

# **Benthic Stream Macroinvertebrate Monitoring Report**

*Acadia National Park*  
*2000-2002*



**ACADIA NATIONAL PARK  
NATURAL RESOURCE REPORT 2004-04**

**Prepared by:  
Robert M. Breen  
August 2004**

## **INTRODUCTION**

Standardized monitoring of biological indicators such as benthic macroinvertebrates is widely accepted as a useful component of long-term water quality monitoring programs. The U.S. Environmental Protection Agency (USEPA) has adopted guidelines for incorporating biological criteria into water quality assessments to augment more traditional hydrogeochemical water quality monitoring approaches (USEPA, 1989). The Maine Department of Environmental Protection (MDEP) has developed a standardized program of biological monitoring criteria to assess the integrity of freshwater ecosystems. Development of the MDEP program has been rigorously reviewed and refined, and is consistent with subsequent USEPA guidelines. National Park Service management guidelines also encourage the development of long-term programs to monitor the physical and biological integrity of park resources (NPS, 2001). In addition, the recently completed Acadia National Park (ANP) Water Resource Management Plan recommends incorporating biological monitoring criteria into a core long-term water monitoring program for the park (NPS, 2000).

The establishment of a prototype benthic macroinvertebrate monitoring program at Acadia National Park began in 1997, when park managers consulted MDEP about participating in their biological monitoring program for Maine's inland waters. After reviewing MDEP biological sampling and analysis protocols, park staff decided to participate in MDEP's River and Stream Biological Monitoring Program (Gawley, 1998).

## **PROGRAM OBJECTIVES**

Collaborating with MDEP allows ANP to utilize a credible existing program that provides important data on park aquatic ecosystems, and mutually benefits both agencies in cost sharing, data sharing and analysis. It also provides an opportunity to compare benthic invertebrate populations at Acadia with other state waters. Further, the collaboration builds on other long term cooperative activities between the two agencies involving air and water quality monitoring at ANP.

Program objectives are:

- 1) obtain baseline data, and provide for the assessment of long-term trends and changes to benthic macroinvertebrates in selected park streams,
- 2) assess potential biological impacts to aquatic ecosystems and water quality from adjacent land use and other stressors in selected park streams,
- 3) determine applicability of MDEP modeling criteria to characterize the biological integrity of park streams, and
- 4) utilize MDEP expertise and monitoring protocols.

Information on benthic macroinvertebrates may also benefit other watershed related research projects at Acadia, including investigating the effects of atmospheric/acid deposition, mercury deposition, assessing fisheries resources, and amphibian population dynamics; as well as potential future research concerns related to toxic contamination, climate change and alteration of aquatic ecosystems.

## **SITE SELECTION**

The ANP Benthic Macroinvertebrate Monitoring Program uses a subset of park streams to represent a range of stream and watershed conditions (e.g. developed/undeveloped, headwater source/stream order, burned/unburned by major fire) likely to influence stream water quality and biological integrity. Duck Brook, Stanley Brook, Canon Brook, and Hunter's Brook, all located on the east-side of ANP, have been sampled since 1997. Lurvey Spring Brook and Heath Brook, two streams on the west-side of the park, were added to the program in 1998. Marshall Brook, also on the west-side was added in 2000, and Richardson Brook, an east side stream was added in 2002. Due to low invertebrate densities (below 50 individuals per sample) most years and relatively consistent sampling results from 1997-2001, sampling was discontinued at Canon Brook in 2002.

The Hunters Brook, Duck Brook and Canon Brook watersheds lie predominantly within the park boundary, and are considered to be relatively unaffected by human activity and development. These sites were chosen to represent relatively "pristine" areas, and to most accurately reflect natural baseline conditions. Duck Brook is the outlet to Eagle Lake, which is the public water supply for the town of Bar Harbor. Stanley Brook is potentially more vulnerable to anthropogenic threats than the other three streams because of its proximity to the Seal Harbor residential area, a large summertime horse stable operation, and a park entrance road. Lurvey Spring Brook is located on the west-side of the park, and is the inlet to Echo Lake. It is one of the few park streams having relatively good brook trout spawning habitat. Heath Brook, also on the west-side of the park, is a somewhat ephemeral stream that drains a small wetland area. The Duck Brook and Canon Brook watersheds lie within the area burned in a major fire in 1947 that significantly altered vegetative cover and organic soil characteristics. Marshall Brook, a major tributary to Bass Harbor Marsh, has been the focus of earlier research evaluating the influence of a landfill on water quality, and tends to have a higher summertime flow than other monitored streams. Richardson Brook, on the east side of the park, is a major tributary to Somes Sound. See figure 1. For a map of the invertebrate monitoring sites.

UTM coordinates for all sampling sites have been determined using Global Positioning System (GPS) technology, and the locations have been added to the park's Geographic Information System (GIS) database.

## **METHODS**

All field methods used in the ANP Benthic Macroinvertebrate Monitoring Program are documented in MDEP protocols 'Methods for Biological Sampling and Analysis of Maine's Inland Waters' (Davies and Tsomides, 1997). ANP staff received field training on sampler deployment and retrieval procedures prior to the 1997 field season, and meet annually with MDEP personnel to discuss program implementation.

Sample collection is conducted using wire baskets (with at least 1.5cm space between wires) or nylon mesh bags filled with 1.5 to 3 inch stones that are completely submerged at each site. Three baskets/bags, spaced one to three meters apart and oriented with the long axis parallel to the stream flow are deployed in each stream. The preferred placement area is in a riffle (high flow) habitat, although low water conditions sometimes force placement in pools to ensure total submergence. When the baskets/bags are deployed, habitat measurements (depth, velocity, channel width, substrate composition, canopy coverage) are recorded on a field data

form. Also recorded are water quality parameters (pH, specific conductance, temperature, dissolved oxygen, color) measured either in situ, or from water samples analyzed in the park lab. Photographs or slides are taken to document sample location and basket deployment.

MDEP protocols require that all sampling be done during the low-flow period from July 1 to September 30. This period is generally considered the most stressful to aquatic organisms, due to increased water temperature and less dilution of pollutants. Because benthic macroinvertebrate community composition varies with the season, these restrictions also allow for sampling a standardized seasonal community. Selecting suitable sites during the mid-summer period can be challenging because many park streams have low flow and depth for optimal basket placement. All streams used as sampling sites are monitored prior to basket/bag deployment and must have sufficient water depth and velocity to reasonably expect adequate flow throughout the sampling period.

After being left undisturbed for 28 days (+/- 4 days), the samplers are retrieved by gently lifting into a large D-ring net or a sieve bucket (both have 600 micron mesh) positioned immediately downstream. All basket/bag contents are transferred to the sieve bucket, where the basket wires/bag mesh and rocks are inspected and hand cleaned. Organic material is retained in the bucket and the cleaned rocks are returned to the basket/bag. The bucket contents are then transferred into wide-mouthed sample jars and preserved with 100% ethyl alcohol to obtain an approximately 70% solution of alcohol to water. All field activities (sampler deployment, retrieval, and transfer to sample jars) are carried out by ANP staff. Preserved samples are then transferred to MDEP for processing in their system. MDEP subsequently arranges for sorting (separating) of the invertebrates from the detritus and other debris, and taxonomic analysis. All specimens are identified to the lowest possible taxonomic level, preferably genus or species. The park also obtains a specimen from each taxonomic level identified for incorporation into a benthic macroinvertebrate reference collection. Reference collection specimens are stored in glass vials with rubber stoppers, and preserved in 70% ethyl alcohol with 5% glycerin, and are housed (with associated records) in the William Otis Sawtelle Collections and Research Center at Acadia National Park headquarters. Michael Winnell of Freshwater Benthic Services, Inc. has provided taxonomic analysis for all Acadia samples since 1997.

Taxonomic data are analyzed by MDEP using a linear discriminant model, outlined in Davies, et. al. (1995) to determine attainment of state water quality classification standards. A total of 30 indices and measures of community structure are calculated to determine one of four water quality groups corresponding to state stream classification for Class A, B, C, and Non-attainment (NA) waters. At a minimum samples should achieve the following criteria:

- Sample mean total abundance should be at least 50 individuals (average per basket/bag);
- Generic richness for three replicate basket/bag samplers should be at least 15.

Samples not attaining these minimum criteria receive a classification I (inconclusive) and are evaluated by professional judgement of MDEP staff. Because model criteria were developed primarily for Maine's large streams and rivers, current model criteria may not be completely applicable to smaller somewhat more ephemeral streams such as those monitored at Acadia National Park. Consequently, park streams with a model determination of less than Class A, are usually considered by Maine DEP to be meeting their Class A classification standard for

aquatic life of "as naturally occurs" unless there is evidence to suggest possible environmental contamination.

## **RESULTS**

Information on 1997-1999 macroinvertebrate monitoring program at Acadia National Park can be found in Gawley (1998), and Breen et al (2001). Sampling methods in 2000-2002 were conducted following essentially the same standardized procedures as previous years. Mesh bags were used as substrate sampling devices in all park streams, which allowed for placement in shallow riffles and higher flow areas as opposed to deeper pools of slower moving water. Individual sample bags were placed in approximately the same general location within each stream as in previous years. In 2000-2002, stream depth and flow at most sites were typical of average August low flow conditions of recent years. Water levels were generally sufficient to keep the sample bags submerged throughout the sampling period, although in a few instances the top section of some bags slightly broke the surface. Stream flow was typically low (<10cm/s), and at times too low to measure at some sites by late August when the bags were retrieved. Mean summer (June-August) precipitation volume was 17.48 centimeters in 2000, 13.74 cm in 2001, and 15.47 cm in 2002. Annual mean summer precipitation measured at the McFarland Hill National Atmospheric Deposition Program monitoring site at park headquarters for the period 1982-2002 was 24.2 cm (NADP, 2002). The diversity and density of invertebrates collected in each sample location varied among streams in 2000-2002, as it has in previous years.

Analysis of 2000 data (Appendix A) indicate that Marshall, Stanley and Duck Brooks all met MDEP model criteria for Class A streams, the highest classification. Lurvey Spring met Class B criteria, while Heath Brook was Class C. As in 1997 and 1998, Canon Brook did not meet minimum criteria of mean total abundance of 50 individuals per sample for the MDEP model in 2000, and the same was true for Hunters Brook. The MDEP model calculations used to determine stream classification are in part weighted by the ratio of selected indices, such as EPT generic richness, to mean total abundance and total generic richness. The Lurvey Spring and Heath Brook MDEP model classifications in 2000 were partly the result of a lower ratio of EPT (*Ephemeroptera*, *Plecoptera*, *Tricoptera*) richness to total generic richness.

The 2001 data analysis (Appendix B) indicated Stanley, Heath and Marshall Brooks met MDEP criteria for Class A streams, Lurvey Spring met Class B, and Duck and Hunter Brooks were Class C. Canon Brook again had a mean of fewer than 50 individuals per bag and received a Class I classification (inconclusive). The Class C designation for Duck Brook was the first time the designation was not Class A.

Data analysis for 2002 (Appendix C) showed Stanley Brook and Marshall Brook meeting MDEP Class A criteria, Duck Brook was Class B, Lurvey Spring was Class C. Hunter and Richardson Brooks both failed to meet mean total abundance of 50 individuals per bag and received an I classification. Heath Brook data did not meet any of the model criteria and was classified NA. See figure 2, for a summary of key indices for 1997-2002.

In 2001 and 2002, temperature loggers were deployed in three randomly selected streams, to provide data on water temperature fluctuations over the sampling period. The data loggers recorded temperature at 30-minute intervals. Temperature data for Duck, Heath, and Lurvey

Spring Brooks in 2001, and Duck, Marshall, and Richardson Brooks in 2002 are summarized in appendix D.

A reference collection of stream macroinvertebrates collected from this monitoring program has been developed since the initial monitoring in 1997. The reference collection is housed in the William Otis Sawtelle Collections and Research Center, at Acadia National Park headquarters.

## **DISCUSSION**

The benthic macroinvertebrate monitoring program at Acadia National Park continues to fulfill the objectives initially set out for the program. Through 2002, six years of baseline data on macroinvertebrates has been obtained for three park streams, five years for one stream, and 1 to 4 years of data on four other streams. The relationship with MDEP continues to be a very positive aspect of the program. While park personnel provide all necessary field operations, MDEP staff coordinates sample sorting and taxonomy, provides data analysis, and assesses compliance with established modeling criteria. Information from park streams allows MDEP to continue to refine their analytical model to better reflect the range of conditions that are found in smaller more ephemeral streams around the state including the relatively pristine streams at ANP. Also, continued collaboration with MDEP in assessing model accuracy will help ensure that park streams continue to comply with their legislative classification.

There are insufficient data at present to determine the range of inter-annual variation or trends in macroinvertebrate diversity or abundance, for either within stream populations or parkwide. Although invertebrate diversity and abundance in some streams e.g. Stanley Brook and Marshall Brook, have been very consistent from year to year, most other streams have had large fluctuations both in invertebrate abundance and richness as well as model results. Continued monitoring should provide important information on stream macroinvertebrate communities and for future assessments of biological integrity of park aquatic ecosystems. Information on the abundance and generic richness of macroinvertebrate communities may also help in detecting possible water quality degradation in park streams as a result of atmospheric deposition, climate change, nutrient loading, and other anthropogenic effects.

Collaborating with the MDEP program allows ANP to utilize a credible existing program that provides new baseline data on park aquatic ecosystems, and mutually benefits both agencies in cost sharing, data sharing and analysis. The collaboration also builds on other existing cooperative activities between the two agencies involving air quality monitoring and lake monitoring. Continued collaboration with MDEP in monitoring benthic macroinvertebrates in selected park streams is recommended.

---

**References:**

Breen, R.M., W.G. Gawley, M. Fraser, 2001. Benthic Stream Macroinvertebrate Monitoring Report, Acadia National Park, 1998-1999, ANP Natural Resources Report 2001-05.

Gawley, W.G., and R.M. Breen, 1998. Benthic Stream Macroinvertebrate Monitoring, 1997 Year-end Report, ANP Natural Resources Report 98-01.

National Park Service, 2000. 2001 Management Policies, National Park Service. Washington D.C.

National Park Service, 2000. Water Resources Management Plan. Acadia National Park, Bar Harbor, ME.

S.P. Davies, L. Tsomides, D.L. Courtemanch & F. Drummond, 1995. "*Maine Biological Monitoring and Biocriteria Development Program*", MDEP.

S.P. Davies & L. Tsomides, 1997. "*Methods for Biological Sampling and Analysis of Maine's Inland Waters*", MDEP.

U.S. Environmental Protection Agency. 1989. Rapid Bioassessment Protocols for Use in Streams and Rivers, Benthic Macroinvertebrates and Fish. Office of Water (WH-553). Washington D.C.

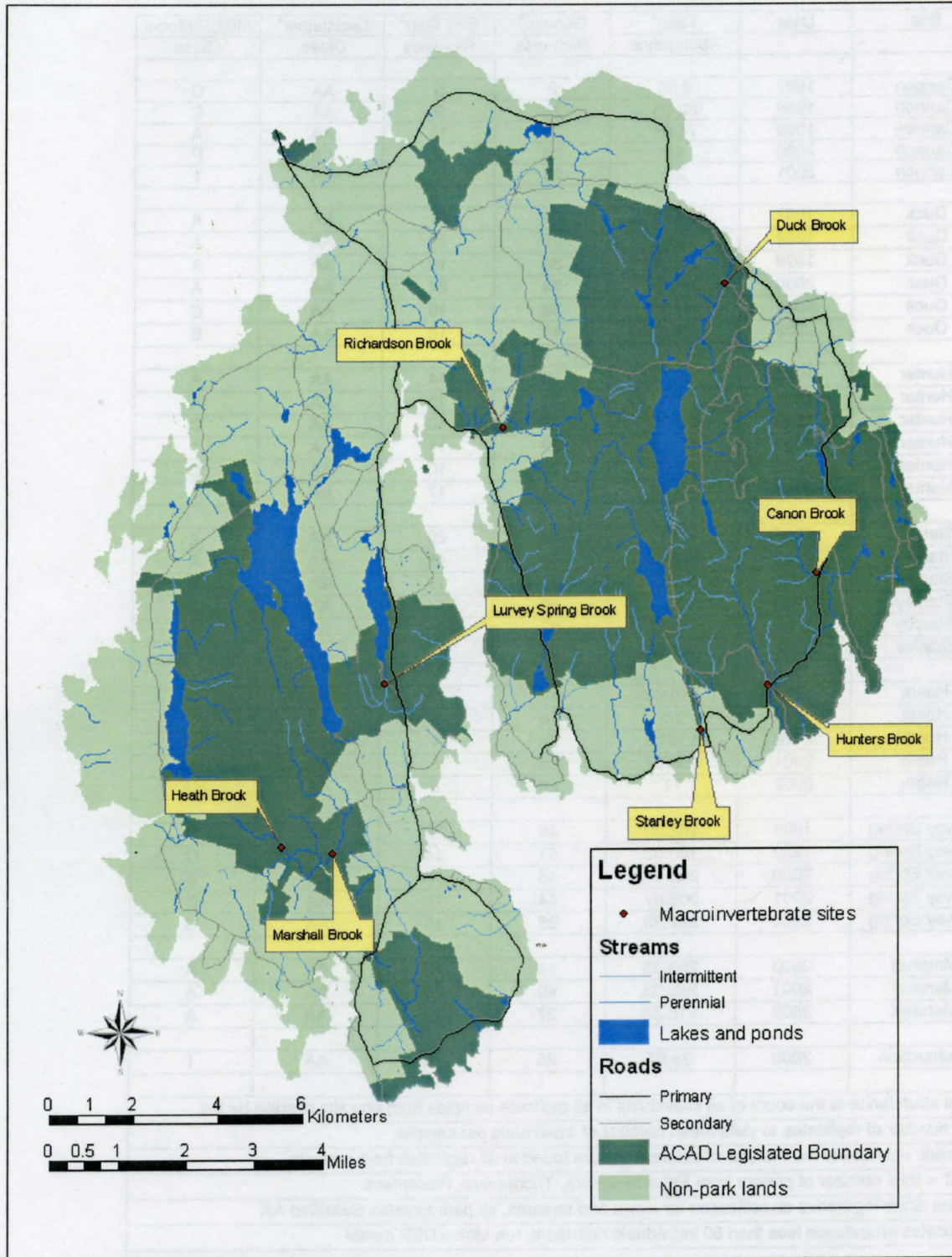


**Figure 4. 1997-2002 Invertebrate Data Summary** (data source: Maine DEP)

| Site                                                                                                                                                                                    | Date | Total <sup>1</sup><br>Abundance | Generic <sup>2</sup><br>Richness | EPT Gen <sup>3</sup><br>Richness | Legislative <sup>4</sup><br>Class | MDEP Model<br>Class |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|---------------------------------|----------------------------------|----------------------------------|-----------------------------------|---------------------|
| Cannon                                                                                                                                                                                  | 1997 | 9.66                            | 8                                | 5                                | AA                                | C                   |
| Cannon                                                                                                                                                                                  | 1998 | 32.96                           | 23                               | 9                                | AA                                | C                   |
| Cannon                                                                                                                                                                                  | 1999 | 74.97                           | 29                               | 15                               | AA                                | A                   |
| Cannon                                                                                                                                                                                  | 2000 | 46                              | 26                               | 9                                | AA                                | I <sup>5</sup>      |
| Cannon                                                                                                                                                                                  | 2001 | 26                              | 24                               | 13                               | AA                                | I                   |
| Duck                                                                                                                                                                                    | 1997 | 59.61                           | 29                               | 11                               | AA                                | A                   |
| Duck                                                                                                                                                                                    | 1998 | 121.6                           | 29                               | 12                               | AA                                | A                   |
| Duck                                                                                                                                                                                    | 1999 | 57.31                           | 35                               | 10                               | AA                                | A                   |
| Duck                                                                                                                                                                                    | 2000 | 346.33                          | 74                               | 24                               | AA                                | A                   |
| Duck                                                                                                                                                                                    | 2001 | 145.67                          | 38                               | 10                               | AA                                | C                   |
| Duck                                                                                                                                                                                    | 2002 | 169.67                          | 41                               | 16                               | AA                                | B                   |
| Hunter                                                                                                                                                                                  | 1997 | 54.33                           | 23                               | 14                               | AA                                | A                   |
| Hunter                                                                                                                                                                                  | 1998 | 111                             | 31                               | 15                               | AA                                | A                   |
| Hunter                                                                                                                                                                                  | 1999 | 22.96                           | 23                               | 10                               | AA                                | C                   |
| Hunter                                                                                                                                                                                  | 2000 | 36.33                           | 22                               | 11                               | AA                                | I                   |
| Hunter                                                                                                                                                                                  | 2001 | 54.67                           | 24                               | 10                               | AA                                | C                   |
| Hunter                                                                                                                                                                                  | 2002 | 43.33                           | 32                               | 17                               | AA                                | I                   |
| Stanley                                                                                                                                                                                 | 1997 | 121                             | 43                               | 20                               | AA                                | A                   |
| Stanley                                                                                                                                                                                 | 1998 | 122.96                          | 35                               | 15                               | AA                                | A                   |
| Stanley                                                                                                                                                                                 | 1999 | 58.63                           | 29                               | 17                               | AA                                | A                   |
| Stanley                                                                                                                                                                                 | 2000 | 66.33                           | 26                               | 14                               | AA                                | A                   |
| Stanley                                                                                                                                                                                 | 2001 | 76.33                           | 33                               | 15                               | AA                                | A                   |
| Stanley                                                                                                                                                                                 | 2002 | 101.33                          | 34                               | 16                               | AA                                | A                   |
| Heath                                                                                                                                                                                   | 1998 | 340.62                          | 44                               | 14                               | AA                                | C                   |
| Heath                                                                                                                                                                                   | 1999 | 23.31                           | 16                               | 5                                | AA                                | C                   |
| Heath                                                                                                                                                                                   | 2000 | 115.33                          | 27                               | 4                                | AA                                | C                   |
| Heath                                                                                                                                                                                   | 2001 | 164.67                          | 26                               | 8                                | AA                                | A                   |
| Heath                                                                                                                                                                                   | 2002 | 71                              | 26                               | 5                                | AA                                | NA                  |
| Lurvey Spring                                                                                                                                                                           | 1998 | 167.29                          | 45                               | 16                               | AA                                | B                   |
| Lurvey Spring                                                                                                                                                                           | 1999 | 100.62                          | 41                               | 14                               | AA                                | C                   |
| Lurvey Spring                                                                                                                                                                           | 2000 | 201.33                          | 46                               | 16                               | AA                                | B                   |
| Lurvey Spring                                                                                                                                                                           | 2001 | 308.67                          | 44                               | 19                               | AA                                | B                   |
| Lurvey Spring                                                                                                                                                                           | 2002 | 222.33                          | 38                               | 15                               | AA                                | C                   |
| Marshall                                                                                                                                                                                | 2000 | 209.33                          | 44                               | 19                               | AA                                | A                   |
| Marshall                                                                                                                                                                                | 2001 | 285.33                          | 40                               | 20                               | AA                                | A                   |
| Marshall                                                                                                                                                                                | 2002 | 216.33                          | 37                               | 15                               | AA                                | A                   |
| Richardson                                                                                                                                                                              | 2002 | 33.67                           | 25                               | 13                               | AA                                | I                   |
| <sup>1</sup> Total abundance is the count of all individuals in all replicate samples from one site divided by the number of replicates to yield mean number of individuals per sample. |      |                                 |                                  |                                  |                                   |                     |
| <sup>2</sup> Generic richness is the number of different genera found in all replicates from one site.                                                                                  |      |                                 |                                  |                                  |                                   |                     |
| <sup>3</sup> EPT = total number of genera from Ephemeroptera, Trichoptera, Plecoptera                                                                                                   |      |                                 |                                  |                                  |                                   |                     |
| <sup>4</sup> Maine State legislative classification for rivers and streams, all park streams classified AA                                                                              |      |                                 |                                  |                                  |                                   |                     |
| <sup>5</sup> I indicates abundance less than 50 individuals needed to run Maine DEP model                                                                                               |      |                                 |                                  |                                  |                                   |                     |

## **Appendix A** **2000 Data**

Maine Department of Environmental Protection  
Acadia National Park Samples  
Logsheet for Benthic Macroinvertebrates Identified

Michael Winnell -- Freshwater Benthic Services, Inc.

