | 0.33                        | 0.33     | 3                             | CF                             | 0.1                     | 0.1      |
| <i>Hydroptila</i>             | 09020607026                | 3.00                        | 3.00     | 6                             | P                              | 1.2                     | 1.2      |



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Subsample Factor: X1

Replicates: 3

Calculated: 3/10/2020

| Taxon                                 | Maine<br>Taxonomic<br>Code | Count<br>(Mean of Samplers) |          | Hilsenhoff<br>Biotic<br>Index | Functional<br>Feeding<br>Group | Relative<br>Abundance % |          |
|---------------------------------------|----------------------------|-----------------------------|----------|-------------------------------|--------------------------------|-------------------------|----------|
|                                       |                            | Actual                      | Adjusted |                               |                                | Actual                  | Adjusted |
| <i>Oxyethira</i>                      | 09020607028                | 0.33                        | 0.33     | 3                             | P                              | 0.1                     | 0.1      |
| <i>Pycnopsyche</i>                    | 09020610049                | 0.33                        | 0.33     | 4                             | SH                             | 0.1                     | 0.1      |
| <i>Lepidostoma</i>                    | 09020611064                | 0.33                        | 0.33     | 1                             | SH                             | 0.1                     | 0.1      |
| <i>Helicopsyche</i>                   | 09020616070                |                             | 1.00     | 3                             | SC                             |                         | 0.4      |
| <i>Helicopsyche borealis</i>          | 09020616070137             | 1.00                        |          |                               | --                             | 0.4                     |          |
| <i>Mystacides</i>                     | 09020618075                |                             | 4.00     | 4                             | CG                             |                         | 1.6      |
| <i>Mystacides sepulchralis</i>        | 09020618075147             | 4.00                        |          |                               | --                             | 1.6                     |          |
| <i>Triaenodes</i>                     | 09020618077                | 0.33                        | 0.33     | 6                             | SH                             | 0.1                     | 0.1      |
| <i>Oecetis</i>                        | 09020618078                | 4.33                        | 4.33     | 8                             | PR                             | 1.7                     | 1.7      |
| <i>Nigronia</i>                       | 09020701003                |                             | 1.67     | 0                             | PR                             |                         | 0.7      |
| <i>Nigronia serricornis</i>           | 09020701003003             | 1.67                        |          |                               | --                             | 0.7                     |          |
| <i>Sialis</i>                         | 09020702004                | 0.67                        | 0.67     | 4                             | PR                             | 0.3                     | 0.3      |
| Chironomidae                          | 09021011                   | 1.33                        |          |                               | --                             | 0.5                     |          |
| <i>Ablabesmyia</i>                    | 09021011001                | 0.67                        | 0.68     | 8                             | PR                             | 0.3                     | 0.3      |
| <i>Nilotanytus</i>                    | 09021011012                |                             | 0.68     | 6                             | PR                             |                         | 0.3      |
| <i>Nilotanytus fimbriatus</i>         | 09021011012027             | 0.67                        |          |                               | --                             | 0.3                     |          |
| <i>Thienemannimyia</i>                | 09021011020                |                             | 1.02     | 3                             | PR                             |                         | 0.4      |
| <i>Thienemannimyia group</i>          | 09021011020041             | 1.00                        |          |                               | --                             | 0.4                     |          |
| <i>Cricotopus</i>                     | 09021011037                | 4.33                        | 11.84    | 7                             | SH                             | 1.7                     | 4.7      |
| <i>Cricotopus bicinctus</i>           | 09021011037057             | 7.33                        |          |                               | --                             | 2.9                     |          |
| <i>Eukiefferiella</i>                 | 09021011041                |                             | 0.34     | 8                             | CG                             |                         | 0.1      |
| <i>Eukiefferiella gracei group</i>    | 09021011041079             | 0.33                        |          |                               | --                             | 0.1                     |          |
| <i>Orthocladius</i>                   | 09021011050                |                             | 0.68     | 6                             | CG                             |                         | 0.3      |
| <i>Orthocladius annectens</i>         | 09021011050092             | 0.67                        |          |                               | --                             | 0.3                     |          |
| <i>Parametriocnemus</i>               | 09021011053                | 0.33                        | 0.34     | 5                             | CG                             | 0.1                     | 0.1      |
| <i>Thienemanniella</i>                | 09021011062                | 0.33                        | 0.34     | 6                             | CG                             | 0.1                     | 0.1      |
| <i>Paratanytarsus</i>                 | 09021011071                | 9.67                        | 9.81     | 6                             | --                             | 3.8                     | 3.9      |
| <i>Rheotanytarsus</i>                 | 09021011072                |                             | 14.55    | 6                             | CF                             |                         | 5.8      |
| <i>Rheotanytarsus exiguus group</i>   | 09021011072127             | 12.33                       |          |                               | CF                             | 4.9                     |          |
| <i>Rheotanytarsus pellucidus</i>      | 09021011072128             | 2.00                        |          |                               | CF                             | 0.8                     |          |
| <i>Stempellinella</i>                 | 09021011074                | 1.67                        | 1.69     | 2                             | --                             | 0.7                     | 0.7      |
| <i>Tanytarsus</i>                     | 09021011076                | 17.67                       | 17.93    | 6                             | CF                             | 7.0                     | 7.1      |
| <i>Microtendipes</i>                  | 09021011094                |                             | 19.62    | 6                             | CF                             |                         | 7.8      |
| <i>Microtendipes pedellus group</i>   | 09021011094166             | 0.67                        |          |                               | --                             | 0.3                     |          |
| <i>Microtendipes rydalensis group</i> | 09021011094168             | 18.67                       |          |                               | --                             | 7.4                     |          |
| <i>Phaenopsectra</i>                  | 09021011101                | 0.67                        | 0.68     | 7                             | SC                             | 0.3                     | 0.3      |
| <i>Polypedilum</i>                    | 09021011102                |                             | 9.81     | 6                             | SH                             |                         | 3.9      |
| <i>Polypedilum aviceps</i>            | 09021011102181             | 8.67                        |          |                               | --                             | 3.4                     |          |