|                     |            |
|---------------------|------------|
| Sample Log No.:     | 932        |
| Station No:         | 322        |
| Waterbody Name:     | Duck Brook |
| Town Name:          | Bar Harbor |
| Date of Collection: | 22-Aug-00  |
| Subsample Factor:   | 1.00       |
| Sampler Type:       | Cone       |

| Chironomidae Subsample (SS) Effort |      |      |      |
|------------------------------------|------|------|------|
|                                    | 1    | 2    | 3    |
| Level of SS Effort                 | none | none | 0.25 |
| No. Chir SSed                      |      |      | 234  |
| No. Chir in SS                     |      |      | 59   |
| Misc. Chir not SSed                |      |      | 7    |
| TChir                              | 0    | 0    | 241  |

| Bar Code No. | Taxon                           |                   |                        | No. identified from sample |        |        |
|--------------|---------------------------------|-------------------|------------------------|----------------------------|--------|--------|
|              | Genus                           | Species           | Comment                | Cone 1                     | Cone 2 | Cone 3 |
| 09021011001  | Ablabesmyia                     | mallochi          |                        | 4                          | 0      | 0      |
|              | Acerpenna                       | pygmaea           |                        | 13                         | 8      | 21     |
|              | Acerpenna                       |                   |                        | 0                          | 2      | 1      |
| 09020209042  | Acroneuria                      | abnormis          |                        | 1                          | 1      | 16     |
| 09020209042  | Acroneuria                      |                   |                        | 0                          | 0      | 22     |
|              | Agentina/Paragnetina/Attaneuria |                   |                        | 0                          | 0      | 13     |
| 09020309048  | Argia                           |                   |                        | 1                          | 0      | 0      |
| 09020401001  | Bactis                          |                   |                        | 0                          | 0      | 2      |
| 100102       | Basommatophora                  |                   |                        | 1                          | 0      | 0      |
| 09020301004  | Boyeria                         | vinosa            |                        | 3                          | 1      | 1      |
| 09020307     | Calopterygidae                  |                   |                        | 7                          | 3      | 1      |
| 09020618072  | Ceraclea                        |                   |                        | 1                          | 0      | 0      |
| 09020604015  | Cheumatopsyche                  |                   |                        | 0                          | 0      | 40     |
| 09021016056  | Clinocera                       |                   |                        | 0                          | 0      | 3      |
| 09020309     | Coenagrionidae                  |                   |                        | 1                          | 1      | 0      |
|              | Conchapelopia genus group       |                   |                        | 0                          | 0      | 8      |
| 09020305     | Corduliidae                     |                   | (now Libellulidae: Cor | 1                          | 0      | 0      |
| 09021011036  | Corynoneura                     |                   |                        | 0                          | 0      | 16     |
| 09021011037  | Cricotopus                      | (C.) bicinctus    |                        | 9                          | 1      | 0      |
| 03010101001  | Cura                            | foremanii         |                        | 9                          | 4      | 0      |
| 09021001005  | Dicranota                       |                   |                        | 0                          | 0      | 1      |
| 09020604014  | Diplectrona                     | modesta           |                        | 0                          | 0      | 13     |
| 09021011038  | Diplocladius                    |                   |                        | 0                          | 1      | 0      |
| 09020601001  | Dolophilodes                    |                   |                        | 0                          | 0      | 8      |
| 09020402009  | Epeorus                         |                   |                        | 0                          | 0      | 2      |
| 09021011041  | Eukiefferiella                  |                   |                        | 0                          | 0      | 9      |
| 09020410036  | Eurylophella                    |                   |                        | 1                          | 3      | 0      |
|              | Helopelopia                     |                   |                        | 2                          | 0      | 0      |
| 09021016057  | Hemerodromia                    |                   |                        | 0                          | 0      | 16     |
| 09020402     | Heptageniidae                   |                   |                        | 0                          | 0      | 6      |
| 02010101001  | Hydra                           |                   |                        | 1                          | 2      | 0      |
| 09030101     | Hydracarina                     |                   |                        | 0                          | 0      | 2      |
| 09020604016  | Hydropsyche                     | depravata complex |                        | 0                          | 0      | 62     |

| Bar Code No. | Taxon            |                            |         | No. identified from sample |        |        |
|--------------|------------------|----------------------------|---------|----------------------------|--------|--------|
|              | Genus            | Species                    | Comment | Cone 1                     | Cone 2 | Cone 3 |
| 09020604016  | Hydropsyche      | sparna                     |         | 0                          | 0      | 106    |
| 09020604016  | Hydropsyche      |                            |         | 0                          | 0      | 106    |
| 09020604     | Hydropsychidae   |                            |         | 0                          | 0      | 1      |
| 09020607     | Hydroptilidae    |                            |         | 2                          | 2      | 0      |
| 09020102     | Isotomidae       |                            |         | 0                          | 2      | 1      |
| 09020611064  | Lepidostoma      |                            |         | 0                          | 10     | 11     |
| 09020618     | Leptoceridae     |                            |         | 3                          | 0      | 0      |
| 09020406     | Leptophlebiidae  |                            |         | 4                          | 0      | 0      |
| 09020402011  | Leucrocuta       |                            |         | 0                          | 0      | 1      |
| 09021011047  | Limnophyes       |                            |         | 0                          | 0      | 9      |
|              | Lumbricidae      |                            |         | 0                          | 0      | 15     |
| 09021113065  | Macronychus      | glabratus                  |         | 0                          | 0      | 7      |
| 09021011070  | Micropsectra     |                            |         | 0                          | 0      | 12     |
| 09021011094  | Microtendipes    | pedellus-gr.               |         | 0                          | 5      | 4      |
| 09020510025  | Microvelia       |                            |         | 1                          | 2      | 7      |
| 08020202009  | Nais             | communis                   |         | 0                          | 0      | 1      |
| 09021011049  | Nanocladius      |                            |         | 0                          | 1      | 0      |
| 09020701003  | Nigronia         | serricornis                |         | 1                          | 1      | 5      |
| 09021011012  | Nilotanytus      | fimbratus                  |         | 0                          | 1      | 0      |
| 09020603009  | Nyctiophylax     | moestus                    |         | 3                          | 0      | 0      |
| 09020603009  | Nyctiophylax     |                            |         | 1                          | 0      | 0      |
| 09020618078  | Oecetis          | persimilis                 |         | 3                          | 0      | 0      |
| 09020618078  | Oecetis          |                            |         | 2                          | 0      | 1      |
| 09021011050  | Orthocladius     | (S.) lignicola             |         | 0                          | 0      | 8      |
| 09020607028  | Oxyethira        |                            |         | 2                          | 0      | 0      |
| 09021011013  | Paramerina       |                            |         | 1                          | 3      | 0      |
| 09021011053  | Parametriocnemus |                            |         | 0                          | 0      | 5      |
| 09020207     | Perlodidae       |                            |         | 0                          | 0      | 1      |
| 10010202027  | Physella         |                            |         | 7                          | 1      | 2      |
| 03010101     | Planariidae      |                            |         | 0                          | 0      | 1      |
| 09020603010  | Polycentropus    |                            |         | 2                          | 3      | 0      |
| 09021011102  | Polypedilum      | aviceps                    |         | 0                          | 0      | 10     |
| 09021011102  | Polypedilum      |                            |         | 1                          | 0      | 0      |
|              | Procladius       |                            |         | 1                          | 0      | 0      |
| 09021113069  | Promoresia       | tardella                   |         | 0                          | 2      | 28     |
| 09021011056  | Psectrocladius   | psilopterus-grp. cf. sp. 1 |         | 38                         | 4      | 0      |
| 09021108058  | Psephenus        | herricki                   |         | 3                          | 1      | 1      |
| 09020614068  | Psilotreta       | frontalis                  |         | 1                          | 0      | 0      |
| 09020614068  | Psilotreta       |                            |         | 3                          | 2      | 0      |
| 09021011057  | Rheocricotopus   |                            |         | 2                          | 1      | 0      |
|              | Sperchon         |                            |         | 0                          | 0      | 1      |
| 10020201     | Sphaeriidae      |                            |         | 0                          | 0      | 1      |
| 09020402014  | Stenacron        |                            |         | 2                          | 0      | 0      |
| 09021011105  | Stenochironomus  |                            |         | 0                          | 0      | 1      |
| 09020402015  | Stenonema        | modestum                   |         | 4                          | 0      | 0      |
| 09020402015  | Stenonema        |                            |         | 3                          | 1      | 6      |
| 09021011061  | Synorthocladius  |                            |         | 4                          | 2      | 0      |

| Bar Code No. | Taxon                       |                  |         | No. identified from sample |        |        |
|--------------|-----------------------------|------------------|---------|----------------------------|--------|--------|
|              | Genus                       | Species          | Comment | Cone 1                     | Cone 2 | Cone 3 |
|              | Synurella                   | chamberlaini     |         | 6                          | 0      | 2      |
| 09021011062  | Thienemanniella             |                  |         | 0                          | 0      | 28     |
|              | Thienemannimyia genus group |                  |         | 0                          | 0      | 4      |
| 09021001002  | Tipula                      |                  |         | 0                          | 0      | 10     |
| 09020506021  | Trepobates                  |                  |         | 0                          | 1      | 0      |
| 09021011021  | Trissopelopia               | ogemawi          |         | 1                          | 0      | 0      |
| 09021011065  | Tvetenia                    | bavarica-gr.     |         | 0                          | 0      | 114    |
| 09021011065  | Tvetenia                    | discoloripes-gr. |         | 0                          | 0      | 1      |
|              | Unid. Chironomini           |                  |         | 20                         | 2      | 0      |
|              | Unid. Orthocladiinae        |                  |         | 2                          | 1      | 12     |

|                      |  |            |           |            |
|----------------------|--|------------|-----------|------------|
| <b>Total Benthos</b> |  | <b>178</b> | <b>75</b> | <b>786</b> |
| <b>Total OTUs</b>    |  | <b>43</b>  | <b>32</b> | <b>55</b>  |
| <b>Total spp.</b>    |  | <b>35</b>  | <b>29</b> | <b>48</b>  |

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

**Station Information**

|                                         |                             |  |
|-----------------------------------------|-----------------------------|--|
| Station Number: S323                    | DEP Drainage: Maine Coastal |  |
| Waterbody: Stanley Brook                | HUC Code: 01050002          |  |
| Location: Tremont                       | HUC Name: Maine Coastal     |  |
| Directions: Above Rt. 3; Park Loop Road | Latitude: Deg Min Sec       |  |
|                                         | Longitude: Deg Min Sec      |  |
|                                         | Stream Order: 1             |  |

**Sample Information**

|                      |                             |                           |
|----------------------|-----------------------------|---------------------------|
| Log Number: 931      | Type of Sample: Riffle Bags | Date Deployed: 26-JUL-00  |
| Subsample Factor: X1 | Replicates: 3               | Date Retrieved: 24-AUG-00 |

**Classification Attainment**

|                             |                           |  |
|-----------------------------|---------------------------|--|
| Statutory Class: AA         | Final Determination: A    |  |
| Model Result with P > .6: A | Reason for Determination: |  |
| Date Last Calculated:       |                           |  |

**Model Probabilities**

First Stage Model

|              |               |  |
|--------------|---------------|--|
| Class A 0.81 | Class C 0.01  |  |
| Class B 0.18 | Class NA 0.00 |  |

B or Better Model

|                           |      |  |
|---------------------------|------|--|
| Class A or B              | 1.00 |  |
| Class C or Non-Attainment | 0.00 |  |

C or Better Model

|                  |      |  |
|------------------|------|--|
| Class A, B, or C | 1.00 |  |
| Non-Attainment   | 0.00 |  |

A Model

|                                |      |  |
|--------------------------------|------|--|
| Class A                        | 1.00 |  |
| Class B or C or Non-Attainment | 0.00 |  |

**Model Variables**

|                                        |       |                                                                 |       |
|----------------------------------------|-------|-----------------------------------------------------------------|-------|
| 01 Total Abundance of Individuals      | 66.33 | 18 Relative Abundance - Ephemeroptera                           | 0.37  |
| 02 Generic Richness                    | 26.00 | 19 EPT Generic Richness                                         | 14.00 |
| 03 Plecoptera Abundance                | 3.67  | 21 Sum of Abundances: <i>Dicrotendipes</i> ,                    | 0.33  |
| 04 Ephemeroptera Abundance             | 24.33 | <i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i> |       |
| 05 Shannon - Wiener Diversity          | 3.17  | 23 Relative Generic Richness- Plecoptera                        | 0.12  |
| 06 Hilsenhoff Biotic Index             | 3.59  | 25 Sum of Abundances: <i>Cheumatopsyche</i> ,                   | 0.00  |
| 07 Relative Abundance - Chironomidae   | 0.08  | <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>      |       |
| 08 Relative Generic Richness - Diptera | 0.42  | 26 Sum of Abundances: <i>Acroneuria</i> , <i>Stenonema</i>      | 0.00  |
| 09 <i>Hydropsyche</i> Abundance        | 24.33 | 28 EP Generic Richness/14                                       | 0.57  |
| 10 <i>Cheumatopsyche</i> Abundance     | 0.00  | 30 Presence of Class A Indicator Taxa/7                         | 0.29  |
| 2 EPT Generic Richness/ Diptera        | 1.27  |                                                                 |       |
| Generic Richness                       |       |                                                                 |       |

**Five Most Dominant Taxa**

|                                    |      | Taxa Rank | Taxa Name      | Percent |
|------------------------------------|------|-----------|----------------|---------|
| 3 Relative Abundance - Oligochaeta | 0.00 | 1         | Hydropsyche    | 36.68   |
| 5 Perlidae Abundance (Family       | 0.00 | 2         | Baetis         | 19.87   |
| Functional Group)                  |      | 3         | Ephemerellidae | 13.07   |
| 6 Tanypodinae Abundance (Family    | 1.00 | 4         | Glossosoma     | 4.52    |
| Functional Group)                  |      | 5         | Dolophilodes   | 2.52    |
| 7 Chironomini Abundance (Family    | 1.00 |           |                |         |
| Functional Group)                  |      |           |                |         |

Maine Department of Environmental Protection  
Acadia National Park Samples  
Logsheet for Benthic Macroinvertebrates Identified

Michael Winnell -- Freshwater Benthic Services, Inc.

|                     |                          |
|---------------------|--------------------------|
| Sample Log No.:     | 931                      |
| Waterbody Name:     | 323 <b>STANLEY Brook</b> |
| Town Name:          | Mount Desert             |
| Date of Collection: | 25-Aug-00                |
| Subsample Factor:   | 1.00                     |
| Sampler Type:       | Cone                     |

| Chironomidae Subsample (SS) Effort |      |      |      |
|------------------------------------|------|------|------|
|                                    | 1    | 2    | 3    |
| Level of SS Effort                 | none | none | none |
| No. Chir SSed                      |      |      |      |
| No. Chir in SS                     |      |      |      |
| Misc. Chir not SSed                |      |      |      |
| TChir                              | 0    | 0    | 0    |

| Bar Code No. | Taxon                       |                   |                        | No. identified from sample |        |        |
|--------------|-----------------------------|-------------------|------------------------|----------------------------|--------|--------|
|              | Genus                       | Species           | Comment                | Cone 1                     | Cone 2 | Cone 3 |
|              | Acerpenna                   | macdunnoughi      |                        | 0                          | 0      | 1      |
| 09020401     | Baetidae                    |                   |                        | 6                          | 2      | 5      |
| 09020401001  | Baetis                      | flavistriga       |                        | 0                          | 0      | 1      |
| 09020401001  | Baetis                      | pluto             |                        | 9                          | 6      | 11     |
| 09021011004  | Conchapelopia               |                   |                        | 1                          | 0      | 0      |
| 09021011036  | Corynoneura                 |                   |                        | 1                          | 0      | 0      |
| 09020207030  | Diura                       | cf. nanseni       |                        | 2                          | 0      | 2      |
| 09021006023  | Dixa                        |                   |                        | 0                          | 0      | 1      |
| 09020601001  | Dolophilodes                |                   |                        | 5                          | 0      | 0      |
| 09020410     | Ephemerellidae              |                   | Ephemerella/Serratella | 11                         | 5      | 10     |
| 09020410036  | Eurylophella                |                   |                        | 2                          | 0      | 0      |
| 09020606020  | Glossosoma                  |                   |                        | 1                          | 3      | 5      |
| 09020604016  | Hydropsyche                 | ventura           |                        | 45                         | 11     | 17     |
| 09020406     | Leptophlebiidae             |                   |                        | 0                          | 0      | 4      |
| 09020204020  | Leuctra                     | truncata          |                        | 0                          | 0      | 3      |
| 09020204020  | Leuctra                     |                   |                        | 0                          | 1      | 0      |
| 09021011070  | Micropsectra                |                   |                        | 0                          | 0      | 1      |
| 09021011053  | Parametriocnemus            |                   |                        | 0                          | 0      | 1      |
| 09020604013  | Parapsyche                  | apicalis          |                        | 0                          | 1      | 0      |
| 09021011102  | Polypedilum                 | aviceps           |                        | 0                          | 0      | 3      |
| 09021113069  | Promoresia                  | tardella          |                        | 2                          | 0      | 1      |
| 09020610060  | Psychoglypha                | subborealis       |                        | 0                          | 1      | 1      |
| 09020605019  | Rhyacophila                 | fuscula           |                        | 3                          | 0      | 0      |
| 09021012047  | Simulium                    | tuberosum complex |                        | 2                          | 0      | 1      |
| 09020208040  | Sweltsa                     |                   |                        | 1                          | 0      | 2      |
| 09021011062  | Thienemanniella             |                   |                        | 1                          | 0      | 0      |
|              | Thienemannimyia genus group |                   |                        | 0                          | 0      | 1      |
| 09021011065  | Tvetenia                    | bavarica-gr.      |                        | 4                          | 0      | 1      |
| 09021011022  | Zavrelimyia                 |                   |                        | 0                          | 0      | 1      |

|               |  |    |    |    |
|---------------|--|----|----|----|
| Total Benthos |  | 96 | 30 | 73 |
| Total OTUs    |  | 16 | 8  | 21 |
| Total spp.    |  | 14 | 7  | 20 |

**Maine Department of Environmental Protection  
Biological Monitoring Unit**

**BioME Aquatic Life Classification Attainment Report**

**Station Information**

|                                  |                             |
|----------------------------------|-----------------------------|
| Station Number: S320             | DEP Drainage: Maine Coastal |
| Waterbody: Canon Brook           | HUC Code: 01050002          |
| Town: Bar Harbor                 | HUC Name: Maine Coastal     |
| Directions: Above Rt. 3 crossing | Latitude: Deg Min Sec       |
|                                  | Longitude: Deg Min Sec      |
|                                  | Stream Order: 1             |

**Sample Information**

|                      |                             |                           |
|----------------------|-----------------------------|---------------------------|
| Log Number: 933      | Type of Sample: Riffle Bags | Date Deployed: 26-JUL-00  |
| Subsample Factor: X1 | Replicates: 3               | Date Retrieved: 24-AUG-00 |

**Classification Attainment**

|                            |                           |  |
|----------------------------|---------------------------|--|
| Statutory Class: AA        | Final Determination: I    |  |
| Model Result with P > .6 I | Reason for Determination: |  |
| Date Last Calculated:      |                           |  |

**Model Probabilities**

First Stage Model

|         |      |          |      |
|---------|------|----------|------|
| Class A | 0.38 | Class C  | 0.17 |
| Class B | 0.43 | Class NA | 0.03 |

B or Better Model

|                           |      |
|---------------------------|------|
| Class A or B              | 0.41 |
| Class C or Non-Attainment | 0.59 |

C or Better Model

|                  |      |
|------------------|------|
| Class A, B, or C | 1.00 |
| Non-Attainment   | 0.00 |

A Model

|                                |      |
|--------------------------------|------|
| Class A                        | 0.36 |
| Class B or C or Non-Attainment | 0.64 |

**Model Variables**

|                                        |       |                                                                 |      |
|----------------------------------------|-------|-----------------------------------------------------------------|------|
| 01 Total Abundance of Individuals      | 46.00 | 18 Relative Abundance - Ephemeroptera                           | 0.02 |
| 02 Generic Richness                    | 26.00 | 19 EPT Generic Richness                                         | 9.00 |
| 03 Plecoptera Abundance                | 4.67  | 21 Sum of Abundances: <i>Dicrotendipes</i> ,                    | 4.13 |
| 04 Ephemeroptera Abundance             | 1.00  | <i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i> |      |
| 05 Shannon - Wiener Diversity          | 3.48  | 23 Relative Generic Richness- Plecoptera                        | 0.08 |
| 06 Hilsenhoff Biotic Index             | 5.24  | 25 Sum of Abundances: <i>Cheumatopsyche</i> ,                   | 0.75 |
| 07 Relative Abundance - Chironomidae   | 0.52  | <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>      |      |
| 08 Relative Generic Richness - Diptera | 0.50  | 26 Sum of Abundances: <i>Acroneuria</i> , <i>Stenonema</i>      | 0.00 |
| 09 <i>Hydropsyche</i> Abundance        | 0.67  | 28 EP Generic Richness/14                                       | 0.36 |
| 11 <i>Cheumatopsyche</i> Abundance     | 0.00  | 30 Presence of Class A Indicator Taxa/7                         | 0.14 |
| 12 EPT Generic Richness/ Diptera       | 0.69  |                                                                 |      |
| Generic Richness                       |       |                                                                 |      |

**Five Most Dominant Taxa**

|                                     |      | Taxa Rank | Taxa Name      | Percent |
|-------------------------------------|------|-----------|----------------|---------|
| 13 Relative Abundance - Oligochaeta | 0.00 | 1         | Rheotanytarsus | 26.09   |
| 15 Perlidae Abundance (Family       | 0.00 | 2         | Simulium       | 24.63   |
| Functional Group)                   |      | 3         | Micropsectra   | 8.98    |
| 16 Tanypodinae Abundance (Family    | 0.75 | 4         | Polypedilum    | 5.72    |
| Functional Group)                   |      | 5         | Perlodidae     | 5.07    |
| 17 Chironomini Abundance (Family    | 2.63 |           |                |         |
| Functional Group)                   |      |           |                |         |

Maine Department of Environmental Protection  
Acadia National Park Samples  
Logsheet for Benthic Macroinvertebrates Identified

Michael Winnell -- Freshwater Benthic Services, Inc.

|                     |              |
|---------------------|--------------|
| Sample Log No.:     | 933          |
| Station No.:        | 320          |
| Waterbody Name:     | Cannon Brook |
| Town Name:          |              |
| Date of Collection: | 24-Aug-00    |
| Subsample Factor:   | 1.00         |
| Sampler Type:       | Bag          |

| Chironomidae Subsample (SS) Effort |      |      |      |
|------------------------------------|------|------|------|
|                                    | 1    | 2    | 3    |
| Level of SS Effort                 | none | none | none |
| No. Chir SSed                      |      |      |      |
| No. Chir in SS                     |      |      |      |
| Misc. Chir not SSed                |      |      |      |
| TChir                              | 0    | 0    | 0    |

| Bar Code No. | Taxon             |                             |              | No. identified from sample |       |       |
|--------------|-------------------|-----------------------------|--------------|----------------------------|-------|-------|
|              | Genus             | Species                     | Comment      | Bag 1                      | Bag 2 | Bag 3 |
| 09020301004  | Boyeria           | grafiana                    |              | 0                          | 2     | 2     |
| 09020307     | Calopterygidae    |                             |              | 1                          | 1     | 1     |
| 09021011     | Chironomidae      |                             |              | 1                          | 0     | 1     |
| 09021016056  | Clinocera         |                             |              | 1                          | 0     | 0     |
| 09020303019  | Cordulegaster     |                             |              | 0                          | 0     | 1     |
| 09021011036  | Corynoneura       |                             |              | 1                          | 0     | 0     |
| 09020410036  | Eurylophella      |                             |              | 0                          | 0     | 1     |
| 09020604016  | Hydropsyche       | depravata complex           |              | 0                          | 1     | 0     |
| 09020604016  | Hydropsyche       |                             |              | 0                          | 1     | 0     |
| 09020406     | Leptophlebiidae   |                             |              | 0                          | 0     | 1     |
| 09021011010  | Meropelopia       |                             |              | 1                          | 0     | 0     |
| 09021011070  | Micropsectra      |                             |              | 5                          | 4     | 2     |
| 09020603009  | Nyctiophylax      |                             |              | 0                          | 0     | 1     |
| 09021011053  | Parametriocnemus  |                             |              | 2                          | 1     | 0     |
| 09020207     | Perlodidae        |                             |              | 2                          | 1     | 4     |
| 09020603010  | Polycentropus     |                             |              | 0                          | 1     | 0     |
| 09021011102  | Polypedilum       | aviceps                     |              | 2                          | 2     | 3     |
| 09021113069  | Promoresia        | tardella                    |              | 0                          | 1     | 0     |
| 09021011057  | Rheocricotopus    | pauciseta                   |              | 0                          | 1     | 0     |
| 09021011072  | Rheotanytarsus    |                             |              | 14                         | 11    | 7     |
| 09020605019  | Rhyacophila       | prob. fuscula               |              | 0                          | 1     | 0     |
| 09021012047  | Simulium          | aureum complex              |              | 2                          | 1     | 2     |
| 09021012047  | Simulium          | venustum/verecundum complex |              | 9                          | 3     | 4     |
| 09021012047  | Simulium          |                             |              | 2                          | 10    | 1     |
| 09020402014  | Stenacron         |                             |              | 1                          | 0     | 0     |
| 09020208040  | Sweltsa           |                             |              | 1                          | 2     | 4     |
|              | Tanypodinae       | Unid. genus                 |              | 0                          | 0     | 1     |
| 09021011076  | Tanytarsus        | sp. 06                      |              | 1                          | 1     | 0     |
| 09021011062  | Thienemanniella   | xena                        |              | 2                          | 0     | 0     |
| 09021011062  | Thienemanniella   |                             |              | 1                          | 1     | 0     |
| 09021011065  | Tvetenia          | bavarica-gr.                |              | 0                          | 1     | 0     |
|              | Unid. Chironomin  |                             | early instar | 1                          | 2     | 0     |
|              | Unid. Tanypodinae |                             | early instar | 0                          | 2     | 0     |

| Bar Code No. | Taxon        |         |                     | No. identified from sample |       |       |
|--------------|--------------|---------|---------------------|----------------------------|-------|-------|
|              | Genus        | Species | Comment             | Bag 1                      | Bag 2 | Bag 3 |
| 09021011022  | Zavreliomyia |         | likely Zavreliomyia | 1                          | 0     | 0     |

|                      |  |           |           |           |
|----------------------|--|-----------|-----------|-----------|
| <b>Total Benthos</b> |  | <b>51</b> | <b>51</b> | <b>36</b> |
| <b>Total OTUs</b>    |  | <b>20</b> | <b>22</b> | <b>16</b> |
| <b>Total spp.</b>    |  | <b>16</b> | <b>19</b> | <b>14</b> |

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

**Station Information**

|                                                                                                                                                       |                                                                                                                                                                                              |
|-------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Station Number:</b> S321<br><b>Waterbody:</b> Hunter Brook<br><b>Town:</b> Mount Desert<br><b>Directions:</b> Above Rt. 3 crossing; Park Loop Road | <b>DEP Drainage:</b> Maine Coastal<br><b>HUC Code:</b> 01050002<br><b>HUC Name:</b> Maine Coastal<br><b>Latitude:</b> Deg Min Sec<br><b>Longitude:</b> Deg Min Sec<br><b>Stream Order:</b> 1 |
|-------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**Sample Information**

|                             |                                    |                                  |
|-----------------------------|------------------------------------|----------------------------------|
| <b>Log Number:</b> 934      | <b>Type of Sample:</b> Riffle Bags | <b>Date Deployed:</b> 26-JUL-00  |
| <b>Subsample Factor:</b> X1 | <b>Replicates:</b> 3               | <b>Date Retrieved:</b> 24-AUG-00 |

**Classification Attainment**

|                                      |                                  |  |
|--------------------------------------|----------------------------------|--|
| <b>Statutory Class:</b> AA           | <b>Final Determination:</b> I    |  |
| <b>Model Result with P &gt; .6</b> I | <b>Reason for Determination:</b> |  |
| <b>Date Last Calculated:</b>         |                                  |  |

**Model Probabilities**

| <u>First Stage Model</u>  |               | <u>C or Better Model</u>       |      |
|---------------------------|---------------|--------------------------------|------|
| Class A 0.16              | Class C 0.37  | Class A, B, or C               | 0.99 |
| Class B 0.40              | Class NA 0.06 | Non-Attainment                 | 0.01 |
| <u>B or Better Model</u>  |               | <u>A Model</u>                 |      |
| Class A or B              | 0.12          | Class A                        | 0.20 |
| Class C or Non-Attainment | 0.88          | Class B or C or Non-Attainment | 0.80 |

**Model Variables**

|                                                      |       |                                                                 |       |
|------------------------------------------------------|-------|-----------------------------------------------------------------|-------|
| 01 Total Abundance of Individuals                    | 36.33 | 18 Relative Abundance - Ephemeroptera                           | 0.12  |
| 02 Generic Richness                                  | 22.00 | 19 EPT Generic Richness                                         | 11.00 |
| 03 Plecoptera Abundance                              | 1.33  | 21 Sum of Abundances: <i>Dicrotendipes</i> ,                    | 0.70  |
| 04 Ephemeroptera Abundance                           | 4.33  | <i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i> |       |
| 05 Shannon - Wiener Diversity                        | 2.90  | 23 Relative Generic Richness- Plecoptera                        | 0.14  |
| 06 Hilsenhoff Biotic Index                           | 5.44  | 25 Sum of Abundances: <i>Cheumatopsyche</i> ,                   | 0.00  |
| 07 Relative Abundance - Chironomidae                 | 0.66  | <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>      |       |
| 08 Relative Generic Richness - Diptera               | 0.41  | 26 Sum of Abundances: <i>Acroneuria</i> , <i>Stenonema</i>      | 0.00  |
| 09 <i>Hydropsyche</i> Abundance                      | 0.33  | 28 EP Generic Richness/14                                       | 0.43  |
| 11 <i>Cheumatopsyche</i> Abundance                   | 0.00  | 30 Presence of Class A Indicator Taxa/7                         | 0.00  |
| 12 EPT Generic Richness/ Diptera<br>Generic Richness | 1.22  |                                                                 |       |

**Five Most Dominant Taxa**

|                                                       |      | Taxa Rank | Taxa Name       | Percent |
|-------------------------------------------------------|------|-----------|-----------------|---------|
| 13 Relative Abundance - Oligochaeta                   | 0.00 | 1         | Rheotanytarsus  | 53.61   |
| 15 Perlidae Abundance (Family<br>Functional Group)    | 0.00 | 2         | Ephemerellidae  | 6.41    |
| 16 Tanypodinae Abundance (Family<br>Functional Group) | 1.04 | 3         | Rhyacophila     | 6.41    |
| 17 Chironomini Abundance (Family<br>Functional Group) | 1.39 | 4         | Polypedilum     | 3.83    |
|                                                       |      | 5         | Leptophlebiidae | 3.66    |

Maine Department of Environmental Protection  
Acadia National Park Samples  
Logsheet for Benthic Macroinvertebrates Identified

Michael Winnell -- Freshwater Benthic Services, Inc.

|                     |               |
|---------------------|---------------|
| Sample Log No.:     | 934           |
| Station No.:        | 321           |
| Waterbody Name:     | Hunters Brook |
| Town Name:          |               |
| Date of Collection: | 24-Aug-00     |
| Subsample Factor:   | 1.00          |
| Sampler Type:       | Bag           |

| Chironomidae Subsample (SS) Effort |      |      |      |
|------------------------------------|------|------|------|
|                                    | 1    | 2    | 3    |
| Level of SS Effort                 | none | none | none |
| No. Chir SSed                      |      |      |      |
| No. Chir in SS                     |      |      |      |
| Misc. Chir not SSed                |      |      |      |
| TChir                              | 0    | 0    | 0    |

| Bar Code No. | Taxon              |                |                        | No. identified from sample |       |       |
|--------------|--------------------|----------------|------------------------|----------------------------|-------|-------|
|              | Genus              | Species        | Comment                | Bag 1                      | Bag 2 | Bag 3 |
| 09020307     | Calopterygidae     |                |                        | 1                          | 0     | 0     |
| 09021011004  | Conchapelopia      |                |                        | 0                          | 1     | 0     |
| 09020410     | Ephemerellidae     |                | Ephemerella/Serratella | 0                          | 3     | 4     |
|              | Helopelopia        |                |                        | 0                          | 0     | 1     |
| 09020604016  | Hydropsyche        |                |                        | 0                          | 0     | 1     |
| 09020611064  | Lepidostoma        |                |                        | 0                          | 1     | 1     |
| 09020406     | Leptophlebiidae    |                |                        | 0                          | 2     | 2     |
| 09020204020  | Leuctra            | ferrugineum    |                        | 0                          | 1     | 0     |
| 09020204     | Leuctridae         |                |                        | 0                          | 1     | 0     |
| 09021011070  | Micropsectra       |                |                        | 2                          | 0     | 0     |
| 09020603009  | Nyctiophylax       | moestus        |                        | 1                          | 0     | 1     |
| 09021011013  | Paramerina         |                |                        | 0                          | 0     | 1     |
| 09021011053  | Parametriocnemus   |                |                        | 1                          | 1     | 1     |
| 09020207     | Perlodidae         |                |                        | 0                          | 0     | 2     |
| 09020603010  | Polycentropus      |                |                        | 0                          | 0     | 2     |
| 09021011102  | Polypedilum        | aviceps        |                        | 2                          | 2     | 0     |
| 09021113069  | Promoresia         | tardella       |                        | 0                          | 0     | 3     |
| 09021011072  | Rheotanytarsus     |                |                        | 39                         | 7     | 10    |
| 09020605019  | Rhyacophila        | prob. fuscula  |                        | 1                          | 0     | 1     |
| 09020605019  | Rhyacophila        |                |                        | 2                          | 1     | 2     |
| 09021012047  | Simulium           | aureum complex |                        | 0                          | 0     | 1     |
| 09020402014  | Stenacron          |                |                        | 1                          | 0     | 1     |
| 090206       | Trichoptera        |                |                        | 1                          | 0     | 0     |
| 09021011021  | Trissopelopia      | ogemawi        |                        | 0                          | 1     | 0     |
|              | Unid. Chironominae |                |                        | 0                          | 1     | 0     |
|              | Unid. Tanypodinae  |                |                        | 0                          | 0     | 1     |
|              | Unid. Tanytarsini  |                |                        | 1                          | 0     | 0     |

|               |  |    |    |    |
|---------------|--|----|----|----|
| Total Benthos |  | 52 | 22 | 35 |
| Total OTUs    |  | 11 | 12 | 17 |
| Total spp.    |  | 11 | 10 | 15 |

**Maine Department of Environmental Protection  
Biological Monitoring Unit**

**BioME Aquatic Life Classification Attainment Report**

**Station Information**

|                        |                     |                      |               |
|------------------------|---------------------|----------------------|---------------|
| <b>Station Number:</b> | S362                | <b>DEP Drainage:</b> | Maine Coastal |
| <b>Waterbody:</b>      | Lurvey Spring Brook | <b>HUC Code:</b>     | 01050002      |
| <b>Town:</b>           | Southwest Harbor    | <b>HUC Name:</b>     | Maine Coastal |
| <b>Directions:</b>     | Inlet to Echo Lake  | <b>Latitude:</b>     | Deg Min Sec   |
|                        |                     | <b>Longitude:</b>    | Deg Min Sec   |
|                        |                     | <b>Stream Order:</b> | 1             |

**Sample Information**

|                          |     |                        |             |                        |           |
|--------------------------|-----|------------------------|-------------|------------------------|-----------|
| <b>Log Number:</b>       | 930 | <b>Type of Sample:</b> | Riffle Bags | <b>Date Deployed:</b>  | 27-JUL-00 |
| <b>Subsample Factor:</b> | X1  | <b>Replicates:</b>     | 3           | <b>Date Retrieved:</b> | 25-AUG-00 |

**Classification Attainment**

|                                    |    |                                  |   |
|------------------------------------|----|----------------------------------|---|
| <b>Statutory Class:</b>            | AA | <b>Final Determination:</b>      | B |
| <b>Model Result with P &gt; .6</b> | B  | <b>Reason for Determination:</b> |   |
| <b>Date Last Calculated:</b>       |    |                                  |   |

**Model Probabilities**

First Stage Model

|         |      |          |      |
|---------|------|----------|------|
| Class A | 0.35 | Class C  | 0.15 |
| Class B | 0.50 | Class NA | 0.00 |

B or Better Model

|                           |      |
|---------------------------|------|
| Class A or B              | 0.85 |
| Class C or Non-Attainment | 0.15 |

C or Better Model

|                  |      |
|------------------|------|
| Class A, B, or C | 1.00 |
| Non-Attainment   | 0.00 |

A Model

|                                |      |
|--------------------------------|------|
| Class A                        | 0.54 |
| Class B or C or Non-Attainment | 0.46 |

**Model Variables**

|                                        |        |                                                                 |       |
|----------------------------------------|--------|-----------------------------------------------------------------|-------|
| 01 Total Abundance of Individuals      | 201.33 | 18 Relative Abundance - Ephemeroptera                           | 0.04  |
| 02 Generic Richness                    | 46.00  | 19 EPT Generic Richness                                         | 16.00 |
| 03 Plecoptera Abundance                | 1.67   | 21 Sum of Abundances: <i>Dicrotendipes</i> ,                    | 23.22 |
| 04 Ephemeroptera Abundance             | 8.00   | <i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i> |       |
| 05 Shannon - Wiener Diversity          | 4.30   | 23 Relative Generic Richness- Plecoptera                        | 0.04  |
| 06 Hilsenhoff Biotic Index             | 5.31   | 25 Sum of Abundances: <i>Cheumatopsyche</i> ,                   | 3.07  |
| 07 Relative Abundance - Chironomidae   | 0.69   | <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>      |       |
| 08 Relative Generic Richness - Diptera | 0.43   | 26 Sum of Abundances: <i>Acroneuria</i> , <i>Stenonema</i>      | 0.00  |
| 09 <i>Hydropsyche</i> Abundance        | 0.00   | 28 EP Generic Richness/14                                       | 0.43  |
| 11 <i>Cheumatopsyche</i> Abundance     | 0.00   | 30 Presence of Class A Indicator Taxa/7                         | 0.29  |
| 12 EPT Generic Richness/ Diptera       | 0.80   |                                                                 |       |
| Generic Richness                       |        |                                                                 |       |

**Five Most Dominant Taxa**

|                                     |       | Taxa Rank | Taxa Name      | Percent |
|-------------------------------------|-------|-----------|----------------|---------|
| 13 Relative Abundance - Oligochaeta | 0.01  | 1         | Rheotanytarsus | 16.62   |
| 15 Perlidae Abundance (Family       | 0.00  | 2         | Orthocladus    | 11.88   |
| Functional Group)                   |       | 3         | Micropsectra   | 11.53   |
| 16 Tanypodinae Abundance (Family    | 2.73  | 4         | Tvetenia       | 9.50    |
| Functional Group)                   |       | 5         | Simulium       | 5.46    |
| 17 Chironomini Abundance (Family    | 11.61 |           |                |         |
| Functional Group)                   |       |           |                |         |

Maine Department of Environmental Protection  
Acadia National Park Samples  
Logsheet for Benthic Macroinvertebrates Identified

Michael Winnell -- Freshwater Benthic Services, Inc.

|                     |                  |
|---------------------|------------------|
| Sample Log No.:     | 930              |
| Waterbody Name:     | 362              |
| Town Name:          | Lurvey Spring    |
| Date of Collection: | Southwest Harbor |
| Subsample Factor:   | 1.00             |
| Sampler Type:       | Cone             |

| Chironomidae Subsample (SS) Effort |      |      |      |
|------------------------------------|------|------|------|
|                                    | 1    | 2    | 3    |
| Level of SS Effort                 | none | none | 0.25 |
| No. Chir SSed                      |      |      | 264  |
| No. Chir in SS                     |      |      | 68   |
| Misc. Chir not SSed                |      |      | 5    |
| TChir                              | 0    | 0    | 269  |

| Bar Code No. | Taxon               |                       |                        | No. identified from sample |        |        |
|--------------|---------------------|-----------------------|------------------------|----------------------------|--------|--------|
|              | Genus               | Species               | Comment                | Cone 1                     | Cone 2 | Cone 3 |
| 09020401     | Baetidae            |                       |                        | 0                          | 0      | 1      |
| 09021011033  | Brillia             |                       |                        | 0                          | 0      | 5      |
| 09010101001  | Caecidtoea          | racovitzai            |                        | 1                          | 0      | 0      |
| 09010101001  | Caecidtoea          |                       |                        | 0                          | 2      | 0      |
| 09021011036  | Corynoneura         |                       |                        | 4                          | 5      | 9      |
| 03010101001  | Cura                | foremanii             |                        | 0                          | 1      | 0      |
| 09021115     | Curculionidae       |                       |                        | 1                          | 0      | 0      |
| 09021001005  | Dicranota           |                       |                        | 0                          | 0      | 1      |
| 09020601001  | Dolophilodes        |                       |                        | 0                          | 0      | 1      |
| 09020410     | Ephemerellidae      |                       |                        | 0                          | 0      | 1      |
| 09020410     | Ephemerellidae      |                       | Ephemerella/Serratella | 2                          | 1      | 10     |
| 09021011041  | Eukiefferiella      | claripennis-gr. sp. 3 |                        | 0                          | 0      | 1      |
| 09021011041  | Eukiefferiella      |                       |                        | 0                          | 1      | 12     |
| 09020410036  | Eurylophella        |                       |                        | 0                          | 4      | 0      |
| 09021011044  | Heterotrissocladius |                       |                        | 1                          | 1      | 0      |
| 09020610048  | Hydatophylax        | argus                 |                        | 0                          | 1      | 0      |
| 09020604     | Hydropsychidae      |                       |                        | 1                          | 0      | 4      |
|              | Hygrobates          |                       |                        | 0                          | 7      | 3      |
| 09020102     | Isotomidae          |                       |                        | 1                          | 0      | 0      |
| 09021011009  | Larsia              |                       |                        | 1                          | 3      | 0      |
|              | Lebertia            |                       |                        | 0                          | 0      | 1      |
| 09020611064  | Lepidostoma         |                       |                        | 2                          | 0      | 1      |
| 09020406     | Leptophlebiidae     |                       |                        | 0                          | 5      | 0      |
| 09020610     | Limnephilidae       |                       |                        | 0                          | 1      | 0      |
| 09021011010  | Meropelopia         |                       |                        | 0                          | 1      | 0      |
| 09021011070  | Micropsectra        |                       |                        | 13                         | 8      | 47     |
| 09021011094  | Microtendipes       | pedellus-gr.          |                        | 7                          | 2      | 0      |
| 08020202009  | Nais                | behningi              |                        | 0                          | 2      | 2      |
| 09020610062  | Neophylax           |                       |                        | 1                          | 0      | 1      |
| 09020608039  | Oligostomis         |                       |                        | 0                          | 1      | 0      |
| 09021011050  | Orthocladius        | annectens             |                        | 9                          | 29     | 32     |
| 09021113068  | Oulimnius           | latiusculus           |                        | 0                          | 4      | 0      |
| 09020607028  | Oxyethira           |                       |                        | 5                          | 11     | 7      |
| 09020203018  | Paracapnia          |                       |                        | 0                          | 3      | 0      |

| Bar Code No. | Taxon                |                   |              | No. identified from sample |        |        |
|--------------|----------------------|-------------------|--------------|----------------------------|--------|--------|
|              | Genus                | Species           | Comment      | Cone 1                     | Cone 2 | Cone 3 |
| 09020604013  | Parapsyche           | apicalis          |              | 0                          | 0      | 32     |
| 09021011102  | Polypedilum          | aviceps           |              | 2                          | 0      | 23     |
| 09021113069  | Promoresia           | tardella          |              | 7                          | 4      | 8      |
| 09020614068  | Psilotreta           |                   |              | 1                          | 0      | 0      |
| 09021011057  | Rheocricotopus       | pauciseta         |              | 5                          | 4      | 8      |
| 09021011057  | Rheocricotopus       |                   |              | 0                          | 1      | 0      |
| 09021011072  | Rheotanytarsus       |                   |              | 23                         | 10     | 65     |
| 09020605019  | Rhyacophila          | cf. carolina      |              | 0                          | 0      | 1      |
| 09020605019  | Rhyacophila          |                   |              | 1                          | 1      | 0      |
| 09021012     | Simuliidae           |                   |              | 0                          | 0      | 1      |
| 09021012047  | Simulium             | aureum complex    |              | 0                          | 1      | 0      |
| 09021012047  | Simulium             | tuberosum complex |              | 4                          | 0      | 28     |
|              | Sperchon             |                   |              | 2                          | 2      | 1      |
| 09020208040  | Sweltsa              |                   |              | 0                          | 1      | 1      |
| 09021011076  | Tanytarsus           | sp. 06            |              | 6                          | 3      | 0      |
| 09021011062  | Thienemanniella      | boltoni           |              | 0                          | 1      | 0      |
| 09021011062  | Thienemanniella      | xena              |              | 0                          | 0      | 5      |
| 090206       | Trichoptera          |                   | early instar | 0                          | 1      | 1      |
| 09021011021  | Trissopelopia        |                   |              | 0                          | 1      | 0      |
| 09021011065  | Tvetenia             | bavarica-gr.      |              | 2                          | 0      | 54     |
|              | Unid. Chironomini    |                   | early instar | 0                          | 0      | 4      |
|              | Unid. Orthocladiinae |                   | early instar | 0                          | 1      | 4      |
|              | Unid. Tanypodinae    |                   | early instar | 1                          | 0      | 0      |
| 09021011022  | Zavrelimyia          |                   |              | 1                          | 1      | 0      |

|                      |  |            |            |            |
|----------------------|--|------------|------------|------------|
| <b>Total Benthos</b> |  | <b>104</b> | <b>125</b> | <b>375</b> |
| <b>Total OTUs</b>    |  | <b>26</b>  | <b>35</b>  | <b>33</b>  |
| <b>Total spp.</b>    |  | <b>25</b>  | <b>32</b>  | <b>27</b>  |

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

**Station Information**

|                                          |                             |
|------------------------------------------|-----------------------------|
| Station Number: S361                     | DEP Drainage: Maine Coastal |
| Waterbody: Heath Brook                   | HUC Code: 01050002          |
| Location: Tremont                        | HUC Name: Maine Coastal     |
| Directions: Below Seal Cove Rd. crossing | Latitude: Deg Min Sec       |
|                                          | Longitude: Deg Min Sec      |
|                                          | Stream Order: 1             |

**Sample Information**

|                      |                             |                           |
|----------------------|-----------------------------|---------------------------|
| Log Number: 935      | Type of Sample: Riffle Bags | Date Deployed: 28-JUL-00  |
| Subsample Factor: X1 | Replicates: 3               | Date Retrieved: 29-AUG-00 |

**Classification Attainment**

|                            |                           |
|----------------------------|---------------------------|
| Statutory Class: AA        | Final Determination: C    |
| Model Result with P > .6 C | Reason for Determination: |
| Date Last Calculated:      |                           |

**Model Probabilities**

| <u>First Stage Model</u>       |               | <u>C or Better Model</u>            |  |
|--------------------------------|---------------|-------------------------------------|--|
| Class A 0.02                   | Class C 0.66  | Class A, B, or C 0.85               |  |
| Class B 0.21                   | Class NA 0.11 | Non-Attainment 0.15                 |  |
| <u>B or Better Model</u>       |               | <u>A Model</u>                      |  |
| Class A or B 0.00              |               | Class A 0.01                        |  |
| Class C or Non-Attainment 1.00 |               | Class B or C or Non-Attainment 0.99 |  |

**Model Variables**

|                                       |        |                                                                 |       |
|---------------------------------------|--------|-----------------------------------------------------------------|-------|
| 1 Total Abundance of Individuals      | 115.33 | 18 Relative Abundance - Ephemeroptera                           | 0.09  |
| 2 Generic Richness                    | 27.00  | 19 EPT Generic Richness                                         | 4.00  |
| 3 Plecoptera Abundance                | 0.33   | 21 Sum of Abundances: <i>Dicrotendipes</i> ,                    | 0.37  |
| 4 Ephemeroptera Abundance             | 10.33  | <i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i> |       |
| 5 Shannon - Wiener Diversity          | 2.18   | 23 Relative Generic Richness- Plecoptera                        | 0.04  |
| 6 Hilsenhoff Biotic Index             | 5.70   | 25 Sum of Abundances: <i>Cheumatopsyche</i> ,                   | 76.69 |
| 7 Relative Abundance - Chironomidae   | 0.84   | <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>      |       |
| 8 Relative Generic Richness - Diptera | 0.52   | 26 Sum of Abundances: <i>Acroneuria</i> , <i>Stenonema</i>      | 0.00  |
| 9 <i>Hydropsyche</i> Abundance        | 0.00   | 28 EP Generic Richness/14                                       | 0.14  |
| 1 <i>Cheumatopsyche</i> Abundance     | 0.00   | 30 Presence of Class A Indicator Taxa/7                         | 0.14  |
| 2 EPT Generic Richness/ Diptera       | 0.29   |                                                                 |       |
| Generic Richness                      |        |                                                                 |       |

**Five Most Dominant Taxa**

|                                    |      | Taxa Rank | Taxa Name       | Percent |
|------------------------------------|------|-----------|-----------------|---------|
| 3 Relative Abundance - Oligochaeta | 0.01 | 1         | Tanytarsus      | 66.17   |
| 5 Perlidae Abundance (Family       | 0.00 | 2         | Leptophlebiidae | 8.67    |
| Functional Group)                  |      | 3         | Nanocladius     | 7.03    |
| 6 Tanypodinae Abundance (Family    | 3.69 | 4         | Rheocricotopus  | 2.56    |
| Functional Group)                  |      | 5         | Zavreliomyia    | 1.60    |
| 7 Chironomini Abundance (Family    | 0.37 |           |                 |         |
| Functional Group)                  |      |           |                 |         |

Maine Department of Environmental Protection  
Acadia National Park Samples  
Logsheet for Benthic Macroinvertebrates Identified

Michael Winnell -- Freshwater Benthic Services, Inc.