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Subsample Factor: X1

Replicates: 3

Calculated: 3/10/2020

| Taxon                               | Maine<br>Taxonomic<br>Code | Count<br>(Mean of Samplers) |          | Hilsenhoff<br>Biotic<br>Index | Functional<br>Feeding<br>Group | Relative<br>Abundance % |          |
|-------------------------------------|----------------------------|-----------------------------|----------|-------------------------------|--------------------------------|-------------------------|----------|
|                                     |                            | Actual                      | Adjusted |                               |                                | Actual                  | Adjusted |
| <i>Polypedilum illinoense group</i> | 09021011102185             | 1.00                        |          |                               | --                             | 0.4                     |          |
| <i>Simulium</i>                     | 09021012047                | 0.67                        | 0.67     | 4                             | CF                             | 0.3                     | 0.3      |
| <i>Atherix</i>                      | 09021015055                | 0.33                        | 0.33     | 2                             | PR                             | 0.1                     | 0.1      |
| Empididae                           | 09021016                   |                             |          | 6                             | --                             |                         |          |
| <i>Hemerodromia</i>                 | 09021016057                | 3.33                        | 3.33     | 3                             | PR                             | 1.3                     | 1.3      |
| <i>Psephenus</i>                    | 09021108058                |                             | 4.00     | 4                             | SC                             |                         | 1.6      |
| <i>Psephenus herricki</i>           | 09021108058028             | 4.00                        |          |                               | --                             | 1.6                     |          |
| <i>Dubiraphia</i>                   | 09021113064                | 13.33                       | 13.33    | 6                             | --                             | 5.3                     | 5.3      |
| <i>Macronychus</i>                  | 09021113065                |                             | 0.33     | 4                             | --                             |                         | 0.1      |
| <i>Macronychus glabratus</i>        | 09021113065040             | 0.33                        |          |                               | --                             | 0.1                     |          |
| <i>Optioservus</i>                  | 09021113067                | 0.33                        | 0.33     | 3                             | SC                             | 0.1                     | 0.1      |
| <i>Stenelmis</i>                    | 09021113070                | 3.67                        | 3.67     | 5                             | SC                             | 1.4                     | 1.4      |
| <i>Sperchonopsis</i>                | 09030107002                | 0.33                        | 0.33     |                               | --                             | 0.1                     | 0.1      |
| <i>Ferrissia</i>                    | 10010204035                |                             | 1.67     |                               | SC                             |                         | 0.7      |
| <i>Ferrissia fragilis</i>           | 10010204035064             | 1.67                        |          |                               | --                             | 0.7                     |          |