|                     |             |
|---------------------|-------------|
| Sample Log No.:     | 935         |
| Station No.:        | 361         |
| Waterbody Name:     | Heath Brook |
| Town Name:          |             |
| Date of Collection: | 29-Aug-00   |
| Subsample Factor:   | 1.00        |
| Sampler Type:       | Bag         |

| Chironomidae Subsample (SS) Effort |      |      |      |
|------------------------------------|------|------|------|
|                                    | 1    | 2    | 3    |
| Level of SS Effort                 | none | none | 0.25 |
| No. Chir SSed                      |      |      | 247  |
| No. Chir in SS                     |      |      | 61   |
| Misc. Chir not SSed                |      |      | 7    |
| TChir                              | 0    | 0    | 254  |

| Bar Code No. | Taxon                 |                            |         | No. identified from sample |       |       |
|--------------|-----------------------|----------------------------|---------|----------------------------|-------|-------|
|              | Genus                 | Species                    | Comment | Bag 1                      | Bag 2 | Bag 3 |
| 09021011001  | Ablabesmyia           | mallochi                   |         | 1                          | 0     | 0     |
| 08020301001  | Aeolosoma             |                            |         | 0                          | 0     | 1     |
| 09020301004  | Boyeria               | vinosa                     |         | 1                          | 0     | 0     |
| 08020202002  | Chaetogaster          | diastrophus                |         | 0                          | 0     | 1     |
| 09021011036  | Corynoneura           |                            |         | 0                          | 1     | 1     |
| 03010101001  | Cura                  | foremanii                  |         | 1                          | 1     | 2     |
| 090204       | Ephemeroptera         |                            |         | 0                          | 0     | 1     |
| 09021011041  | Eukiefferiella        |                            |         | 0                          | 0     | 1     |
| 09010203006  | Hyalella              | azteca                     |         | 0                          | 0     | 1     |
| 09020406     | Leptophlebiidae       |                            |         | 1                          | 17    | 12    |
| 09020204020  | Leuctra               |                            |         | 0                          | 1     | 0     |
| 09021011070  | Micropsectra          |                            |         | 0                          | 1     | 0     |
| 09021011094  | Microtendipes         | pedellus-gr.               |         | 0                          | 1     | 0     |
| 09021011049  | Nanocladius           | crassicornus/rectinervis   |         | 0                          | 1     | 5     |
| 09021011049  | Nanocladius           |                            |         | 0                          | 0     | 16    |
| 09021011050  | Orthocladius          | (O.) annectens             |         | 0                          | 0     | 5     |
| 09021011053  | Parametriocnemus      |                            |         | 0                          | 1     | 1     |
|              | Phagochaeta           | gracilis                   |         | 0                          | 2     | 0     |
| 09020603010  | Polycentropus         |                            |         | 2                          | 2     | 1     |
| 08020202004  | Pristina              | cf. proboscidea            |         | 0                          | 0     | 1     |
| 09021011056  | Psectrocladius        | psilopterus-grp. cf. sp. 1 |         | 0                          | 0     | 1     |
| 09020614068  | Psilotreta            | frontalis                  |         | 0                          | 1     | 0     |
| 09021011057  | Rheocricotopus        | cf. tuberculatus           |         | 0                          | 0     | 8     |
| 09021011074  | Stempellinella        | cf. leptocelloides         |         | 0                          | 0     | 4     |
| 09021113070  | Stenelmis             | crenata                    |         | 0                          | 2     | 0     |
| 09021113070  | Stenelmis             |                            |         | 0                          | 2     | 0     |
| 09021011076  | Tanytarsus            | sp. 06                     |         | 0                          | 2     | 4     |
| 09021011076  | Tanytarsus            | sp. 08C                    |         | 5                          | 23    | 102   |
| 09021011076  | Tanytarsus            | sp. 09                     |         | 0                          | 0     | 16    |
| 09021011076  | Tanytarsus            |                            |         | 0                          | 2     | 53    |
| 09021011021  | Trissopelopia         | ogemawi                    |         | 0                          | 0     | 4     |
|              | Unid. Orthoclaadiinae |                            |         | 0                          | 0     | 8     |
|              | Unid. Tanytarsini     |                            |         | 0                          | 0     | 20    |

| Bar Code No. | Taxon         |         |         | No. identified from sample |       |       |
|--------------|---------------|---------|---------|----------------------------|-------|-------|
|              | Genus         | Species | Comment | Bag 1                      | Bag 2 | Bag 3 |
| 08020202015  | Vejdovskyella | comata  |         | 0                          | 0     | 1     |
| 09021011022  | Zavreliomyia  |         |         | 0                          | 0     | 5     |

|                      |  |           |           |            |
|----------------------|--|-----------|-----------|------------|
| <b>Total Benthos</b> |  | <b>11</b> | <b>60</b> | <b>275</b> |
| <b>Total OTUs</b>    |  | <b>6</b>  | <b>16</b> | <b>26</b>  |
| <b>Total spp.</b>    |  | <b>6</b>  | <b>14</b> | <b>211</b> |

**Maine Department of Environmental Protection  
Biological Monitoring Unit**

**BioME Aquatic Life Classification Attainment Report**

**Station Information**

|                        |                  |                      |               |
|------------------------|------------------|----------------------|---------------|
| <b>Station Number:</b> | S455             | <b>DEP Drainage:</b> | Maine Coastal |
| <b>Waterbody:</b>      | Marshall Brook   | <b>HUC Code:</b>     | 01050002      |
| <b>Town:</b>           | Southwest Harbor | <b>HUC Name:</b>     | Maine Coastal |
| <b>Directions:</b>     | CHECK LOCATION   | <b>Latitude:</b>     | Deg Min Sec   |
|                        |                  | <b>Longitude:</b>    | Deg Min Sec   |
|                        |                  | <b>Stream Order:</b> | 2             |

**Sample Information**

|                          |     |                        |             |                        |           |
|--------------------------|-----|------------------------|-------------|------------------------|-----------|
| <b>Log Number:</b>       | 936 | <b>Type of Sample:</b> | Riffle Bags | <b>Date Deployed:</b>  | 27-JUL-00 |
| <b>Subsample Factor:</b> | X1  | <b>Replicates:</b>     | 3           | <b>Date Retrieved:</b> | 25-AUG-00 |

**Classification Attainment**

|                                    |    |                                  |   |
|------------------------------------|----|----------------------------------|---|
| <b>Statutory Class:</b>            | AA | <b>Final Determination:</b>      | A |
| <b>Model Result with P &gt; .6</b> | A  | <b>Reason for Determination:</b> |   |
| <b>Date Last Calculated:</b>       |    |                                  |   |

**Model Probabilities**

| <u>First Stage Model</u>  |      | <u>C or Better Model</u>       |      |
|---------------------------|------|--------------------------------|------|
| Class A                   | 0.45 | Class A, B, or C               | 1.00 |
| Class B                   | 0.49 | Non-Attainment                 | 0.00 |
|                           |      |                                |      |
| <u>B or Better Model</u>  |      | <u>A Model</u>                 |      |
| Class A or B              | 0.99 | Class A                        | 0.93 |
| Class C or Non-Attainment | 0.01 | Class B or C or Non-Attainment | 0.07 |

**Model Variables**

| 01 Total Abundance of Individuals      | 209.33 | 18 Relative Abundance - Ephemeroptera                           | 0.07           |
|----------------------------------------|--------|-----------------------------------------------------------------|----------------|
| 02 Generic Richness                    | 44.00  | 19 EPT Generic Richness                                         | 19.00          |
| 03 Plecoptera Abundance                | 3.67   | 21 Sum of Abundances: <i>Dicrotendipes</i> ,                    | 15.86          |
| 04 Ephemeroptera Abundance             | 14.00  | <i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i> |                |
| 05 Shannon - Wiener Diversity          | 3.83   | 23 Relative Generic Richness- Plecoptera                        | 0.09           |
| 06 Hilsenhoff Biotic Index             | 4.91   | 25 Sum of Abundances: <i>Cheumatopsyche</i> ,                   | 2.36           |
| 07 Relative Abundance - Chironomidae   | 0.52   | <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>      |                |
| 08 Relative Generic Richness - Diptera | 0.43   | 26 Sum of Abundances: <i>Acroneuria</i> , <i>Stenonema</i>      | 0.67           |
| 09 <i>Hydropsyche</i> Abundance        | 43.33  | 28 EP Generic Richness/14                                       | 0.71           |
| 11 <i>Cheumatopsyche</i> Abundance     | 0.00   | 30 Presence of Class A Indicator Taxa/7                         | 0.43           |
| 12 EPT Generic Richness/ Diptera       | 1.00   |                                                                 |                |
| Generic Richness                       |        |                                                                 |                |
| 13 Relative Abundance - Oligochaeta    | 0.00   | <u>Five Most Dominant Taxa</u>                                  |                |
| 15 Perlidae Abundance (Family          | 0.00   | Taxa Rank                                                       | Taxa Name      |
| Functional Group)                      |        |                                                                 | Percent        |
| 16 Tanypodinae Abundance (Family       | 2.36   | 1                                                               | Hydropsyche    |
| Functional Group)                      |        | 2                                                               | Rheotanytarsus |
| 17 Chironomini Abundance (Family       | 11.14  | 3                                                               | Promoresia     |
| Functional Group)                      |        | 4                                                               | Tvetenia       |
|                                        |        | 5                                                               | Micropsectra   |

Maine Department of Environmental Protection  
Acadia National Park Samples  
Logsheet for Benthic Macroinvertebrates Identified

Michael Winnell -- Freshwater Benthic Services, Inc.

|                     |                |
|---------------------|----------------|
| Sample Log No.:     | 936            |
| Station No.:        | 455            |
| Waterbody Name:     | Marshall Brook |
| Town Name:          |                |
| Date of Collection: | 25-Aug-00      |
| Subsample Factor:   | 1.00           |
| Sampler Type:       | Bag            |

| Chironomidae Subsample (SS) Effort |      |      |     |
|------------------------------------|------|------|-----|
|                                    | 1    | 2    | 3   |
| Level of SS Effort                 | none | none | 0.5 |
| No. Chir SSed                      |      |      | 188 |
| No. Chir in SS                     |      |      | 95  |
| Misc. Chir not SSed                |      |      | 0   |
| TChir                              | 0    | 0    | 188 |

| Bar Code No. | Taxon            |                 |                         | No. identified from sample |       |       |
|--------------|------------------|-----------------|-------------------------|----------------------------|-------|-------|
|              | Genus            | Species         | Comment                 | Bag 1                      | Bag 2 | Bag 3 |
|              | Acerpenna        | macdunnoughi    |                         | 3                          | 1     | 9     |
| 09020301004  | Boyeria          | grafiana        |                         | 2                          | 1     | 4     |
| 09021011     | Chironomidae     |                 |                         | 1                          | 0     | 0     |
| 09021011004  | Conchapelopia    |                 |                         | 0                          | 0     | 2     |
| 09021011036  | Corynoneura      |                 |                         | 1                          | 2     | 12    |
| 09021011037  | Cricotopus       | (C.) bicinctus  |                         | 0                          | 4     | 2     |
| 09020410036  | Eurylophella     |                 |                         | 3                          | 5     | 2     |
| 09020606020  | Glossosoma       |                 |                         | 2                          | 0     | 0     |
| 09020402     | Heptageniidae    |                 |                         | 0                          | 0     | 2     |
| 09010203006  | Hyalella         | azteca          |                         | 0                          | 0     | 1     |
| 02010101001  | Hydra            |                 |                         | 0                          | 1     | 0     |
| 09020604016  | Hydropsyche      | ventura         |                         | 0                          | 2     | 3     |
| 09020604016  | Hydropsyche      |                 |                         | 8                          | 23    | 94    |
| 09020604     | Hydropsychidae   |                 |                         | 0                          | 1     | 0     |
| 09020607026  | Hydroptila       |                 |                         | 0                          | 0     | 1     |
|              | Hygrobatas       |                 |                         | 1                          | 0     | 0     |
| 09020611064  | Lepidostoma      |                 |                         | 0                          | 0     | 3     |
| 09020406     | Leptophlebiidae  |                 |                         | 0                          | 5     | 5     |
| 09020204020  | Leuctra          | ferrugineum     |                         | 0                          | 0     | 1     |
| 09020204020  | Leuctra          | truncata        |                         | 1                          | 0     | 2     |
| 09020610     | Limnephilidae    |                 | pupa                    | 0                          | 1     | 0     |
| 09021011047  | Limnophyes       |                 |                         | 1                          | 0     | 0     |
| 09021011010  | Meropelopia      |                 |                         | 1                          | 0     | 2     |
| 09021011070  | Micropsectra     |                 |                         | 10                         | 11    | 26    |
| 09021011094  | Microtendipes    | pedellus-gr.    |                         | 0                          | 5     | 0     |
| 09020608039  | Oligostomis      |                 |                         | 1                          | 0     | 0     |
| 09021011050  | Orthocladius     | (O.) carlatus   |                         | 0                          | 3     | 6     |
| 09021011050  | Orthocladius     | (O.) annectens  |                         | 0                          | 0     | 2     |
| 09021011050  | Orthocladius     | (O.) obumbratus |                         | 0                          | 1     | 0     |
| 09021011025  | Pagastia         | orthogonia      |                         | 4                          | 7     | 8     |
| 09020203018  | Paracapnia       |                 | prob. Paracapnia - earl | 0                          | 0     | 2     |
| 09021011052  | Parakiefferiella |                 |                         | 0                          | 5     | 8     |
| 09020406026  | Paraleptophlebia |                 |                         | 0                          | 3     | 2     |

| Bar Code No. | Taxon                 |              |         | No. identified from sample |       |       |
|--------------|-----------------------|--------------|---------|----------------------------|-------|-------|
|              | Genus                 | Species      | Comment | Bag 1                      | Bag 2 | Bag 3 |
| 09021011053  | Parametriocnemus      |              |         | 1                          | 0     | 0     |
| 09020207     | Perlodidae            |              |         | 0                          | 0     | 2     |
| 10010202027  | Physella              |              |         | 0                          | 0     | 1     |
| 09020603010  | Polycentropus         |              |         | 0                          | 0     | 1     |
| 09021011102  | Polypedilum           | aviceps      |         | 12                         | 10    | 6     |
| 09021113069  | Promoresia            | tardella     |         | 21                         | 47    | 25    |
| 09020614068  | Psilotreta            |              |         | 0                          | 0     | 2     |
| 09020610060  | Psychoglypha          | subborealis  |         | 0                          | 1     | 0     |
| 09021011057  | Rheocricotopus        | pauciseta    |         | 0                          | 0     | 2     |
| 09021011072  | Rheotanytarsus        |              |         | 22                         | 25    | 47    |
| 09020402015  | Stenonema             | modestum     |         | 0                          | 2     | 0     |
| 09020208040  | Sweltsa               |              |         | 1                          | 1     | 1     |
| 09021011061  | Synorthocladius       |              |         | 1                          | 0     | 0     |
| 09021011076  | Tanytarsus            | sp. 08-gr.   |         | 0                          | 1     | 0     |
| 09021011062  | Thienemanniella       | boltoni      |         | 0                          | 0     | 4     |
| 09021011062  | Thienemanniella       |              |         | 1                          | 0     | 0     |
| 09021011021  | Trissopelopia         | ogemawi      |         | 0                          | 2     | 0     |
| 09021011065  | Tvetenia              | bavarica-gr. |         | 2                          | 5     | 61    |
|              | Unid. Chironominae    |              |         | 0                          | 2     | 0     |
|              | Unid. Orthoclaadiinae |              |         | 1                          | 0     | 0     |

|                      |  |            |            |            |
|----------------------|--|------------|------------|------------|
| <b>Total Benthos</b> |  | <b>101</b> | <b>177</b> | <b>351</b> |
| <b>Total OTUs</b>    |  | <b>23</b>  | <b>28</b>  | <b>34</b>  |
| <b>Total spp.</b>    |  | <b>21</b>  | <b>23</b>  | <b>32</b>  |

**Appendix B**  
**2001 Data**

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

**Station Information**

|                                |                             |
|--------------------------------|-----------------------------|
| Station Number: S322           | DEP Drainage: Maine Coastal |
| Waterbody: Duck Brook          | HUC Code: 01050002          |
| Town: Bar Harbor               | HUC Name: Maine Coastal     |
| Directions: New Eagle Lake Rd. | Latitude: Deg Min Sec       |
|                                | Longitude: Deg Min Sec      |
|                                | Stream Order: 1             |

**Sample Information**

|                      |                             |                           |
|----------------------|-----------------------------|---------------------------|
| Log Number: 1104     | Type of Sample: Riffle Bags | Date Deployed: 03-AUG-01  |
| Subsample Factor: X1 | Replicates: 3               | Date Retrieved: 04-SEP-01 |

**Classification Attainment**

|                            |                           |  |
|----------------------------|---------------------------|--|
| Statutory Class: AA        | Final Determination: C    |  |
| Model Result with P > .6 C | Reason for Determination: |  |
| Date Last Calculated:      |                           |  |

**Model Probabilities**

First Stage Model

|         |      |          |      |
|---------|------|----------|------|
| Class A | 0.01 | Class C  | 0.77 |
| Class B | 0.15 | Class NA | 0.08 |

B or Better Model

|                           |      |
|---------------------------|------|
| Class A or B              | 0.00 |
| Class C or Non-Attainment | 1.00 |

C or Better Model

|                  |      |
|------------------|------|
| Class A, B, or C | 0.98 |
| Non-Attainment   | 0.02 |

A Model

|                                |      |
|--------------------------------|------|
| Class A                        | 0.06 |
| Class B or C or Non-Attainment | 0.94 |

**Model Variables**

|                                        |        |                                                                 |       |
|----------------------------------------|--------|-----------------------------------------------------------------|-------|
| 01 Total Abundance of Individuals      | 145.67 | 18 Relative Abundance - Ephemeroptera                           | 0.06  |
| 02 Generic Richness                    | 38.00  | 19 EPT Generic Richness                                         | 10.00 |
| 03 Plecoptera Abundance                | 0.67   | 21 Sum of Abundances: <i>Dicrotendipes</i> ,                    | 1.33  |
| 04 Ephemeroptera Abundance             | 9.33   | <i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i> |       |
| 05 Shannon - Wiener Diversity          | 3.00   | 23 Relative Generic Richness- Plecoptera                        | 0.03  |
| 06 Hilsenhoff Biotic Index             | 7.12   | 25 Sum of Abundances: <i>Cheumatopsyche</i> ,                   | 9.67  |
| 07 Relative Abundance - Chironomidae   | 0.73   | <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>      |       |
| 08 Relative Generic Richness - Diptera | 0.37   | 26 Sum of Abundances: <i>Acroneuria</i> , <i>Stenonema</i>      | 3.33  |
| 09 <i>Hydropsyche</i> Abundance        | 0.00   | 28 EP Generic Richness/14                                       | 0.43  |
| 10 <i>Cheumatopsyche</i> Abundance     | 0.00   | 30 Presence of Class A Indicator Taxa/7                         | 0.29  |
| 02 EPT Generic Richness/ Diptera       | 0.71   |                                                                 |       |
| Generic Richness                       |        |                                                                 |       |

**Five Most Dominant Taxa**

|                                     |      | Taxa Rank | Taxa Name      | Percent |
|-------------------------------------|------|-----------|----------------|---------|
| 03 Relative Abundance - Oligochaeta | 0.00 | 1         | Psectrocladius | 57.44   |
| 05 Perlidae Abundance (Family       | 0.67 | 2         | Physella       | 3.89    |
| Functional Group)                   |      | 3         | Microtendipes  | 3.66    |
| 06 Tanypodinae Abundance (Family    | 7.33 | 4         | Ablabesmyia    | 3.21    |
| Functional Group)                   |      | 5         | Promoesia      | 2.97    |
| 07 Chironomini Abundance (Family    | 6.00 |           |                |         |
| Functional Group)                   |      |           |                |         |

Maine Department of Environmental Protection  
Acadia National Park Samples  
Logsheet for Benthic Macroinvertebrates Identified

Michael Winnell -- Freshwater Benthic Services, Inc.

|                     |            |
|---------------------|------------|
| Sample Log No.:     | 1104       |
| Station No.:        | 322        |
| Waterbody Name:     | Duck Brook |
| Town Name:          | Bar Harbor |
| Date of Collection: | 04-Sep-01  |
| Subsample Factor:   | 1.00       |
| Sampler Type:       | Bag        |

| Chironomidae Subsample (SS) Effort |      |     |     |
|------------------------------------|------|-----|-----|
|                                    | 1    | 2   | 3   |
| Level of SS Effort                 | none | 0.5 | 0.5 |
| No. Chir SSed                      |      | 178 | 136 |
| No. Chir in SS                     |      | 89  | 68  |
| Misc. Chir not SSed                |      | 1   | 0   |
| TChir                              | 0    | 179 | 136 |

| Bar Code No. | Taxon                    |                |            | No. identified from sample |       |       |
|--------------|--------------------------|----------------|------------|----------------------------|-------|-------|
|              | Genus                    | Species        | Comment    | Bag 1                      | Bag 2 | Bag 3 |
| 09021011001  | Ablabesmyia              | mallochi       |            | 0                          | 2     | 12    |
|              | Acerpenna                | pygmaea        |            | 2                          | 0     | 0     |
| 09020209042  | Acroncuria               |                |            | 1                          | 0     | 1     |
| 10010104013  | Amnicola                 | limosa         |            | 0                          | 1     | 0     |
| 09021008028  | Anopheles                |                |            | 0                          | 0     | 5     |
| 100102       | Basommatophora           |                |            | 0                          | 0     | 2     |
| 09020301004  | Boyeria                  | grafiana       |            | 1                          | 0     | 0     |
| 09020301004  | Boyeria                  | vinosa         |            | 0                          | 2     | 3     |
| 09020307     | Calopterygidae           |                |            | 1                          | 0     | 0     |
|              | Conchapelopia genus-grp. |                |            | 0                          | 4     | 0     |
| 09021011036  | Corynoneura              |                |            | 0                          | 2     | 0     |
| 09021011037  | Cricotopus               | (C.) bicinctus |            | 0                          | 4     | 4     |
| 03010101001  | Cura                     | foremanii      |            | 0                          | 1     | 1     |
| 09021011085  | Dicrotendipes            |                |            | 0                          | 2     | 0     |
| 09021113064  | Dubiraphia               |                |            | 0                          | 0     | 1     |
| 03010101002  | Dugesia                  | tigrina        |            | 6                          | 1     | 3     |
| 09020410036  | Eurylophella             |                |            | 0                          | 5     | 1     |
|              | Helopelopia              |                |            | 0                          | 2     | 2     |
| 09021016057  | Hemerodromia             |                |            | 0                          | 1     | 0     |
| 09010203006  | Hyaella                  | azteca         |            | 0                          | 0     | 1     |
| 09020406     | Leptophlebiidae          |                |            | 0                          | 1     | 0     |
| 09021113066  | Microcylloepus           | pusillus       |            | 0                          | 1     | 0     |
| 09021011070  | Micropsectra             |                |            | 0                          | 2     | 0     |
| 09021011094  | Microtendipes            | pedellus-grp.  |            | 0                          | 12    | 4     |
| 09020510025  | Microvelia               |                |            | 0                          | 0     | 1     |
| 09020701003  | Nigronia                 | serricornis    |            | 0                          | 1     | 1     |
| 09020603009  | Nyctiophylax             | moestus        |            | 1                          | 1     | 1     |
| 09020618078  | Oecetis                  | persimilis     |            | 1                          | 2     | 0     |
| 09021011050  | Orthocladius             | carlatus       |            | 0                          | 2     | 2     |
| 10010202027  | Physella                 |                |            | 2                          | 4     | 11    |
| 03010101     | Planariidae              |                | inc. spec. | 1                          | 0     | 0     |
| 09020603010  | Polycentropus            |                |            | 1                          | 3     | 1     |
| 09021113069  | Promoresia               | tardella       |            | 0                          | 11    | 2     |

| Bar Code No. | Taxon          |                            |         | No. identified from sample |       |       |
|--------------|----------------|----------------------------|---------|----------------------------|-------|-------|
|              | Genus          | Species                    | Comment | Bag 1                      | Bag 2 | Bag 3 |
| 09021011056  | Psectrocladius | elatus                     |         | 0                          | 0     | 2     |
| 09021011056  | Psectrocladius | psilopterus-grp. cf. sp. 1 |         | 3                          | 142   | 104   |
| 09021108058  | Psephenus      | herricki                   |         | 2                          | 2     | 2     |
| 09020614068  | Psilotreta     | frontalis                  |         | 3                          | 1     | 2     |
| 09020402014  | Stenacron      |                            |         | 0                          | 3     | 8     |
| 09020402015  | Stenonema      |                            |         | 6                          | 1     | 1     |
|              | Synurella      | chamberlaini               |         | 1                          | 0     | 0     |
| 09021011076  | Tanytarsus     | glabrascens-gr. sp. 1      |         | 0                          | 3     | 4     |
| 09021011021  | Trissopelopia  | ogemawi                    |         | 0                          | 2     | 2     |

|                      |  |           |            |            |
|----------------------|--|-----------|------------|------------|
| <b>Total Benthos</b> |  | <b>32</b> | <b>221</b> | <b>184</b> |
| <b>Total OTUs</b>    |  | <b>15</b> | <b>30</b>  | <b>28</b>  |
| <b>Total spp.</b>    |  | <b>14</b> | <b>29</b>  | <b>27</b>  |

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

**Station Information**

|                                                                                                                                          |                                                                                                                                                                                              |
|------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Station Number:</b> S323<br><b>Waterbody:</b> Stanley Brook<br><b>Town:</b> Tremont<br><b>Directions:</b> Above Rt. 3; Park Loop Road | <b>DEP Drainage:</b> Maine Coastal<br><b>HUC Code:</b> 01050002<br><b>HUC Name:</b> Maine Coastal<br><b>Latitude:</b> Deg Min Sec<br><b>Longitude:</b> Deg Min Sec<br><b>Stream Order:</b> 1 |
|------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**Sample Information**

|                             |                                    |                                  |
|-----------------------------|------------------------------------|----------------------------------|
| <b>Log Number:</b> 1107     | <b>Type of Sample:</b> Riffle Bags | <b>Date Deployed:</b> 01-AUG-01  |
| <b>Subsample Factor:</b> X1 | <b>Replicates:</b> 3               | <b>Date Retrieved:</b> 29-AUG-01 |

**Classification Attainment**

|                                      |                                  |
|--------------------------------------|----------------------------------|
| <b>Statutory Class:</b> AA           | <b>Final Determination:</b> A    |
| <b>Model Result with P &gt; .6</b> A | <b>Reason for Determination:</b> |
| <b>Date Last Calculated:</b>         |                                  |

**Model Probabilities**

First Stage Model

|         |      |          |      |
|---------|------|----------|------|
| Class A | 0.90 | Class C  | 0.00 |
| Class B | 0.10 | Class NA | 0.00 |

B or Better Model

|                           |      |
|---------------------------|------|
| Class A or B              | 1.00 |
| Class C or Non-Attainment | 0.00 |

C or Better Model

|                  |      |
|------------------|------|
| Class A, B, or C | 1.00 |
| Non-Attainment   | 0.00 |

A Model

|                                |      |
|--------------------------------|------|
| Class A                        | 1.00 |
| Class B or C or Non-Attainment | 0.00 |

**Model Variables**

|                                        |       |                                                                 |       |
|----------------------------------------|-------|-----------------------------------------------------------------|-------|
| 01 Total Abundance of Individuals      | 76.33 | 18 Relative Abundance - Ephemeroptera                           | 0.31  |
| 02 Generic Richness                    | 33.00 | 19 EPT Generic Richness                                         | 15.00 |
| 03 Plecoptera Abundance                | 1.67  | 21 Sum of Abundances: <i>Dicrotendipes</i> ,                    | 1.40  |
| 04 Ephemeroptera Abundance             | 24.00 | <i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i> |       |
| 05 Shannon - Wiener Diversity          | 3.65  | 23 Relative Generic Richness- Plecoptera                        | 0.09  |
| 06 Hilsenhoff Biotic Index             | 3.14  | 25 Sum of Abundances: <i>Cheumatopsyche</i> ,                   | 0.00  |
| 07 Relative Abundance - Chironomidae   | 0.10  | <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>      |       |
| 08 Relative Generic Richness - Diptera | 0.36  | 26 Sum of Abundances: <i>Acroneuria</i> , <i>Stenonema</i>      | 0.00  |
| 09 <i>Hydropsyche</i> Abundance        | 23.67 | 28 EP Generic Richness/14                                       | 0.71  |
| 11 <i>Cheumatopsyche</i> Abundance     | 0.00  | 30 Presence of Class A Indicator Taxa/7                         | 0.29  |
| 12 EPT Generic Richness/ Diptera       | 1.25  |                                                                 |       |
| Generic Richness                       |       |                                                                 |       |

**Five Most Dominant Taxa**

|                                     |      | Taxa Rank | Taxa Name   | Percent |
|-------------------------------------|------|-----------|-------------|---------|
| 13 Relative Abundance - Oligochaeta | 0.00 | 1         | Hydropsyche | 31.01   |
| 15 Perlidae Abundance (Family       | 0.00 | 2         | Baetis      | 13.98   |
| Functional Group)                   |      | 3         | Ephemerella | 10.48   |
| 16 Tanypodinae Abundance (Family    | 1.75 | 4         | Glossosoma  | 6.98    |
| Functional Group)                   |      | 5         | Promoresia  | 6.98    |
| 17 Chironomini Abundance (Family    | 2.10 |           |             |         |
| Functional Group)                   |      |           |             |         |

Maine Department of Environmental Protection  
Acadia National Park Samples  
Logsheet for Benthic Macroinvertebrates Identified

Michael Winnell -- Freshwater Benthic Services, Inc.

|                     |               |
|---------------------|---------------|
| Sample Log No.:     | 1107          |
| Station No.:        | 323           |
| Waterbody Name:     | Stanley Brook |
| Town Name:          | Seal Harbor   |
| Date of Collection: | 29-Aug-01     |
| Subsample Factor:   | 1.00          |
| Sampler Type:       | Bag           |

| Chironomidae Subsample (SS) Effort |      |      |      |
|------------------------------------|------|------|------|
|                                    | 1    | 2    | 3    |
| Level of SS Effort                 | none | none | none |
| No. Chir SSed                      |      |      |      |
| No. Chir in SS                     |      |      |      |
| Misc. Chir not SSed                |      |      |      |
| TChir                              | 0    | 0    | 0    |

| Bar Code No. | Taxon            |                |         | No. identified from sample |       |       |
|--------------|------------------|----------------|---------|----------------------------|-------|-------|
|              | Genus            | Species        | Comment | Bag 1                      | Bag 2 | Bag 3 |
|              | Acerpenna        | macdunnoughi   |         | 1                          | 0     | 0     |
| 9020301      | Aeshnidae        |                |         | 0                          | 1     | 1     |
| 9020401001   | Baetis           |                |         | 7                          | 16    | 9     |
| 9021011033   | Brillia          | flavifrons     |         | 0                          | 0     | 2     |
| 9021115      | Curculionidae    |                |         | 1                          | 0     | 0     |
| 9020410035   | Ephemerella      |                |         | 3                          | 15    | 6     |
| 9020410036   | Eurylophella     |                |         | 3                          | 1     | 0     |
| 9021011041   | Eukiefferiella   | devonica-grp.  |         | 0                          | 1     | 0     |
| 9020606020   | Glossosoma       |                |         | 4                          | 8     | 4     |
| 9020302      | Gomphidae        |                |         | 0                          | 1     | 0     |
| 9021001008   | Hexatoma         |                |         | 1                          | 0     | 0     |
| 9020604016   | Hydropsyche      | ventura        |         | 26                         | 16    | 24    |
| 9020604016   | Hydropsyche      |                |         | 1                          | 3     | 1     |
| 9020406      | Leptophlebiidae  |                |         | 4                          | 0     | 0     |
| 9020204020   | Leuctra          |                |         | 0                          | 0     | 1     |
| 9021011010   | Meropelopia      |                |         | 0                          | 1     | 0     |
| 9021011070   | Micropsectra     |                |         | 2                          | 2     | 0     |
| 9021011050   | Orthocladus      | (S.) lignicola |         | 0                          | 1     | 0     |
| 9021113068   | Oulimnius        | latiusculus    |         | 2                          | 0     | 0     |
| 9020406026   | Paraleptophlebia |                |         | 4                          | 0     | 0     |
| 9020604013   | Parapsyche       | apicalis       |         | 0                          | 1     | 1     |
| 9020207      | Perlodidae       |                |         | 0                          | 2     | 0     |
| 9021011102   | Polypedilum      | aviceps        |         | 0                          | 3     | 1     |
| 9021011102   | Polypedilum      | cf. albicorne  |         | 2                          | 0     | 0     |
| 9021113069   | Promoresia       | tardella       |         | 5                          | 10    | 1     |
| 9020610060   | Psychoglypha     | subborealis    |         | 1                          | 0     | 0     |
| 9020901      | Pyalidae         |                |         | 1                          | 1     | 1     |
| 9021011017   | Rheopelopia      | acra-grp.      |         | 1                          | 0     | 0     |
| 9021011017   | Rheopelopia      |                |         | 0                          | 0     | 1     |
| 9021011057   | Rheocricotopus   | pauciseta      |         | 0                          | 1     | 1     |
| 9020402013   | Rhithrogena      |                |         | 0                          | 2     | 1     |
| 9020605019   | Rhyacophila      |                |         | 4                          | 3     | 2     |
| 9020605019   | Rhyacophila      | fuscula        |         | 0                          | 3     | 1     |

| Bar Code No. | Taxon                |         |         | No. identified from sample |       |       |
|--------------|----------------------|---------|---------|----------------------------|-------|-------|
|              | Genus                | Species | Comment | Bag 1                      | Bag 2 | Bag 3 |
| 9021012047   | Simulium             |         |         | 0                          | 1     | 0     |
| 9020208040   | Sweltsa              |         |         | 2                          | 0     | 0     |
| 9021011022   | Zavrelimyia          |         |         | 1                          | 0     | 0     |
|              | Thienemannimyia-grp. |         |         | 0                          | 1     | 0     |
|              | Unid. Tanypodinae    |         |         | 0                          | 1     | 0     |

|                      |  |           |           |           |
|----------------------|--|-----------|-----------|-----------|
| <b>Total Benthos</b> |  | <b>76</b> | <b>95</b> | <b>58</b> |
| <b>Total OTUs</b>    |  | <b>21</b> | <b>24</b> | <b>17</b> |
| <b>Total spp.</b>    |  | <b>19</b> | <b>20</b> | <b>15</b> |

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

**Station Information**

|                                                  |                             |
|--------------------------------------------------|-----------------------------|
| Station Number: S321                             | DEP Drainage: Maine Coastal |
| Waterbody: Hunter Brook                          | HUC Code: 01050002          |
| Town: Mount Desert                               | HUC Name: Maine Coastal     |
| Directions: Above Rt. 3 crossing; Park Loop Road | Latitude: Deg Min Sec       |
|                                                  | Longitude: Deg Min Sec      |
|                                                  | Stream Order: 1             |

**Sample Information**

|                      |                             |                           |
|----------------------|-----------------------------|---------------------------|
| Log Number: 1106     | Type of Sample: Riffle Bags | Date Deployed: 01-AUG-01  |
| Subsample Factor: X1 | Replicates: 3               | Date Retrieved: 30-AUG-01 |

**Classification Attainment**

|                            |                           |
|----------------------------|---------------------------|
| Statutory Class: AA        | Final Determination: C    |
| Model Result with P > .6 C | Reason for Determination: |
| Date Last Calculated:      |                           |

**Model Probabilities**

First Stage Model

|         |      |          |      |
|---------|------|----------|------|
| Class A | 0.07 | Class C  | 0.54 |
| Class B | 0.30 | Class NA | 0.09 |

B or Better Model

|                           |      |
|---------------------------|------|
| Class A or B              | 0.03 |
| Class C or Non-Attainment | 0.97 |

C or Better Model

|                  |      |
|------------------|------|
| Class A, B, or C | 0.97 |
| Non-Attainment   | 0.03 |

A Model

|                                |      |
|--------------------------------|------|
| Class A                        | 0.04 |
| Class B or C or Non-Attainment | 0.96 |

**Model Variables**

|                                        |       |                                                                 |       |
|----------------------------------------|-------|-----------------------------------------------------------------|-------|
| 01 Total Abundance of Individuals      | 54.67 | 18 Relative Abundance - Ephemeroptera                           | 0.05  |
| 02 Generic Richness                    | 24.00 | 19 EPT Generic Richness                                         | 10.00 |
| 03 Plecoptera Abundance                | 1.33  | 21 Sum of Abundances: <i>Dicrotendipes</i> ,                    | 0.69  |
| 04 Ephemeroptera Abundance             | 3.00  | <i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i> |       |
| 05 Shannon - Wiener Diversity          | 3.13  | 23 Relative Generic Richness- Plecoptera                        | 0.08  |
| 06 Hilsenhoff Biotic Index             | 5.86  | 25 Sum of Abundances: <i>Cheumatopsyche</i> ,                   | 4.48  |
| 07 Relative Abundance - Chironomidae   | 0.73  | <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>      |       |
| 08 Relative Generic Richness - Diptera | 0.46  | 26 Sum of Abundances: <i>Acroneuria</i> , <i>Stenonema</i>      | 0.00  |
| 09 <i>Hydropsyche</i> Abundance        | 0.00  | 28 EP Generic Richness/14                                       | 0.36  |
| 10 <i>Cheumatopsyche</i> Abundance     | 0.00  | 30 Presence of Class A Indicator Taxa/7                         | 0.14  |
| 12 EPT Generic Richness/ Diptera       | 0.91  |                                                                 |       |
| 13 Generic Richness                    |       |                                                                 |       |

**Five Most Dominant Taxa**

|                                     |       | Taxa Rank | Taxa Name      | Percent |
|-------------------------------------|-------|-----------|----------------|---------|
| 13 Relative Abundance - Oligochaeta | 0.00  | 1         | Polypedilum    | 44.16   |
| 15 Perlidae Abundance (Family       | 0.00  | 2         | Rheotanytarsus | 11.36   |
| Functional Group)                   |       | 3         | Cricotopus     | 8.20    |
| 6 Tanypodinae Abundance (Family     | 0.00  | 4         | Promoresia     | 6.71    |
| Functional Group)                   |       | 5         | Orthocladius   | 4.41    |
| 7 Chironomini Abundance (Family     | 24.14 |           |                |         |
| Functional Group)                   |       |           |                |         |

Maine Department of Environmental Protection  
Acadia National Park Samples  
Logsheet for Benthic Macroinvertebrates Identified

Michael Winnell -- Freshwater Benthic Services, Inc.

|                     |               |
|---------------------|---------------|
| Sample Log No.:     | 1106          |
| Station No.:        | 321           |
| Waterbody Name:     | Hunters Brook |
| Town Name:          | Mt. Desert    |
| Date of Collection: | 30-Aug-01     |
| Subsample Factor:   | 1.00          |
| Sampler Type:       | Bag           |

| Chironomidae Subsample (SS) Effort |      |      |      |
|------------------------------------|------|------|------|
|                                    | 1    | 2    | 3    |
| Level of SS Effort                 | none | none | none |
| No. Chir SSed                      |      |      |      |
| No. Chir in SS                     |      |      |      |
| Misc. Chir not SSed                |      |      |      |
| TChir                              | 0    | 0    | 0    |

| Bar Code No. | Taxon              |                            |         | No. identified from sample |       |       |
|--------------|--------------------|----------------------------|---------|----------------------------|-------|-------|
|              | Genus              | Species                    | Comment | Bag 1                      | Bag 2 | Bag 3 |
| 09021105041  | Anacaena           | cf. limbata                |         | 1                          | 0     | 0     |
| 09021011033  | Brillia            | flavifrons                 |         | 0                          | 0     | 1     |
| 09021011     | Chironomidae       |                            | no head | 0                          | 0     | 3     |
| 09021011036  | Corynoneura        |                            |         | 0                          | 0     | 1     |
| 09021011037  | Cricotopus         | (C.)                       |         | 1                          | 1     | 3     |
| 09021011037  | Cricotopus         | (C.) bicinctus             |         | 0                          | 2     | 1     |
| 09021011037  | Cricotopus         | (C.) cf. vierriensis       |         | 0                          | 0     | 5     |
| 09021001005  | Dicranota          |                            |         | 0                          | 0     | 2     |
| 09021006023  | Dixa               |                            |         | 0                          | 0     | 1     |
| 09020601001  | Dolophilodes       |                            |         | 2                          | 0     | 0     |
| 09020410036  | Eurylophella       |                            |         | 0                          | 0     | 1     |
|              | Helopelopia        |                            |         | 0                          | 0     | 1     |
| 09020406     | Leptophlebiidae    |                            |         | 0                          | 0     | 1     |
| 09020204020  | Leuctra            | truncata                   |         | 1                          | 0     | 0     |
| 09020610     | Limnephilidae      |                            |         | 0                          | 1     | 0     |
| 09021011070  | Micropsectra       |                            |         | 1                          | 0     | 1     |
| 09020603009  | Nyctiophylax       | moestus                    |         | 0                          | 3     | 0     |
| 09021011050  | Orthocladius       | carlatus                   |         | 2                          | 0     | 5     |
| 09021113068  | Oulimnius          | latiusculus                |         | 1                          | 0     | 3     |
| 09020207     | Perlodidae         |                            |         | 2                          | 0     | 1     |
| 09020603010  | Polycentropus      |                            |         | 0                          | 0     | 3     |
| 09021011102  | Polypedilum        | aviceps                    |         | 11                         | 2     | 56    |
| 09021011102  | Polypedilum        | cf. albicorne              |         | 0                          | 0     | 1     |
| 09021113069  | Promoresia         | tardella                   |         | 6                          | 3     | 2     |
| 09021011056  | Psectrocladius     | psilopterus-grp. cf. sp. 1 |         | 0                          | 2     | 0     |
| 09021011072  | Rheotanytarsus     |                            |         | 3                          | 2     | 13    |
| 09020605019  | Rhyacophila        | fuscula                    |         | 0                          | 0     | 3     |
| 09020605019  | Rhyacophila        |                            |         | 1                          | 0     | 0     |
| 09020402014  | Stenacron          |                            |         | 2                          | 3     | 2     |
|              | Unid. Chironominae |                            |         | 0                          | 1     | 0     |

|               |  |    |    |     |
|---------------|--|----|----|-----|
| Total Benthos |  | 34 | 20 | 110 |
| Total OTUs    |  | 13 | 10 | 22  |

| Bar Code No. | Taxon |                   |         | No. identified from sample |          |           |
|--------------|-------|-------------------|---------|----------------------------|----------|-----------|
|              | Genus | Species           | Comment | Bag 1                      | Bag 2    | Bag 3     |
|              |       | <b>Total spp.</b> |         | <b>13</b>                  | <b>9</b> | <b>20</b> |

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

**Station Information**

|                                                                                                                                    |                                                                                                                                                                                              |
|------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Station Number:</b> S320<br><b>Waterbody:</b> Canon Brook<br><b>Town:</b> Bar Harbor<br><b>Directions:</b> Above Rt. 3 crossing | <b>DEP Drainage:</b> Maine Coastal<br><b>HUC Code:</b> 01050002<br><b>HUC Name:</b> Maine Coastal<br><b>Latitude:</b> Deg Min Sec<br><b>Longitude:</b> Deg Min Sec<br><b>Stream Order:</b> 1 |
|------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**Sample Information**

|                             |                                    |                                  |
|-----------------------------|------------------------------------|----------------------------------|
| <b>Log Number:</b> 1105     | <b>Type of Sample:</b> Riffle Bags | <b>Date Deployed:</b> 01-AUG-01  |
| <b>Subsample Factor:</b> X1 | <b>Replicates:</b> 3               | <b>Date Retrieved:</b> 30-AUG-01 |

**Classification Attainment**

|                                      |                                  |  |
|--------------------------------------|----------------------------------|--|
| <b>Statutory Class:</b> AA           | <b>Final Determination:</b> I    |  |
| <b>Model Result with P &gt; .6</b> I | <b>Reason for Determination:</b> |  |
| <b>Date Last Calculated:</b>         |                                  |  |

**Model Probabilities**

| <u>First Stage Model</u>  |               | <u>C or Better Model</u>       |      |
|---------------------------|---------------|--------------------------------|------|
| Class A 0.21              | Class C 0.47  | Class A, B, or C               | 1.00 |
| Class B 0.31              | Class NA 0.02 | Non-Attainment                 | 0.00 |
| <u>B or Better Model</u>  |               | <u>A Model</u>                 |      |
| Class A or B              | 0.26          | Class A                        | 0.48 |
| Class C or Non-Attainment | 0.74          | Class B or C or Non-Attainment | 0.52 |

**Model Variables**

|                                                      |       |                                                                 |       |
|------------------------------------------------------|-------|-----------------------------------------------------------------|-------|
| 01 Total Abundance of Individuals                    | 26.00 | 18 Relative Abundance - Ephemeroptera                           | 0.40  |
| 02 Generic Richness                                  | 24.00 | 19 EPT Generic Richness                                         | 13.00 |
| 03 Plecoptera Abundance                              | 0.33  | 21 Sum of Abundances: <i>Dicrotendipes</i> ,                    | 1.33  |
| 04 Ephemeroptera Abundance                           | 10.33 | <i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i> |       |
| 05 Shannon - Wiener Diversity                        | 3.81  | 23 Relative Generic Richness- Plecoptera                        | 0.04  |
| 06 Hilsenhoff Biotic Index                           | 5.38  | 25 Sum of Abundances: <i>Cheumatopsyche</i> ,                   | 0.33  |
| 07 Relative Abundance - Chironomidae                 | 0.35  | <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>      |       |
| 08 Relative Generic Richness - Diptera               | 0.33  | 26 Sum of Abundances: <i>Acroneuria</i> , <i>Stenonema</i>      | 0.00  |
| 09 <i>Hydropsyche</i> Abundance                      | 1.00  | 28 EP Generic Richness/14                                       | 0.50  |
| 11 <i>Cheumatopsyche</i> Abundance                   | 0.00  | 30 Presence of Class A Indicator Taxa/7                         | 0.29  |
| 12 EPT Generic Richness/ Diptera<br>Generic Richness | 1.63  |                                                                 |       |

**Five Most Dominant Taxa**

|                                                       |      | Taxa Rank | Taxa Name      | Percent |
|-------------------------------------------------------|------|-----------|----------------|---------|
| 13 Relative Abundance - Oligochaeta                   | 0.00 | 1         | Stenacron      | 20.50   |
| 15 Perlidae Abundance (Family<br>Functional Group)    | 0.00 | 2         | Rheotanytarsus | 20.50   |
| 16 Tanypodinae Abundance (Family<br>Functional Group) | 0.33 | 3         | Eurylophella   | 10.27   |
| 17 Chironomini Abundance (Family<br>Functional Group) | 0.00 | 4         | Nyctiophylax   | 6.42    |
|                                                       |      | 5         | Micropsectra   | 5.12    |

Maine Department of Environmental Protection  
Acadia National Park Samples  
Logsheet for Benthic Macroinvertebrates Identified

Michael Winnell -- Freshwater Benthic Services, Inc.

|                     |              |
|---------------------|--------------|
| Sample Log No.:     | 1105         |
| Station No.:        | 320          |
| Waterbody Name:     | Cannon Brook |
| Town Name:          | Bar Harbor   |
| Date of Collection: | 30-Aug-01    |
| Subsample Factor:   | 1.00         |
| Sampler Type:       | Bag          |

| Chironomidae Subsample (SS) Effort |      |      |      |
|------------------------------------|------|------|------|
|                                    | 1    | 2    | 3    |
| Level of SS Effort                 | none | none | none |
| No. Chir SSed                      |      |      |      |
| No. Chir in SS                     |      |      |      |
| Misc. Chir not SSed                |      |      |      |
| TChir                              | 0    | 0    | 0    |

| Bar Code No. | Taxon           |                             |         | No. identified from sample |       |       |
|--------------|-----------------|-----------------------------|---------|----------------------------|-------|-------|
|              | Genus           | Species                     | Comment | Bag 1                      | Bag 2 | Bag 3 |
| 09021105041  | Anacaena        | cf. limbata                 |         | 1                          | 0     | 0     |
| 09020401     | Baetidae        |                             |         | 1                          | 0     | 0     |
| 09021115     | Curculionidae   |                             |         | 2                          | 0     | 0     |
| 09020410036  | Eurylophella    |                             |         | 0                          | 4     | 4     |
| 09020402     | Heptageniidae   |                             |         | 0                          | 0     | 3     |
| 09020604016  | Hydropsyche     | ventura                     |         | 0                          | 3     | 0     |
| 09020406     | Leptophlebiidae |                             |         | 0                          | 2     | 0     |
| 09020204020  | Leuctra         | truncata                    |         | 1                          | 0     | 0     |
| 09021011070  | Micropsectra    |                             |         | 4                          | 0     | 0     |
| 09020510025  | Microvelia      |                             |         | 2                          | 0     | 0     |
| 09020603009  | Nyctiophylax    | moestus                     |         | 2                          | 1     | 2     |
| 09020608039  | Oligostomis     |                             |         | 0                          | 1     | 0     |
| 09021011050  | Orthocladus     | annectens                   |         | 2                          | 0     | 0     |
| 09020607028  | Oxyethira       |                             |         | 1                          | 0     | 0     |
|              | Procladius      |                             |         | 0                          | 1     | 0     |
| 09021011056  | Psectrocladius  | psilopterus-grp. cf. sp. 1  |         | 0                          | 0     | 1     |
| 09020614068  | Psilotreta      | frontalis                   |         | 0                          | 0     | 1     |
| 09021011057  | Rheocricotopus  | pauciseta                   |         | 2                          | 0     | 0     |
| 09021011072  | Rheotanytarsus  |                             |         | 16                         | 0     | 0     |
| 09020605019  | Rhyacophila     | fuscata                     |         | 1                          | 0     | 0     |
| 09021012047  | Simulium        | aureum complex              |         | 1                          | 0     | 0     |
| 09021012047  | Simulium        | venustum/verecundum complex |         | 1                          | 0     | 0     |
| 09020402014  | Stenacron       |                             |         | 0                          | 11    | 5     |
| 09021011076  | Tanytarsus      | sp. 06                      |         | 1                          | 0     | 0     |
| 09021011021  | Trissopelopia   | ogemawi                     |         | 1                          | 0     | 0     |

|               |  |    |    |    |
|---------------|--|----|----|----|
| Total Benthos |  | 39 | 23 | 16 |
| Total OTUs    |  | 16 | 7  | 6  |
| Total spp.    |  | 16 | 7  | 5  |

**Maine Department of Environmental Protection  
Biological Monitoring Unit**

**BioME Aquatic Life Classification Attainment Report**

**Station Information**

|                                       |                                    |
|---------------------------------------|------------------------------------|
| <b>Station Number:</b> S362           | <b>DEP Drainage:</b> Maine Coastal |
| <b>Waterbody:</b> Lurvey Spring Brook | <b>HUC Code:</b> 01050002          |
| <b>Town:</b> Southwest Harbor         | <b>HUC Name:</b> Maine Coastal     |
| <b>Directions:</b> Inlet to Echo Lake | <b>Latitude:</b> Deg Min Sec       |
|                                       | <b>Longitude:</b> Deg Min Sec      |
|                                       | <b>Stream Order:</b> 1             |

**Sample Information**

|                             |                                    |                                  |
|-----------------------------|------------------------------------|----------------------------------|
| <b>Log Number:</b> 1103     | <b>Type of Sample:</b> Riffle Bags | <b>Date Deployed:</b> 02-AUG-01  |
| <b>Subsample Factor:</b> X1 | <b>Replicates:</b> 3               | <b>Date Retrieved:</b> 30-AUG-01 |

**Classification Attainment**

|                                      |                                  |
|--------------------------------------|----------------------------------|
| <b>Statutory Class:</b> AA           | <b>Final Determination:</b> B    |
| <b>Model Result with P &gt; .6</b> B | <b>Reason for Determination:</b> |
| <b>Date Last Calculated:</b>         |                                  |

**Model Probabilities**

| <u>First Stage Model</u>  |               | <u>C or Better Model</u>       |      |
|---------------------------|---------------|--------------------------------|------|
| Class A 0.14              | Class C 0.26  | Class A, B; or C               | 1.00 |
| Class B 0.59              | Class NA 0.00 | Non-Attainment                 | 0.00 |
| <u>B or Better Model</u>  |               | <u>A Model</u>                 |      |
| Class A or B              | 0.67          | Class A                        | 0.24 |
| Class C or Non-Attainment | 0.33          | Class B or C or Non-Attainment | 0.76 |

**Model Variables**

|                                                      |        |                                                                 |       |
|------------------------------------------------------|--------|-----------------------------------------------------------------|-------|
| 01 Total Abundance of Individuals                    | 308.67 | 18 Relative Abundance - Ephemeroptera                           | 0.03  |
| 02 Generic Richness                                  | 44.00  | 19 EPT Generic Richness                                         | 19.00 |
| 03 Plecoptera Abundance                              | 1.67   | 21 Sum of Abundances: <i>Dicrotendipes</i> ,                    | 22.37 |
| 04 Ephemeroptera Abundance                           | 10.33  | <i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i> |       |
| 05 Shannon - Wiener Diversity                        | 3.35   | 23 Relative Generic Richness- Plecoptera                        | 0.09  |
| 06 Hilsenhoff Biotic Index                           | 5.62   | 25 Sum of Abundances: <i>Cheumatopsyche</i> ,                   | 14.57 |
| 07 Relative Abundance - Chironomidae                 | 0.79   | <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>      |       |
| 08 Relative Generic Richness - Diptera               | 0.39   | 26 Sum of Abundances: <i>Acroneuria</i> , <i>Stenonema</i>      | 0.00  |
| 09 <i>Hydropsyche</i> Abundance                      | 0.00   | 28 EP Generic Richness/14                                       | 0.64  |
| 11 <i>Cheumatopsyche</i> Abundance                   | 0.00   | 30 Presence of Class A Indicator Taxa/7                         | 0.29  |
| 12 EPT Generic Richness/ Diptera<br>Generic Richness | 1.12   |                                                                 |       |

**Five Most Dominant Taxa**

|                                                       |       | Taxa Rank | Taxa Name      | Percent |
|-------------------------------------------------------|-------|-----------|----------------|---------|
| 13 Relative Abundance - Oligochaeta                   | 0.00  | 1         | Orthocladius   | 32.39   |
| 15 Perlidae Abundance (Family<br>Functional Group)    | 0.00  | 2         | Rheocricotopus | 21.63   |
| 16 Tanypodinae Abundance (Family<br>Functional Group) | 11.18 | 3         | Oxyethira      | 8.64    |
| 17 Chironomini Abundance (Family<br>Functional Group) | 16.27 | 4         | Micropsectra   | 7.25    |
|                                                       |       | 5         | Microtendipes  | 5.27    |

Maine Department of Environmental Protection  
Acadia National Park Samples  
Logsheet for Benthic Macroinvertebrates Identified

Michael Winnell -- Freshwater Benthic Services, Inc.

|                     |                     |
|---------------------|---------------------|
| Sample Log No.:     | 1103                |
| Station No.:        | 362                 |
| Waterbody Name:     | Lurvey Spring Brook |
| Town Name:          | S.W. Harbor         |
| Date of Collection: | 30-Aug-01           |
| Subsample Factor:   | 1.00                |
| Sampler Type:       | Bag                 |

| Chironomidae Subsample (SS) Effort |     |      |      |
|------------------------------------|-----|------|------|
|                                    | 1   | 2    | 3    |
| Level of SS Effort                 | 0.5 | 0.25 | 0.25 |
| No. Chir SSed                      | 172 | 302  | 240  |
| No. Chir in SS                     | 86  | 76   | 60   |
| Misc. Chir not SSed                | 1   | 6    | 10   |
| TChir                              | 173 | 308  | 250  |

| Bar Code No. | Taxon                   |                  |                        | No. identified from sample |       |       |
|--------------|-------------------------|------------------|------------------------|----------------------------|-------|-------|
|              | Genus                   | Species          | Comment                | Bag 1                      | Bag 2 | Bag 3 |
|              | Acerpenna               | pygmaea          |                        | 0                          | 0     | 2     |
| 09010101001  | Caecidtoea              | racovitzai       |                        | 1                          | 0     | 0     |
| 09010101001  | Caecidtoea              |                  |                        | 0                          | 3     | 0     |
| 09021010     | Ceratopogonidae         |                  |                        | 0                          | 0     | 1     |
| 09021011036  | Corynoneura             |                  |                        | 0                          | 0     | 1     |
| 09021011037  | Cricotopus              | (C.) cf. patens  |                        | 0                          | 16    | 17    |
|              | Cricotopus/Orthocladius |                  |                        | 4                          | 0     | 0     |
| 09020410035  | Ephemerella             |                  |                        | 2                          | 0     | 11    |
| 09020410     | Ephemerellidae          |                  | Ephemerella/Serratella | 0                          | 1     | 0     |
| 090204       | Ephemeroptera           |                  |                        | 0                          | 0     | 1     |
| 09021011041  | Eukiefferiella          | brehmi-gr.       |                        | 0                          | 2     | 0     |
| 09020410036  | Eurylophella            |                  |                        | 2                          | 2     | 0     |
| 09021011044  | Heterotrissocladius     |                  |                        | 2                          | 0     | 0     |
| 09020604     | Hydropsychidae          |                  |                        | 0                          | 0     | 1     |
| 09020607     | Hydroptilidae           |                  |                        | 0                          | 2     | 0     |
|              | Hydrozetes              |                  |                        | 0                          | 2     | 0     |
|              | Hygrobates              |                  |                        | 0                          | 1     | 1     |
|              | Lebertia                |                  |                        | 0                          | 0     | 3     |
| 09020406     | Leptophlebiidae         |                  |                        | 1                          | 4     | 1     |
| 09020204020  | Leuctra                 | truncata         |                        | 0                          | 0     | 1     |
| 09020204020  | Leuctra                 |                  |                        | 0                          | 1     | 0     |
| 09020204     | Leuctridae              |                  |                        | 0                          | 0     | 1     |
| 09021113065  | Macronychus             | glabratus        |                        | 0                          | 1     | 0     |
| 09021011070  | Micropsectra            |                  |                        | 10                         | 28    | 28    |
| 09021011094  | Microtendipes           | pedellus-grp.    |                        | 40                         | 8     | 0     |
| 09020615069  | Molanna                 | blenda           |                        | 1                          | 0     | 0     |
| 08020202009  | Nais                    | simplex/pardalis |                        | 0                          | 1     | 2     |
| 09020608039  | Oligostomis             |                  |                        | 2                          | 4     | 0     |
| 09021011050  | Orthocladius            | annectens        |                        | 46                         | 107   | 137   |
| 09021011050  | Orthocladius            | carlatus         |                        | 0                          | 0     | 5     |
| 09020607028  | Oxyethira               |                  |                        | 7                          | 67    | 6     |
| 09021011052  | Parakiefferiella        |                  |                        | 0                          | 4     | 0     |
| 09020406026  | Paraleptophlebia        |                  |                        | 3                          | 1     | 0     |

| Bar Code No. | Taxon                 |                            |         | No. identified from sample |       |       |
|--------------|-----------------------|----------------------------|---------|----------------------------|-------|-------|
|              | Genus                 | Species                    | Comment | Bag 1                      | Bag 2 | Bag 3 |
| 09020604013  | Parapsyche            | apicalis                   |         | 0                          | 0     | 3     |
| 09020207     | Perlodidae            |                            |         | 0                          | 0     | 1     |
| 09020603010  | Polycentropus         |                            |         | 0                          | 1     | 0     |
| 09021113069  | Promoresia            | tardella                   |         | 10                         | 28    | 4     |
| 09021011056  | Psectrocladius        | psilopterus-grp. cf. sp. 1 |         | 2                          | 5     | 0     |
| 09020614068  | Psilotreta            | frontalis                  |         | 0                          | 1     | 0     |
| 09020608041  | Ptilostomis           |                            |         | 0                          | 1     | 0     |
| 09021011057  | Rheocricotopus        | pauciseta                  |         | 44                         | 103   | 48    |
| 09021011057  | Rheocricotopus        | tuberculatus               |         | 2                          | 0     | 0     |
| 09021011072  | Rheotanytarsus        |                            |         | 2                          | 8     | 2     |
| 09020605019  | Rhyacophila           |                            |         | 0                          | 0     | 2     |
| 09021012047  | Simulium              |                            |         | 0                          | 0     | 4     |
|              | Sperchon              |                            |         | 0                          | 3     | 0     |
| 09020208040  | Sweltsa               |                            |         | 0                          | 0     | 1     |
| 09021011076  | Tanytarsus            | sp. 06                     |         | 2                          | 4     | 4     |
| 09021011062  | Thienemanniella       |                            |         | 1                          | 2     | 1     |
| 09021011021  | Trissopelopia         | ogemawi                    |         | 18                         | 13    | 2     |
| 09021011065  | Tvetenia              | bavarica-gr.               |         | 0                          | 0     | 1     |
|              | Unid. Orthoclaadiinae |                            |         | 0                          | 8     | 0     |

|                      |  |            |            |            |
|----------------------|--|------------|------------|------------|
| <b>Total Benthos</b> |  | <b>202</b> | <b>432</b> | <b>292</b> |
| <b>Total OTUs</b>    |  | <b>21</b>  | <b>31</b>  | <b>29</b>  |
| <b>Total spp.</b>    |  | <b>20</b>  | <b>29</b>  | <b>26</b>  |

**Maine Department of Environmental Protection  
Biological Monitoring Unit**

**BiOME Aquatic Life Classification Attainment Report**

**Station Information**

|                        |                  |                      |               |
|------------------------|------------------|----------------------|---------------|
| <b>Station Number:</b> | S455             | <b>DEP Drainage:</b> | Maine Coastal |
| <b>Waterbody:</b>      | Marshall Brook   | <b>HUC Code:</b>     | 01050002      |
| <b>Town:</b>           | Southwest Harbor | <b>HUC Name:</b>     | Maine Coastal |
| <b>Directions:</b>     | CHECK LOCATION   | <b>Latitude:</b>     | Deg Min Sec   |
|                        |                  | <b>Longitude:</b>    | Deg Min Sec   |
|                        |                  | <b>Stream Order:</b> | 2             |

**Sample Information**

|                          |      |                        |             |                        |           |
|--------------------------|------|------------------------|-------------|------------------------|-----------|
| <b>Log Number:</b>       | 1108 | <b>Type of Sample:</b> | Riffle Bags | <b>Date Deployed:</b>  | 02-AUG-01 |
| <b>Subsample Factor:</b> | X1   | <b>Replicates:</b>     | 3           | <b>Date Retrieved:</b> | 31-AUG-01 |

**Classification Attainment**

|                                    |    |                                  |   |
|------------------------------------|----|----------------------------------|---|
| <b>Statutory Class:</b>            | AA | <b>Final Determination:</b>      | A |
| <b>Model Result with P &gt; .6</b> | A  | <b>Reason for Determination:</b> |   |
| <b>Date Last Calculated:</b>       |    |                                  |   |

**Model Probabilities**

First Stage Model

|         |      |          |      |
|---------|------|----------|------|
| Class A | 0.49 | Class C  | 0.03 |
| Class B | 0.47 | Class NA | 0.00 |

B or Better Model

|                           |      |
|---------------------------|------|
| Class A or B              | 0.99 |
| Class C or Non-Attainment | 0.01 |

C or Better Model

|                  |      |
|------------------|------|
| Class A, B, or C | 1.00 |
| Non-Attainment   | 0.00 |

A Model

|                                |      |
|--------------------------------|------|
| Class A                        | 0.94 |
| Class B or C or Non-Attainment | 0.06 |

**Model Variables**

|                                        |        |                                                                 |       |
|----------------------------------------|--------|-----------------------------------------------------------------|-------|
| 01 Total Abundance of Individuals      | 285.33 | 18 Relative Abundance - Ephemeroptera                           | 0.05  |
| 02 Generic Richness                    | 40.00  | 19 EPT Generic Richness                                         | 20.00 |
| 03 Plecoptera Abundance                | 3.00   | 21 Sum of Abundances: <i>Dicrotendipes</i> ,                    | 6.63  |
| 04 Ephemeroptera Abundance             | 13.33  | <i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i> |       |
| 05 Shannon - Wiener Diversity          | 2.60   | 23 Relative Generic Richness- Plecoptera                        | 0.08  |
| 06 Hilsenhoff Biotic Index             | 4.10   | 25 Sum of Abundances: <i>Cheumatopsyche</i> ,                   | 1.75  |
| 07 Relative Abundance - Chironomidae   | 0.18   | <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>      |       |
| 08 Relative Generic Richness - Diptera | 0.35   | 26 Sum of Abundances: <i>Acroneuria</i> , <i>Stenonema</i>      | 1.67  |
| 09 <i>Hydropsyche</i> Abundance        | 168.00 | 28 EP Generic Richness/14                                       | 0.64  |
| 10 <i>Cheumatopsyche</i> Abundance     | 0.00   | 30 Presence of Class A Indicator Taxa/7                         | 0.43  |
| 11 EPT Generic Richness/ Diptera       | 1.43   |                                                                 |       |
| 12 Generic Richness                    |        |                                                                 |       |

**Five Most Dominant Taxa**

|                                     |      | Taxa Rank | Taxa Name      | Percent |
|-------------------------------------|------|-----------|----------------|---------|
| 13 Relative Abundance - Oligochaeta | 0.00 | 1         | Hydropsyche    | 58.88   |
| 14 Perlidae Abundance (Family       | 0.00 | 2         | Rheotanytarsus | 7.58    |
| Functional Group)                   |      | 3         | Promoresia     | 6.89    |
| 15 Tanypodinae Abundance (Family    | 1.75 | 4         | Simulium       | 5.02    |
| Functional Group)                   |      | 5         | Tvetenia       | 3.67    |
| 16 Chironomini Abundance (Family    | 1.40 |           |                |         |
| Functional Group)                   |      |           |                |         |

Maine Department of Environmental Protection  
Acadia National Park Samples  
Logsheet for Benthic Macroinvertebrates Identified

Michael Winnell -- Freshwater Benthic Services, Inc.

|                     |                |
|---------------------|----------------|
| Sample Log No.:     | 1108           |
| Station No.:        | 455            |
| Waterbody Name:     | Marshall Brook |
| Town Name:          |                |
| Date of Collection: | 31-Aug-01      |
| Subsample Factor:   | 1.00           |
| Sampler Type:       | Bag            |

| Chironomidae Subsample (SS) Effort |      |      |      |
|------------------------------------|------|------|------|
|                                    | 1    | 2    | 3    |
| Level of SS Effort                 | none | none | none |
| No. Chir SSed                      |      |      |      |
| No. Chir in SS                     |      |      |      |
| Misc. Chir not SSed                |      |      |      |
| TChir                              | 0    | 0    | 0    |

| Bar Code No. | Taxon            |                   |                        | No. identified from sample |       |       |
|--------------|------------------|-------------------|------------------------|----------------------------|-------|-------|
|              | Genus            | Species           | Comment                | Bag 1                      | Bag 2 | Bag 3 |
|              | Acerpenna        | macdunnoughi      |                        | 0                          | 3     | 3     |
| 09020301     | Aeshnidae        |                   |                        | 0                          | 1     | 1     |
| 09020401001  | Baetis           |                   |                        | 1                          | 0     | 0     |
| 09020301004  | Boyeria          | vinosa            |                        | 0                          | 0     | 2     |
| 09020301004  | Boyeria          |                   |                        | 5                          | 8     | 2     |
| 09021011     | Chironomidae     |                   |                        | 0                          | 1     | 2     |
| 09021016056  | Clinocera        |                   |                        | 0                          | 1     | 0     |
| 09021011037  | Cricotopus       | (C.) cf. patens   |                        | 1                          | 1     | 0     |
| 09020601001  | Dolophilodes     |                   |                        | 0                          | 0     | 1     |
| 09020410036  | Eurylophella     |                   |                        | 6                          | 9     | 3     |
| 09020606020  | Glossosoma       |                   |                        | 0                          | 0     | 9     |
| 09020610048  | Hydatophylax     | argus             |                        | 0                          | 1     | 0     |
| 09020604016  | Hydropsyche      | depravata complex |                        | 0                          | 0     | 1     |
| 09020604016  | Hydropsyche      | sparna            |                        | 3                          | 6     | 5     |
| 09020604016  | Hydropsyche      | ventura           |                        | 5                          | 3     | 88    |
| 09020604016  | Hydropsyche      |                   |                        | 12                         | 49    | 332   |
|              | Hygrobates       |                   |                        | 0                          | 0     | 1     |
| 09020611064  | Lepidostoma      |                   |                        | 0                          | 0     | 1     |
| 09020406     | Leptophlebiidae  |                   |                        | 3                          | 6     | 0     |
| 09021011010  | Meropelopia      |                   |                        | 0                          | 1     | 0     |
| 09021011070  | Micropsectra     |                   |                        | 6                          | 11    | 2     |
| 09020615069  | Molanna          | blenda            |                        | 0                          | 1     | 0     |
| 09020608039  | Oligostomis      |                   |                        | 3                          | 0     | 0     |
| 09021011050  | Orthocladius     | carlatus          |                        | 0                          | 1     | 0     |
| 09021113068  | Oulimnius        | latiusculus       |                        | 0                          | 2     | 0     |
| 09020607028  | Oxyethira        |                   |                        | 1                          | 0     | 0     |
| 09021011025  | Pagastia         | orthogonia        |                        | 4                          | 12    | 4     |
| 09020203018  | Paracapnia       |                   | probably Paracapnia, e | 0                          | 0     | 1     |
| 09020406026  | Paraleptophlebia |                   |                        | 0                          | 1     | 0     |
| 09020207     | Perlodidae       |                   |                        | 1                          | 0     | 0     |
| 09020603010  | Polycentropus    |                   |                        | 1                          | 0     | 0     |
| 09021011102  | Polypedilum      | aviceps           |                        | 1                          | 2     | 1     |
| 09021113069  | Promoresia       | elegans           |                        | 0                          | 1     | 0     |

| Bar Code No. | Taxon              |                            |         | No. identified from sample |       |       |
|--------------|--------------------|----------------------------|---------|----------------------------|-------|-------|
|              | Genus              | Species                    | Comment | Bag 1                      | Bag 2 | Bag 3 |
| 09021113069  | Promoresia         | tardella                   |         | 2                          | 31    | 25    |
| 09021011056  | Psectrocladius     | psilopterus-grp. cf. sp. 1 |         | 0                          | 1     | 0     |
| 09020614068  | Psilotreta         | frontalis                  |         | 0                          | 0     | 1     |
| 09020901     | Pyralidae          |                            |         | 0                          | 1     | 0     |
| 09021011057  | Rheocricotopus     | pauciseta                  |         | 1                          | 0     | 0     |
| 09021011072  | Rheotanytarsus     |                            |         | 11                         | 28    | 23    |
| 09020605019  | Rhyacophila        | fuscula                    |         | 1                          | 2     | 0     |
| 09021012047  | Simulium           | tuberosum complex          |         | 0                          | 0     | 36    |
| 09021012047  | Simulium           | venustum/verecundum        |         | 0                          | 0     | 3     |
| 09021012047  | Simulium           |                            |         | 0                          | 0     | 4     |
| 09020402015  | Stenonema          | modestum                   |         | 2                          | 0     | 0     |
| 09020402015  | Stenonema          |                            |         | 0                          | 3     | 0     |
| 09020208040  | Sweltsa            |                            |         | 1                          | 5     | 1     |
| 09021011076  | Tanytarsus         |                            |         | 1                          | 2     | 0     |
| 09021011021  | Trissopelopia      | ogemawi                    |         | 2                          | 2     | 0     |
| 09021011065  | Tvetenia           | bavarica-gr.               |         | 0                          | 9     | 21    |
|              | Unid. Chironominae |                            |         | 0                          | 1     | 0     |
|              | Unid. Tanypodinae  |                            |         | 0                          | 2     | 0     |
|              | Unid. Tanytarsini  |                            |         | 1                          | 0     | 0     |

|                      |  |           |            |            |
|----------------------|--|-----------|------------|------------|
| <b>Total Benthos</b> |  | <b>75</b> | <b>208</b> | <b>573</b> |
| <b>Total OTUs</b>    |  | <b>24</b> | <b>33</b>  | <b>26</b>  |
| <b>Total spp.</b>    |  | <b>22</b> | <b>27</b>  | <b>21</b>  |

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

**Station Information**

|                                          |                             |  |
|------------------------------------------|-----------------------------|--|
| Station Number: S361                     | DEP Drainage: Maine Coastal |  |
| Waterbody: Heath Brook                   | HUC Code: 01050002          |  |
| Town: Tremont                            | HUC Name: Maine Coastal     |  |
| Directions: Below Seal Cove Rd. crossing | Latitude: Deg Min Sec       |  |
|                                          | Longitude: Deg Min Sec      |  |
|                                          | Stream Order: 1             |  |

**Sample Information**

|                      |                             |                           |
|----------------------|-----------------------------|---------------------------|
| Log Number: 1109     | Type of Sample: Riffle Bags | Date Deployed: 03-AUG-01  |
| Subsample Factor: X1 | Replicates: 3               | Date Retrieved: 05-SEP-01 |

**Classification Attainment**

|                            |                           |  |
|----------------------------|---------------------------|--|
| Statutory Class: AA        | Final Determination: A    |  |
| Model Result with P > .6 A | Reason for Determination: |  |
| Date Last Calculated:      |                           |  |

**Model Probabilities**

First Stage Model

|         |      |          |      |
|---------|------|----------|------|
| Class A | 0.65 | Class C  | 0.03 |
| Class B | 0.32 | Class NA | 0.00 |

B or Better Model

|                           |      |
|---------------------------|------|
| Class A or B              | 0.99 |
| Class C or Non-Attainment | 0.01 |

C or Better Model

|                  |      |
|------------------|------|
| Class A, B, or C | 1.00 |
| Non-Attainment   | 0.00 |

A Model

|                                |      |
|--------------------------------|------|
| Class A                        | 0.68 |
| Class B or C or Non-Attainment | 0.32 |

**Model Variables**

|                                        |        |                                                                 |      |
|----------------------------------------|--------|-----------------------------------------------------------------|------|
| 01 Total Abundance of Individuals      | 164.67 | 18 Relative Abundance - Ephemeroptera                           | 0.52 |
| 02 Generic Richness                    | 26.00  | 19 EPT Generic Richness                                         | 8.00 |
| 03 Plecoptera Abundance                | 0.33   | 21 Sum of Abundances: <i>Dicrotendipes</i> ,                    | 2.49 |
| 04 Ephemeroptera Abundance             | 85.67  | <i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i> |      |
| 05 Shannon - Wiener Diversity          | 2.38   | 23 Relative Generic Richness- Plecoptera                        | 0.04 |
| 06 Hilsenhoff Biotic Index             | 2.99   | 25 Sum of Abundances: <i>Cheumatopsyche</i> ,                   | 5.70 |
| 07 Relative Abundance - Chironomidae   | 0.10   | <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>      |      |
| 08 Relative Generic Richness - Diptera | 0.38   | 26 Sum of Abundances: <i>Acroneuria</i> , <i>Stenonema</i>      | 0.67 |
| 09 <i>Hydropsyche</i> Abundance        | 0.00   | 28 EP Generic Richness/14                                       | 0.29 |
| 10 <i>Cheumatopsyche</i> Abundance     | 0.00   | 30 Presence of Class A Indicator Taxa/7                         | 0.14 |
| 11 EPT Generic Richness/ Diptera       | 0.80   |                                                                 |      |
| 12 Generic Richness                    |        |                                                                 |      |

**Five Most Dominant Taxa**

|                                                    |      | Taxa Rank | Taxa Name        | Percent |
|----------------------------------------------------|------|-----------|------------------|---------|
| 13 Relative Abundance - Oligochaeta                | 0.00 | 1         | Paraleptophlebia | 51.42   |
| 15 Perlidae Abundance (Family Functional Group)    | 0.00 | 2         | Stenelmis        | 25.71   |
| 16 Tanypodinae Abundance (Family Functional Group) | 2.14 | 3         | Polycentropus    | 3.84    |
| 17 Chironomini Abundance (Family Functional Group) | 1.78 | 4         | Tanytarsus       | 3.46    |
|                                                    |      | 5         | Hyaella          | 2.43    |

Maine Department of Environmental Protection  
Acadia National Park Samples  
Logsheet for Benthic Macroinvertebrates Identified

Michael Winnell -- Freshwater Benthic Services, Inc.

|                     |             |
|---------------------|-------------|
| Sample Log No.:     | 1109        |
| Station No.:        | 361         |
| Waterbody Name:     | Heath Brook |
| Town Name:          | Tremont     |
| Date of Collection: | 05-Sep-01   |
| Subsample Factor:   | 1.00        |
| Sampler Type:       | Bag         |

| Chironomidae Subsample (SS) Effort |      |      |      |
|------------------------------------|------|------|------|
|                                    | 1    | 2    | 3    |
| Level of SS Effort                 | none | none | none |
| No. Chir SSed                      |      |      |      |
| No. Chir in SS                     |      |      |      |
| Misc. Chir not SSed                |      |      |      |
| TChir                              | 0    | 0    | 0    |

| Bar Code No. | Taxon                    |                          |           | No. identified from sample |       |       |
|--------------|--------------------------|--------------------------|-----------|----------------------------|-------|-------|
|              | Genus                    | Species                  | Comment   | Bag 1                      | Bag 2 | Bag 3 |
| 9020301001   | Aeshna                   |                          |           | 1                          | 0     | 2     |
| 9020301004   | Boyeria                  | grafiana                 |           | 0                          | 1     | 0     |
| 9020301004   | Boyeria                  | vinosa                   |           | 1                          | 0     | 0     |
| 9020307043   | Calopteryx               | maculata                 |           | 0                          | 2     | 0     |
| 09021011     | Chironomidae             |                          |           | 1                          | 0     | 0     |
|              | Conchapelopia genus-grp. |                          |           | 0                          | 1     | 0     |
| 3010101001   | Cura                     | foremanii                |           | 0                          | 0     | 1     |
| 9020410036   | Eurylophella             |                          |           | 0                          | 1     | 0     |
| 9010203006   | Hyaella                  | azteca                   |           | 0                          | 11    | 1     |
| 9020204020   | Leuctra                  |                          |           | 0                          | 1     | 0     |
| 9020610055   | Limnephilus              |                          |           | 2                          | 5     | 2     |
| 9021011010   | Meropelopia              |                          |           | 0                          | 2     | 0     |
| 9021011070   | Micropsectra             |                          |           | 1                          | 4     | 2     |
| 9021011094   | Microtendipes            | pedellus-gr.             |           | 1                          | 3     | 1     |
| 9020615069   | Molanna                  | blenda                   |           | 1                          | 6     | 0     |
| 9021011049   | Nanocladius              | crassicornus/rectinervis |           | 3                          | 0     | 2     |
| 9021011049   | Nanocladius              |                          |           | 3                          | 0     | 0     |
| 9020608039   | Oligostomis              |                          |           | 0                          | 1     | 0     |
| 9021011050   | Orthocladus              | annectens                |           | 0                          | 1     | 0     |
| 9020406026   | Paraleptophlebia         |                          |           | 55                         | 165   | 34    |
| 9021011013   | Paramerina               |                          |           | 0                          | 1     | 0     |
|              | Phagochaeta              | gracilis                 |           | 0                          | 0     | 1     |
| 03010101     | Planariidae              |                          |           | 0                          | 0     | 1     |
| 9020603010   | Polycentropus            |                          |           | 4                          | 11    | 4     |
| 9021113069   | Promoresia               | elegans                  |           | 1                          | 0     | 0     |
| 9021113069   | Promoresia               | tardella                 |           | 0                          | 2     | 1     |
| 9021011057   | Rheocricotopus           | cf. tuberculatus         |           | 0                          | 1     | 0     |
| 9021113070   | Stenelmis                | crenata                  |           | 21                         | 22    | 79    |
| 9021113070   | Stenelmis                |                          |           | 2                          | 2     | 1     |
| 9020402015   | Stenonema                |                          |           | 1                          | 0     | 1     |
| 9021011076   | Tanytarsus               | sp. 06                   |           | 1                          | 0     | 0     |
| 9021011076   | Tanytarsus               | sp. 08C                  |           | 7                          | 6     | 2     |
|              | Tanytarsus/Micropsectra  |                          | inc. pupa | 0                          | 1     | 0     |

Log 1109

| Bar Code No. | Taxon             |         |         | No. identified from sample |       |       |
|--------------|-------------------|---------|---------|----------------------------|-------|-------|
|              | Genus             | Species | Comment | Bag 1                      | Bag 2 | Bag 3 |
| 9021011021   | Trissopelopia     | ogemawi |         | 0                          | 2     | 0     |
|              | Unid. Chironomini |         |         | 1                          | 0     | 0     |

|                      |  |            |            |            |
|----------------------|--|------------|------------|------------|
| <b>Total Benthos</b> |  | <b>107</b> | <b>252</b> | <b>135</b> |
| <b>Total OTUs</b>    |  | <b>18</b>  | <b>23</b>  | <b>16</b>  |
| <b>Total spp.</b>    |  | <b>14</b>  | <b>21</b>  | <b>14</b>  |

**Appendix C**  
**2002 Data**

Maine Department of Environmental Protection  
Logsheet for Benthic Macroinvertebrates Identified

Michael Winnell -- Freshwater Benthic Services, Inc.

|                     |                               |
|---------------------|-------------------------------|
| Sample Log No.:     | 1199                          |
| Station No.:        | 650                           |
| Waterbody Name:     | Richardson Brook              |
| Town Name:          | Bar Harbor - Acadia Natl. Pk. |
| Date of Collection: | 06 Aug 02                     |
| Subsample Factor:   | 1.00                          |
| Sampler Type:       | ? (not stated)                |

| Chironomidae Subsample (SS) Effort |      |      |      |
|------------------------------------|------|------|------|
| Level of SS Effort                 | none | none | none |
| No. Chir SSed                      |      |      |      |
| No. Chir in SS                     |      |      |      |
| Misc. Chir not SSed                |      |      |      |
| TChir                              | 0    | 0    | 0    |

| Maine Code     | Taxon                       |                    | No. identified from sample |             |             |
|----------------|-----------------------------|--------------------|----------------------------|-------------|-------------|
|                | Taxon Name                  | Comment            | Replicate 1                | Replicate 2 | Replicate 3 |
| 1001           | Gastropoda                  |                    | 0                          | 0           | 1           |
| 09020401001    | Baetis                      |                    | 0                          | 0           | 3           |
| 09020401       | Baetidae                    | Procloeon/Centropt | 0                          | 1           | 0           |
| 09020402       | Heptageniidae               |                    | 1                          | 2           | 1           |
| 09020402011    | Leucrocuta                  |                    | 8                          | 3           | 0           |
| 09020402015051 | Stenonema modestum          |                    | 4                          | 5           | 2           |
| 09020410036    | Eurylophella                |                    | 1                          | 0           | 3           |
| 09020402015    | Stenonema                   |                    | 1                          | 0           | 1           |
| 09020406       | Leptophlebiidae             |                    | 1                          | 0           | 3           |
| 09020209042125 | Acroneuria lycorias         |                    | 5                          | 2           | 0           |
| 09020204020    | Leuctra                     |                    | 0                          | 1           | 0           |
| 09020301004012 | Boyeria vinosa              |                    | 5                          | 0           | 1           |
| 09020603010    | Polycentropus               |                    | 3                          | 3           | 2           |
| 09020611064    | Lepidostoma                 |                    | 1                          | 0           | 0           |
| 09020603009013 | Nyctiophylax moestus        |                    | 0                          | 5           | 1           |
| 09020618075147 | Mystacides sepulchralis     |                    | 0                          | 1           | 0           |
| 09020614068    | Psilotreta                  |                    | 0                          | 0           | 3           |
| 09021112062031 | Helichus basalis            |                    | 0                          | 1           | 0           |
| 09021113064    | Dubiraphia                  |                    | 2                          | 0           | 1           |
| 09021113070055 | Stenelmis crenata           |                    | 1                          | 0           | 0           |
| 09021011094166 | Microtendipes pedellus-grp. |                    | 2                          | 9           | 3           |
| 09021011070    | Micropsectra                |                    | 1                          | 0           | 0           |
| 09021011102185 | Polypedilum illinoense-grp. |                    | 1                          | 0           | 0           |
| 09021011056    | Psectrocladius              |                    | 0                          | 1           | 0           |
| 09021011072    | Rheotanytarsus              |                    | 1                          | 0           | 0           |
| 09021011061    | Synorthocladius             |                    | 0                          | 1           | 0           |
| 09021011021    | Trissopelopia               | ogemawi            | 0                          | 2           | 0           |
| 09021011       | Chironomidae                | unid. chironomini  | 0                          | 0           | 1           |

|               |    |    |    |
|---------------|----|----|----|
| Total Benthos | 38 | 37 | 26 |
| Total OTUs    | 16 | 14 | 14 |
| Total spp.    | 14 | 13 | 11 |

**Tribes and Genus Groups included in Chironomidae 09021011 basket counts**

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

**Station Information**

|                                                                                                                                                                              |                                                                                                                                                                                       |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Station Number:</b> S650<br><b>Waterbody:</b> Richardson Brook<br><b>Town:</b> Bar Harbor<br><b>Directions:</b> southeast of Rt 233, dwnstrm of Heath Brook and town line | <b>DEP Drainage:</b> Undesignated<br><b>HUC Code:</b> 0<br><b>HUC Name:</b> Not Designated<br><b>Latitude:</b> Deg Min Sec<br><b>Longitude:</b> Deg Min Sec<br><b>Stream Order:</b> 2 |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**Sample Information**

|                             |                                    |                                  |
|-----------------------------|------------------------------------|----------------------------------|
| <b>Log Number:</b> 1199     | <b>Type of Sample:</b> Riffle Bags | <b>Date Deployed:</b> 02-AUG-02  |
| <b>Subsample Factor:</b> X1 | <b>Replicates:</b> 3               | <b>Date Retrieved:</b> 06-SEP-02 |

**Classification Attainment**

|                                      |                                  |  |
|--------------------------------------|----------------------------------|--|
| <b>Statutory Class:</b> AA           | <b>Final Determination:</b>      |  |
| <b>Model Result with P &gt; .6</b> I | <b>Reason for Determination:</b> |  |
| <b>Date Last Calculated:</b>         |                                  |  |

**Model Probabilities**

| <u>First Stage Model</u>  |               | <u>C or Better Model</u>       |      |
|---------------------------|---------------|--------------------------------|------|
| Class A                   | 0.87          | Class A, B, or C               | 1.00 |
| Class B                   | 0.12          | Non-Attainment                 | 0.00 |
|                           | Class C 0.01  |                                |      |
|                           | Class NA 0.00 |                                |      |
| <u>B or Better Model</u>  |               | <u>A Model</u>                 |      |
| Class A or B              | 1.00          | Class A                        | 1.00 |
| Class C or Non-Attainment | 0.00          | Class B or C or Non-Attainment | 0.00 |

**Model Variables**

|                                        |       |                                                                |       |
|----------------------------------------|-------|----------------------------------------------------------------|-------|
| 01 Total Abundance of Individuals      | 33.67 | 18 Relative Abundance - Ephemeroptera                          | 0.40  |
| 02 Generic Richness                    | 25.00 | 19 EPT Generic Richness                                        | 13.00 |
| 03 Plecoptera Abundance                | 2.67  | 21 Sum of Abundances: <i>Dicrotendipes</i> ,                   | 0.35  |
| 04 Ephemeroptera Abundance             | 13.33 | <i>Microsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i> |       |
| 05 Shannon - Wiener Diversity          | 3.97  | 23 Relative Generic Richness- Plecoptera                       | 0.08  |
| 06 Hilsenhoff Biotic Index             | 3.65  | 25 Sum of Abundances: <i>Cheumatopsyche</i> ,                  | 0.00  |
| 07 Relative Abundance - Chironomidae   | 0.22  | <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>     |       |
| 08 Relative Generic Richness - Diptera | 0.28  | 26 Sum of Abundances: <i>Acroneuria</i> , <i>Stenonema</i>     | 7.39  |
| 09 <i>Hydropsyche</i> Abundance        | 0.00  | 28 EP Generic Richness/14                                      | 0.57  |
| 11 <i>Cheumatopsyche</i> Abundance     | 0.00  | 30 Presence of Class A Indicator Taxa/7                        | 0.43  |
| 12 EPT Generic Richness/ Diptera       | 1.86  |                                                                |       |
| Generic Richness                       |       |                                                                |       |

**Five Most Dominant Taxa**

|                                     |      | Taxa Rank | Taxa Name     | Percent |
|-------------------------------------|------|-----------|---------------|---------|
| 13 Relative Abundance - Oligochaeta | 0.00 | 1         | Stenonema     | 15.03   |
| 15 Perlidae Abundance (Family       | 2.33 | 2         | Microtendipes | 14.52   |
| Functional Group)                   |      | 3         | Leucrocuta    | 12.71   |
| 16 Tanypodinae Abundance (Family    | 0.70 | 4         | Polycentropus | 7.93    |
| Functional Group)                   |      | 5         | Acroneuria    | 6.92    |
| 17 Chironomini Abundance (Family    | 5.24 |           |               |         |
| Functional Group)                   |      |           |               |         |

|            |    |    |    |
|------------|----|----|----|
| Total spp. | 17 | 17 | 16 |
|------------|----|----|----|

**Tribes and Genus Groups included in Chironomidae 09021011 basket counts**

Maine Department of Environmental Protection  
Logsheet for Benthic Macroinvertebrates Identified

Michael Winnell -- Freshwater Benthic Services, Inc.

|                     |                            |
|---------------------|----------------------------|
| Sample Log No.:     | 1198                       |
| Station No.:        | 361                        |
| Waterbody Name:     | Heath Brook                |
| Town Name:          | Tremont - Acadia Natl. Pk. |
| Date of Collection: | 04 Sep 02                  |
| Subsample Factor:   | 1.00                       |
| Sampler Type:       | ? (not stated)             |

| Chironomidae Subsample (SS) Effort |      |      |      |
|------------------------------------|------|------|------|
| Level of SS Effort                 | none | none | none |
| No. Chir SSed                      |      |      |      |
| No. Chir in SS                     |      |      |      |
| Misc. Chir not SSed                |      |      |      |
| TChir                              | 0    | 0    | 0    |

| Maine Code     | Taxon                       |                     | No. identified from sample |             |             |
|----------------|-----------------------------|---------------------|----------------------------|-------------|-------------|
|                | Taxon Name                  | Comment             | Replicate 1                | Replicate 2 | Replicate 3 |
| 03010101004    | Phagocata                   |                     | 0                          | 1           | 0           |
| 03010101001001 | Cura foremanii              |                     | 0                          | 0           | 1           |
| 10020201002    | Pisidium                    |                     | 1                          | 0           | 0           |
| 090301         | Acariformes                 |                     | 0                          | 1           | 0           |
| 09020406       | Leptophlebiidae             |                     | 6                          | 3           | 3           |
| 09020406026    | Paraleptophlebia            |                     | 3                          | 2           | 0           |
| 09020301004012 | Boyeria vinosa              |                     | 4                          | 1           | 1           |
| 09020307043088 | Calopteryx maculata         |                     | 2                          | 0           | 0           |
| 09020702004    | Sialis                      |                     | 1                          | 0           | 0           |
| 09020603010    | Polycentropus               |                     | 16                         | 7           | 11          |
| 09020607026    | Hydroptila                  |                     | 1                          | 0           | 0           |
| 09020615069134 | Molanna tryphena            |                     | 1                          | 1           | 2           |
| 09020615069    | Molanna                     |                     | 0                          | 0           | 1           |
| 09021113070    | Stenelmis                   |                     | 3                          | 2           | 2           |
| 09021113070055 | Stenelmis crenata           |                     | 2                          | 0           | 0           |
| 09021113069052 | Promoresia tardella         |                     | 0                          | 0           | 1           |
| 09021011004    | Conchapelopia               |                     | 0                          | 1           | 1           |
| 09021011010    | Meropelopia                 |                     | 1                          | 3           | 2           |
| 09021011094166 | Microtendipes pedellus-grp. |                     | 23                         | 35          | 28          |
| 09021011070    | Micropsectra                |                     | 1                          | 1           | 3           |
| 09021011050092 | Orthocladius annectens      |                     | 1                          | 0           | 3           |
| 09021011095    | Nilothauma                  |                     | 0                          | 2           | 0           |
| 09021011057106 | Rheocricotopus tuberculatus |                     | 0                          | 1           | 0           |
| 09021011072    | Rheotanytarsus              |                     | 1                          | 0           | 0           |
| 09021011076    | Tanytarsus                  | sp. 09              | 0                          | 0           | 2           |
| 09021011076    | Tanytarsus                  | sp. 06              | 5                          | 4           | 3           |
| 09021011076    | Tanytarsus                  | sp. 08C             | 2                          | 1           | 2           |
| 09021011076    | Tanytarsus                  |                     | 2                          | 0           | 0           |
| 09021011021    | Trissopelopia               | ogemawi             | 0                          | 1           | 1           |
| 09021011107    | Tribelos                    | jucundum            | 0                          | 1           | 0           |
| 09021011022    | Zavrelimyia                 |                     | 1                          | 0           |             |
| 09021011       | Chironomidae                | unid. orthocladiini | 1                          | 0           | 0           |

|               |    |    |    |
|---------------|----|----|----|
| Total Benthos | 78 | 68 | 67 |
| Total OTUs    | 21 | 18 | 17 |

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

**Station Information**

|                                          |                             |
|------------------------------------------|-----------------------------|
| Station Number: S361                     | DEP Drainage: Maine Coastal |
| Waterbody: Heath Brook                   | HUC Code: 01050002          |
| Town: Tremont                            | HUC Name: Maine Coastal     |
| Directions: Below Seal Cove Rd. crossing | Latitude: Deg Min Sec       |
|                                          | Longitude: Deg Min Sec      |
|                                          | Stream Order: 1             |

**Sample Information**

|                      |                             |                           |
|----------------------|-----------------------------|---------------------------|
| Log Number: 1198     | Type of Sample: Riffle Bags | Date Deployed: 01-AUG-02  |
| Subsample Factor: X1 | Replicates: 3               | Date Retrieved: 04-SEP-02 |

**Classification Attainment**

|                             |                           |  |
|-----------------------------|---------------------------|--|
| Statutory Class: AA         | Final Determination:      |  |
| Model Result with P > .6 NA | Reason for Determination: |  |
| Date Last Calculated:       |                           |  |

**Model Probabilities**

| <u>First Stage Model</u>        | <u>C or Better Model</u>            |
|---------------------------------|-------------------------------------|
| Class A 0.00      Class C 0.57  | Class A, B, or C 0.00               |
| Class B 0.00      Class NA 0.43 | Non-Attainment 1.00                 |
| <u>B or Better Model</u>        | <u>A Model</u>                      |
| Class A or B 0.00               | Class A 0.00                        |
| Class C or Non-Attainment 1.00  | Class B or C or Non-Attainment 1.00 |

**Model Variables**

|                                                       |       |                                                    |      |
|-------------------------------------------------------|-------|----------------------------------------------------|------|
| 01 Total Abundance of Individuals                     | 71.00 | 18 Relative Abundance - Ephemeroptera              | 0.08 |
| 02 Generic Richness                                   | 26.00 | 19 EPT Generic Richness                            | 5.00 |
| 03 Plecoptera Abundance                               | 0.00  | 21 Sum of Abundances: <i>Dicrotendipes</i> ,       | 1.68 |
| 04 Ephemeroptera Abundance                            | 5.67  | <i>Micropsectra, Parachironomus, Helobdella</i>    |      |
| 05 Shannon - Wiener Diversity                         | 3.14  | 23 Relative Generic Richness- Plecoptera           | 0.00 |
| 06 Hilsenhoff Biotic Index                            | 5.66  | 25 Sum of Abundances: <i>Cheumatopsyche</i> ,      | 7.05 |
| 07 Relative Abundance - Chironomidae                  | 0.62  | <i>Cricotopus, Tanytarsus, Ablabesmyia</i>         |      |
| 08 Relative Generic Richness - Diptera                | 0.46  | 26 Sum of Abundances: <i>Acroneuria, Stenonema</i> | 0.00 |
| 09 <i>Hydropsyche</i> Abundance                       | 0.00  | 28 EP Generic Richness/14                          | 0.14 |
| 11 <i>Cheumatopsyche</i> Abundance                    | 0.00  | 30 Presence of Class A Indicator Taxa/7            | 0.00 |
| 12 EPT Generic Richness/ Diptera<br>Genric Richness   | 0.42  |                                                    |      |
| 13 Relative Abundance - Oligochaeta                   | 0.00  |                                                    |      |
| 15 Perlidae Abundance (Family<br>Functional Group)    | 0.00  |                                                    |      |
| 16 Tanypodinae Abundance (Family<br>Functional Group) | 3.69  |                                                    |      |
| 17 Chironomini Abundance (Family<br>Functional Group) | 29.89 |                                                    |      |

**Five Most Dominant Taxa**

| Taxa Rank | Taxa Name       | Percent |
|-----------|-----------------|---------|
| 1         | Microtendipes   | 40.68   |
| 2         | Polycentropus   | 15.96   |
| 3         | Tanytarsus      | 9.93    |
| 4         | Leptophlebiidae | 5.63    |
| 5         | Stenelmis       | 4.23    |

|                |                        |                     |    |     |    |
|----------------|------------------------|---------------------|----|-----|----|
| 09021011052    | Parakiefferiella       |                     | 1  | 2   | 0  |
| 09021011100    | Paratendipes           |                     | 1  | 0   | 0  |
| 09021011102181 | Polypedilum aviceps    |                     | 0  | 10  | 1  |
| 09021011102    | Polypedilum            |                     | 0  | 1   | 0  |
| 09021011072    | Rheotanytarsus         |                     | 14 | 220 | 97 |
| 09021011118    | Stilocladius           |                     | 0  | 0   | 1  |
| 09021011061    | Synorthocladius        |                     | 2  | 0   | 0  |
| 09021011076    | Tanytarsus             |                     | 1  | 0   | 0  |
| 09021011021    | Trissopelopia          | ogemawi             | 1  | 4   | 1  |
| 09021011065111 | Tvetenia bavarica grp. |                     | 2  | 11  | 0  |
| 09021011       | Chironomidae           | unid. tanpodinae    | 1  | 1   | 0  |
| 09021011       | Chironomidae           | unid. orthocladiini | 0  | 1   | 0  |

|                      |            |            |            |
|----------------------|------------|------------|------------|
| <b>Total Benthos</b> | <b>141</b> | <b>341</b> | <b>167</b> |
| <b>Total OTUs</b>    | <b>28</b>  | <b>28</b>  | <b>17</b>  |
| <b>Total spp.</b>    | <b>24</b>  | <b>23</b>  | <b>15</b>  |

**Tribes and Genus Groups included in Chironomidae 09021011 basket counts**

Maine Department of Environmental Protection  
Logsheet for Benthic Macroinvertebrates Identified

Michael Winnell -- Freshwater Benthic Services, Inc.

|                     |                                    |
|---------------------|------------------------------------|
| Sample Log No.:     | 1197                               |
| Station No.:        | 455                                |
| Waterbody Name:     | Marshall Brook                     |
| Town Name:          | Southwest Harbor - Acadia Natl. Pk |
| Date of Collection: | 04 Sep 02                          |
| Subsample Factor:   | 1.00                               |
| Sampler Type:       | ? (not stated)                     |

| Chironomidae Subsample (SS) Effort |      |      |      |
|------------------------------------|------|------|------|
| Level of SS Effort                 | none | none | none |
| No. Chir SSed                      |      |      |      |
| No. Chir in SS                     |      |      |      |
| Misc. Chir not SSed                |      |      |      |
| TChir                              | 0    | 0    | 0    |

| Maine Code     | Taxon                       |         | No. identified from sample |             |             |
|----------------|-----------------------------|---------|----------------------------|-------------|-------------|
|                | Taxon Name                  | Comment | Replicate 1                | Replicate 2 | Replicate 3 |
| 03010101001001 | Cura foremanii              |         | 1                          | 0           | 0           |
| 02010101001    | Hydra                       |         | 0                          | 1           | 0           |
| 08020202009005 | Nais communis               |         | 0                          | 1           | 0           |
| 09010203006011 | Hyalella azteca             |         | 3                          | 0           | 1           |
| 09030102001    | Hygrobates                  |         | 2                          | 2           | 0           |
| 090301         | Acariformes                 |         | 0                          | 1           | 0           |
| 09020401       | Baetidae                    |         | 0                          | 1           | 0           |
| 09020401007    | Acerpenna                   |         | 1                          | 0           | 0           |
| 09020401007001 | Acerpenna macdunnoughi      |         | 1                          | 0           | 0           |
| 09020402015051 | Stenonema modestum          |         | 2                          | 0           | 0           |
| 09020410036    | Eurylophella                |         | 10                         | 17          | 14          |
| 09020406       | Leptophlebiidae             |         | 6                          | 2           | 1           |
| 09020406026    | Paraleptophlebia            |         | 1                          | 0           | 0           |
| 09020301004    | Boyeria                     |         | 0                          | 2           | 0           |
| 09020301004011 | Boyeria grafiana            |         | 0                          | 1           | 0           |
| 09020301004012 | Boyeria vinosa              |         | 2                          | 1           | 3           |
| 09020208040    | Sweltsa                     |         | 3                          | 0           | 0           |
| 09020203018    | Paracapnia                  |         | 1                          | 0           | 0           |
| 09020207       | Perlodidae                  |         | 0                          | 1           | 0           |
| 09020604016    | Hydropsyche                 |         | 13                         | 13          | 1           |
| 09020610060120 | Psychoglypha subborealis    |         | 1                          | 0           | 1           |
| 09020606020    | Glossosoma                  |         | 1                          | 0           | 0           |
| 09020604016032 | Hydropsyche sparna          |         | 5                          | 0           | 0           |
| 09020603010    | Polycentropus               |         | 1                          | 0           | 0           |
| 09020605019060 | Rhyacophila fuscua          |         | 0                          | 1           | 1           |
| 09020605019    | Rhyacophila                 |         | 0                          | 1           | 0           |
| 09020614068    | Psilotreta                  |         | 0                          | 1           | 0           |
| 09020604016033 | Hydropsyche ventura         |         | 0                          | 0           | 1           |
| 09021113069052 | Promoresia tardella         |         | 45                         | 25          | 34          |
| 09021113068049 | Oulimnius latiusculus       |         | 0                          | 0           | 1           |
| 09021016057    | Hemerodromia                |         | 0                          | 1           | 0           |
| 09021011010    | Meropelopia                 |         | 0                          | 0           | 1           |
| 09021011094166 | Microtendipes pedellus-grp. |         | 0                          | 1           | 0           |
| 09021011070    | Micropsectra                |         | 17                         | 9           | 5           |
| 09021011025001 | Pagastia orthogonia         |         | 2                          | 9           | 3           |

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

**Station Information**

|                            |                             |  |
|----------------------------|-----------------------------|--|
| Station Number: S455       | DEP Drainage: Maine Coastal |  |
| Waterbody: Marshall Brook  | HUC Code: 01050002          |  |
| Town: Southwest Harbor     | HUC Name: Maine Coastal     |  |
| Directions: CHECK LOCATION | Latitude: Deg Min Sec       |  |
|                            | Longitude: Deg Min Sec      |  |
|                            | Stream Order: 2             |  |

**Sample Information**

|                      |                             |                           |
|----------------------|-----------------------------|---------------------------|
| Log Number: 1197     | Type of Sample: Riffle Bags | Date Deployed: 01-AUG-02  |
| Subsample Factor: X1 | Replicates: 3               | Date Retrieved: 06-SEP-02 |

**Classification Attainment**

|                            |                           |  |
|----------------------------|---------------------------|--|
| Statutory Class: AA        | Final Determination:      |  |
| Model Result with P > .6 A | Reason for Determination: |  |
| Date Last Calculated:      |                           |  |

**Model Probabilities**

| <u>First Stage Model</u>       |               | <u>C or Better Model</u>            |  |
|--------------------------------|---------------|-------------------------------------|--|
| Class A 0.15                   | Class C 0.24  | Class A, B, or C 1.00               |  |
| Class B 0.61                   | Class NA 0.00 | Non-Attainment 0.00                 |  |
| <u>B or Better Model</u>       |               | <u>A Model</u>                      |  |
| Class A or B 0.64              |               | Class A 0.66                        |  |
| Class C or Non-Attainment 0.36 |               | Class B or C or Non-Attainment 0.34 |  |

**Model Variables**

|                                                       |        |                                                                                                                 |       |
|-------------------------------------------------------|--------|-----------------------------------------------------------------------------------------------------------------|-------|
| 01 Total Abundance of Individuals                     | 216.33 | 18 Relative Abundance - Ephemeroptera                                                                           | 0.09  |
| 02 Generic Richness                                   | 37.00  | 19 EPT Generic Richness                                                                                         | 15.00 |
| 03 Plecoptera Abundance                               | 1.67   | 21 Sum of Abundances: <i>Dicrotendipes</i> ,<br><i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i> | 10.41 |
| 04 Ephemeroptera Abundance                            | 18.67  | 23 Relative Generic Richness- Plecoptera                                                                        | 0.08  |
| 05 Shannon - Wiener Diversity                         | 2.73   | 25 Sum of Abundances: <i>Cheumatopsyche</i> ,<br><i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>     | 0.34  |
| 06 Hilsenhoff Biotic Index                            | 5.35   | 26 Sum of Abundances: <i>Acroneuria</i> , <i>Stenonema</i>                                                      | 0.67  |
| 07 Relative Abundance - Chironomidae                  | 0.65   | 28 EP Generic Richness/14                                                                                       | 0.64  |
| 08 Relative Generic Richness - Diptera                | 0.38   | 30 Presence of Class A Indicator Taxa/7                                                                         | 0.43  |
| 09 <i>Hydropsyche</i> Abundance                       | 11.00  |                                                                                                                 |       |
| 11 <i>Cheumatopsyche</i> Abundance                    | 0.00   |                                                                                                                 |       |
| 12 EPT Generic Richness/ Diptera<br>Generic Richness  | 1.07   |                                                                                                                 |       |
| 13 Relative Abundance - Oligochaeta                   | 0.00   |                                                                                                                 |       |
| 15 Perlidae Abundance (Family<br>Functional Group)    | 0.00   |                                                                                                                 |       |
| 16 Tanypodinae Abundance (Family<br>Functional Group) | 2.35   |                                                                                                                 |       |
| 17 Chironomini Abundance (Family<br>Functional Group) | 4.70   |                                                                                                                 |       |

**Five Most Dominant Taxa**

| Taxa Rank | Taxa Name      | Percent |
|-----------|----------------|---------|
| 1         | Rheotanytarsus | 51.37   |
| 2         | Promoresia     | 16.03   |
| 3         | Eurylophella   | 6.32    |
| 4         | Hydropsyche    | 5.08    |
| 5         | Micropsectra   | 4.81    |

|                |                            |                      |   |    |   |
|----------------|----------------------------|----------------------|---|----|---|
| 09021011102    | Polypedilum                |                      | 0 | 0  | 1 |
| 09021011057109 | Rheocricotopus eminellobus |                      | 0 | 0  | 1 |
| 09021011057111 | Rheocricotopus pauciseta   |                      | 2 | 14 | 1 |
| 09021011072    | Rheotanytarsus             |                      | 0 | 1  | 0 |
| 09021011061    | Synorthocladius            |                      | 2 | 2  | 1 |
| 09021011021    | Trissopelopia              | ogemawi              | 0 | 2  | 1 |
| 09021011062110 | Thienemanniella xena       |                      | 2 | 2  | 0 |
| 09021011022045 | Zavrelimyia thryptica-grp. |                      | 0 | 1  | 0 |
| 09021011       | Chironomidae               | unid. orthoclaadiini | 1 | 1  | 0 |
| 09021011       | Chironomidae               | unid. tanypodini     | 0 | 0  | 1 |

|                      |           |            |           |
|----------------------|-----------|------------|-----------|
| <b>Total Benthos</b> | <b>93</b> | <b>117</b> | <b>94</b> |
| <b>Total OTUs</b>    | <b>21</b> | <b>32</b>  | <b>33</b> |
| <b>Total spp.</b>    | <b>20</b> | <b>28</b>  | <b>27</b> |

**Tribes and Genus Groups included in Chironomidae 09021011 basket counts**

Maine Department of Environmental Protection  
Logsheet for Benthic Macroinvertebrates Identified

Michael Winnell -- Freshwater Benthic Services, Inc.

|                     |                            |
|---------------------|----------------------------|
| Sample Log No.:     | 1196                       |
| Station No.:        | 323                        |
| Waterbody Name:     | Stanley Brook              |
| Town Name:          | Tremont - Acadia Natl. Pk. |
| Date of Collection: | 05 Sep 02                  |
| Subsample Factor:   | 1.00                       |
| Sampler Type:       | ? (not stated)             |

| Chironomidae Subsample (SS) Effort |      |      |      |
|------------------------------------|------|------|------|
| Level of SS Effort                 | none | none | none |
| No. Chir SSed                      |      |      |      |
| No. Chir in SS                     |      |      |      |
| Misc. Chir not SSed                |      |      |      |
| TChir                              | 0    | 0    | 0    |

| Maine Code     | Taxon                    |                   | No. identified from sample |             |             |
|----------------|--------------------------|-------------------|----------------------------|-------------|-------------|
|                | Taxon Name               | Comment           | Replicate 1                | Replicate 2 | Replicate 3 |
| 09020401       | Baetidae                 |                   | 0                          | 0           | 4           |
| 09020401007    | Acerpenna                |                   | 0                          | 0           | 1           |
| 09020401007001 | Acerpenna macdunnoughi   |                   | 1                          | 3           | 3           |
| 09020401001    | Baetis                   |                   | 0                          | 2           | 1           |
| 09020401001004 | Baetis flavistriga       |                   | 4                          | 1           | 2           |
| 09020401001012 | Baetis tricaudatus       |                   | 32                         | 17          | 9           |
| 09020410       | Ephemerellidae           |                   | 0                          | 1           | 1           |
| 09020410037124 | Serratella serratoides   |                   | 12                         | 11          | 3           |
| 09020410036    | Eurylophella             |                   | 0                          | 7           | 15          |
| 09020406026    | Paraleptophlebia         |                   | 3                          | 1           | 8           |
| 09020406       | Leptophlebiidae          |                   | 0                          | 7           | 12          |
| 09020207       | Perlodidae               |                   | 1                          | 1           | 2           |
| 09020208040    | Sweltsa                  |                   | 2                          | 2           | 3           |
| 09020605019060 | Rhyacophila fuscula      |                   | 1                          | 0           | 1           |
| 09020605019    | Rhyacophila              |                   | 1                          | 6           | 2           |
| 09020604016033 | Hydropsyche ventura      |                   | 4                          | 2           | 1           |
| 09020606020    | Glossosoma               |                   | 3                          | 1           | 4           |
| 09020603010    | Polycentropus            |                   | 0                          | 2           | 1           |
| 09020615069    | Molanna                  |                   | 0                          | 1           | 0           |
| 09020614068    | Psilotreta               |                   | 0                          | 1           | 0           |
| 09020614068134 | Psilotreta frontalis     |                   | 0                          | 0           | 1           |
| 09020611064    | Lepidostoma              |                   | 0                          | 0           | 1           |
| 09020610060120 | Psychoglypha subborealis |                   | 0                          | 0           | 1           |
| 090209         | Lepidoptera              |                   | 1                          | 0           | 0           |
| 09021113069052 | Promoresia tardella      |                   | 14                         | 6           | 5           |
| 09021012047    | Simulium                 | tuberosum complex | 2                          | 0           | 0           |
| 09021001005    | Dicranota                |                   | 0                          | 1           | 1           |
| 09021001002    | Tipula                   |                   | 0                          | 0           | 1           |
| 09021011033049 | Brillia flavifrons       |                   | 0                          | 1           | 0           |
| 09021011004    | Conchapelopia            |                   | 0                          | 2           | 0           |
| 09021011036    | Corynoneura              |                   | 1                          | 9           | 0           |
| 09021011070    | Micropsectra             |                   | 0                          | 1           | 1           |
| 09021011053    | Parametriocnemus         |                   | 1                          | 2           | 3           |
| 09021011013    | Paramerina               |                   | 0                          | 0           | 1           |
| 09021011102181 | Polypedilum aviceps      |                   | 3                          | 6           | 0           |

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

**Station Information**

|                                         |                             |  |
|-----------------------------------------|-----------------------------|--|
| Station Number: S323                    | DEP Drainage: Maine Coastal |  |
| Waterbody: Stanley Brook                | HUC Code: 01050002          |  |
| Town: Tremont                           | HUC Name: Maine Coastal     |  |
| Directions: Above Rt. 3; Park Loop Road | Latitude: Deg Min Sec       |  |
|                                         | Longitude: Deg Min Sec      |  |
|                                         | Stream Order: 1             |  |

**Sample Information**

|                      |                             |                           |
|----------------------|-----------------------------|---------------------------|
| Log Number: 1196     | Type of Sample: Riffle Bags | Date Deployed: 02-AUG-02  |
| Subsample Factor: X1 | Replicates: 3               | Date Retrieved: 06-SEP-02 |

**Classification Attainment**

|                            |                           |  |
|----------------------------|---------------------------|--|
| Statutory Class: AA        | Final Determination:      |  |
| Model Result with P > .6 A | Reason for Determination: |  |
| Date Last Calculated:      |                           |  |

**Model Probabilities**

| <u>First Stage Model</u>       | <u>C or Better Model</u>            |
|--------------------------------|-------------------------------------|
| Class A 0.80                   | Class A, B, or C 1.00               |
| Class B 0.19                   | Non-Attainment 0.00                 |
| Class C 0.01                   |                                     |
| Class NA 0.00                  |                                     |
| <u>B or Better Model</u>       | <u>A Model</u>                      |
| Class A or B 1.00              | Class A 1.00                        |
| Class C or Non-Attainment 0.00 | Class B or C or Non-Attainment 0.00 |

**Model Variables**

|                                        |        |                                                                 |       |
|----------------------------------------|--------|-----------------------------------------------------------------|-------|
| 01 Total Abundance of Individuals      | 101.33 | 18 Relative Abundance - Ephemeroptera                           | 0.53  |
| 02 Generic Richness                    | 34.00  | 19 EPT Generic Richness                                         | 16.00 |
| 03 Plecoptera Abundance                | 3.67   | 21 Sum of Abundances: <i>Dicrotendipes</i> ,                    | 0.70  |
| 04 Ephemeroptera Abundance             | 53.67  | <i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i> |       |
| 05 Shannon - Wiener Diversity          | 4.11   | 23 Relative Generic Richness- Plecoptera                        | 0.06  |
| 06 Hilsenhoff Biotic Index             | 3.77   | 25 Sum of Abundances: <i>Cheumatopsyche</i> ,                   | 0.00  |
| 07 Relative Abundance - Chironomidae   | 0.22   | <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>      |       |
| 08 Relative Generic Richness - Diptera | 0.47   | 26 Sum of Abundances: <i>Acroneuria</i> , <i>Stenonema</i>      | 0.00  |
| 09 <i>Hydropsyche</i> Abundance        | 2.33   | 28 EP Generic Richness/14                                       | 0.57  |
| 11 <i>Cheumatopsyche</i> Abundance     | 0.00   | 30 Presence of Class A Indicator Taxa/7                         | 0.57  |
| 12 EPT Generic Richness/ Diptera       | 1.00   |                                                                 |       |
| Generic Richness                       |        |                                                                 |       |
| 13 Relative Abundance - Oligochaeta    | 0.00   |                                                                 |       |
| 15 Perlidae Abundance (Family          | 0.00   |                                                                 |       |
| Functional Group)                      |        |                                                                 |       |
| 16 Tanypodinae Abundance (Family       | 2.44   |                                                                 |       |
| Functional Group)                      |        |                                                                 |       |
| 17 Chironomini Abundance (Family       | 3.49   |                                                                 |       |
| Functional Group)                      |        |                                                                 |       |

**Five Most Dominant Taxa**

| Taxa Rank | Taxa Name       | Percent |
|-----------|-----------------|---------|
| 1         | Baetis          | 23.55   |
| 2         | Serratella      | 8.91    |
| 3         | Promoresia      | 8.22    |
| 4         | Eurylophella    | 7.54    |
| 5         | Leptophlebiidae | 6.25    |

|                |                        |                   |   |   |   |
|----------------|------------------------|-------------------|---|---|---|
| 09021011072    | Rheotanytarsus         |                   | 4 | 2 | 8 |
| 09021011061    | Synorthocladius        |                   | 1 | 0 | 0 |
| 09021011062    | Thienemanniella        |                   | 0 | 1 | 0 |
| 09021011062110 | Thienemanniella xena   |                   | 1 | 0 | 0 |
| 09021011065111 | Tvetenia bavarica grp. |                   | 3 | 3 | 0 |
| 09021011       | Chironomidae           | unid. chironomini | 1 | 1 | 0 |

|                      |           |           |           |
|----------------------|-----------|-----------|-----------|
| <b>Total Benthos</b> | <b>68</b> | <b>32</b> | <b>30</b> |
| <b>Total OTUs</b>    | <b>33</b> | <b>16</b> | <b>12</b> |
| <b>Total spp.</b>    | <b>28</b> | <b>16</b> | <b>12</b> |

**Tribes and Genus Groups included in Chironomidae 09021011 basket counts**

Maine Department of Environmental Protection  
Logsheet for Benthic Macroinvertebrates Identified

Michael Winnell -- Freshwater Benthic Services, Inc.

|                     |                               |
|---------------------|-------------------------------|
| Sample Log No.:     | 1195                          |
| Station No.:        | 321                           |
| Waterbody Name:     | Hunters Brook                 |
| Town Name:          | Mt. Desert - Acadia Natl. Pk. |
| Date of Collection: | 05 Sep 02                     |
| Subsample Factor:   | 1.00                          |
| Sampler Type:       | ? (not stated)                |

| Chironomidae Subsample (SS) Effort |      |      |      |
|------------------------------------|------|------|------|
| Level of SS Effort                 | none | none | none |
| No. Chir SSed                      |      |      |      |
| No. Chir in SS                     |      |      |      |
| Misc. Chir not SSed                |      |      |      |
| TChir                              | 0    | 0    | 0    |

| Maine Code     | Taxon                       |                  | No. identified from sample |             |             |
|----------------|-----------------------------|------------------|----------------------------|-------------|-------------|
|                | Taxon Name                  | Comment          | Replicate 1                | Replicate 2 | Replicate 3 |
| 10010202026    | Physa                       |                  | 0                          | 1           | 0           |
| 09020401007001 | Acerpenna macdunnoughi      |                  | 4                          | 0           | 1           |
| 09020401007011 | Acerpenna pygmaea           |                  | 1                          | 0           | 0           |
| 09020402014045 | Stenacron interpunctatum    |                  | 2                          | 0           | 7           |
| 09020402       | Heptageniidae               |                  | 2                          | 0           | 0           |
| 09020410036    | Eurylophella                |                  | 1                          | 0           | 3           |
| 09020406       | Leptophlebiidae             |                  | 1                          | 0           | 0           |
| 09020410037124 | Serratella serratoides      |                  | 1                          | 3           | 0           |
| 09020406026    | Paraleptophlebia            |                  | 0                          | 0           | 1           |
| 09020301004012 | Boyeria vinosa              |                  | 1                          | 0           | 0           |
| 09020203       | Capniidae                   | prob. Paracapnia | 0                          | 0           | 1           |
| 09020207       | Perlodidae                  |                  | 3                          | 1           | 0           |
| 09020207030    | Diura                       |                  | 2                          | 0           | 0           |
| 09020208040    | Sweltsa                     |                  | 2                          | 0           | 2           |
| 090202         | Plecoptera                  |                  | 2                          | 0           | 0           |
| 09020603009013 | Nyctiophylax moestus        |                  | 1                          | 0           | 1           |
| 09020603010    | Polycentropus               |                  | 6                          | 2           | 0           |
| 09020604016033 | Hydropsyche ventura         |                  | 1                          | 2           | 0           |
| 09020605019060 | Rhyacophila fuscula         |                  | 1                          | 1           | 2           |
| 09020604016    | Hydropsyche                 |                  | 1                          | 0           | 0           |
| 09020608039    | Oligostomis                 |                  | 0                          | 1           | 0           |
| 09020610048103 | Hydatophylax argus          |                  | 0                          | 1           | 0           |
| 090209         | Lepidoptera                 |                  | 1                          | 0           | 0           |
| 09021113069052 | Promoresia tardella         |                  | 5                          | 7           | 1           |
| 09021006023    | Dixa                        |                  | 0                          | 0           | 1           |
| 09021001005    | Dicranota                   |                  | 3                          | 0           | 0           |
| 09021011036    | Corynoneura                 |                  | 7                          | 4           | 0           |
| 09021011037057 | Cricotopus bicinctus        |                  | 2                          | 0           | 0           |
| 09021011037071 | Cricotopus vierriensis      |                  | 1                          | 0           | 0           |
| 09021011037    | Cricotopus                  |                  | 1                          | 0           | 0           |
| 09021011094166 | Microtendipes pedellus-grp. |                  | 1                          | 0           | 0           |
| 09021011102181 | Polypedilum aviceps         |                  | 3                          | 1           | 2           |
| 09021011102185 | Polypedilum illinoense-grp. |                  | 1                          | 0           | 0           |
| 09021011057111 | Rheocricotopus pauciseta    |                  | 0                          | 1           | 0           |
| 09021011057106 | Rheocricotopus tuberculatus |                  | 1                          | 0           | 0           |

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

**Station Information**

|                                                  |                             |
|--------------------------------------------------|-----------------------------|
| Station Number: S321                             | DEP Drainage: Maine Coastal |
| Waterbody: Hunter Brook                          | HUC Code: 01050002          |
| Town: Mount Desert                               | HUC Name: Maine Coastal     |
| Directions: Above Rt. 3 crossing; Park Loop Road | Latitude: Deg Min Sec       |
|                                                  | Longitude: Deg Min Sec      |
|                                                  | Stream Order: 1             |

**Sample Information**

|                      |                             |                           |
|----------------------|-----------------------------|---------------------------|
| Log Number: 1195     | Type of Sample: Riffle Bags | Date Deployed: 02-AUG-02  |
| Subsample Factor: X1 | Replicates: 3               | Date Retrieved: 06-SEP-02 |

**Classification Attainment**

|                            |                           |  |
|----------------------------|---------------------------|--|
| Statutory Class: AA        | Final Determination:      |  |
| Model Result with P > .6 I | Reason for Determination: |  |
| Date Last Calculated:      |                           |  |

**Model Probabilities**

| <u>First Stage Model</u>        | <u>C or Better Model</u>            |
|---------------------------------|-------------------------------------|
| Class A 0.57      Class C 0.07  | Class A, B, or C 1.00               |
| Class B 0.35      Class 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 0.95                        |
| Class C or Non-Attainment 0.00  | Class B or C or Non-Attainment 0.05 |

**Model Variables**

|                                                       |       |                                                                                                                 |       |
|-------------------------------------------------------|-------|-----------------------------------------------------------------------------------------------------------------|-------|
| 01 Total Abundance of Individuals                     | 43.33 | 18 Relative Abundance - Ephemeroptera                                                                           | 0.21  |
| 02 Generic Richness                                   | 32.00 | 19 EPT Generic Richness                                                                                         | 17.00 |
| 03 Plecoptera Abundance                               | 4.33  | 21 Sum of Abundances: <i>Dicrotendipes</i> ,<br><i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i> | 0.00  |
| 04 Ephemeroptera Abundance                            | 9.00  | 23 Relative Generic Richness- Plecoptera                                                                        | 0.13  |
| 05 Shannon - Wiener Diversity                         | 4.53  | 25 Sum of Abundances: <i>Cheumatopsyche</i> ,<br><i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>     | 1.39  |
| 06 Hilsenhoff Biotic Index                            | 5.27  | 26 Sum of Abundances: <i>Acroneuria</i> , <i>Stenonema</i>                                                      | 0.00  |
| 07 Relative Abundance - Chironomidae                  | 0.38  | 28 EP Generic Richness/14                                                                                       | 0.79  |
| 08 Relative Generic Richness - Diptera                | 0.34  | 30 Presence of Class A Indicator Taxa/7                                                                         | 0.29  |
| 09 <i>Hydropsyche</i> Abundance                       | 1.33  |                                                                                                                 |       |
| 11 <i>Cheumatopsyche</i> Abundance                    | 0.00  |                                                                                                                 |       |
| 12 EPT Generic Richness/ Diptera<br>Genric Richness   | 1.55  |                                                                                                                 |       |
| 13 Relative Abundance - Oligochaeta                   | 0.00  |                                                                                                                 |       |
| 15 Perlidae Abundance (Family<br>Functional Group)    | 0.00  |                                                                                                                 |       |
| 16 Tanypodinae Abundance (Family<br>Functional Group) | 0.00  |                                                                                                                 |       |
| 17 Chironomini Abundance (Family<br>Functional Group) | 2.78  |                                                                                                                 |       |

**Five Most Dominant Taxa**

| Taxa Rank | Taxa Name      | Percent |
|-----------|----------------|---------|
| 1         | Rheotanytarsus | 11.22   |
| 2         | Promoresia     | 9.99    |
| 3         | Corynoneura    | 8.82    |
| 4         | Stenacron      | 6.92    |
| 5         | Polycentropus  | 6.16    |

|                |                             |                      |     |     |    |
|----------------|-----------------------------|----------------------|-----|-----|----|
| 09021011001004 | Ablabesmyia mallochi        |                      | 0   | 1   | 3  |
| 09021011       | Chironomidae                | Conchapelopia gen    | 4   | 2   | 0  |
| 09021011036    | Corynoneura                 |                      | 2   | 0   | 0  |
| 09021011037057 | Cricotopus bicinctus        |                      | 115 | 28  | 6  |
| 09021011037    | Cricotopus                  |                      | 2   | 0   | 1  |
| 09021011       | Chironomidae                | Cricotopus/Orthocl   | 2   | 0   | 0  |
| 09021011094166 | Microtendipes pedellus-grp. |                      | 4   | 109 | 16 |
| 09021011056    | Psectrocladius              |                      | 2   | 2   | 1  |
| 09021011057111 | Rheocricotopus pauciseta    |                      | 0   | 2   | 1  |
| 09021011061    | Synorthocladius             |                      | 4   | 0   | 0  |
| 09021011076    | Tanytarsus                  | glabrascens-grp. sp  | 0   | 2   | 3  |
| 09021011076    | Tanytarsus                  | sp. 06               | 0   | 1   | 0  |
| 09021011       | Chironomidae                | unid. orthocla diini | 0   | 4   | 0  |
| 09021011       | Chironomidae                |                      | 0   | 0   | 1  |

|                      |            |            |           |
|----------------------|------------|------------|-----------|
| <b>Total Benthos</b> | <b>228</b> | <b>215</b> | <b>66</b> |
| <b>Total OTUs</b>    | <b>30</b>  | <b>28</b>  | <b>19</b> |
| <b>Total spp.</b>    | <b>26</b>  | <b>25</b>  | <b>16</b> |

**Tribes and Genus Groups included in Chironomidae 09021011 basket counts**

Maine Department of Environmental Protection  
 Logsheet for Benthic Macroinvertebrates Identified

Michael Winnell -- Freshwater Benthic Services, Inc.

|                     |                               |
|---------------------|-------------------------------|
| Sample Log No.:     | 1194                          |
| Station No.:        | 322                           |
| Waterbody Name:     | Duck Brook                    |
| Town Name:          | Bar Harbor - Acadia Natl. Pk. |
| Date of Collection: | 05 Sep 02                     |
| Subsample Factor:   | 1.00                          |
| Sampler Type:       | ? (not stated)                |

| Chironomidae Subsample (SS) Effort |     |     |      |
|------------------------------------|-----|-----|------|
| Level of SS Effort                 | 1/2 | 1/2 | none |
| No. Chir SSed                      | 135 | 149 |      |
| No. Chir in SS                     | 68  | 75  |      |
| Misc. Chir not SSe                 | 0   | 2   |      |
| TChir                              | 135 | 151 | 0    |

| Maine Code     | Taxon                        |         | No. identified from sample |             |             |
|----------------|------------------------------|---------|----------------------------|-------------|-------------|
|                | Taxon Name                   | Comment | Replicate 1                | Replicate 2 | Replicate 3 |
| 03010101001001 | Cura foremanii               |         | 0                          | 1           | 4           |
| 03010101002003 | Dugesia tigrina              |         | 0                          | 0           | 2           |
| #N/A           | Abloglossiphonia heteroclita |         | 0                          | 0           | 1           |
| 02010101001    | Hydra                        |         | 0                          | 0           | 1           |
| 09010203006011 | Hyalella azteca              |         | 0                          | 2           | 0           |
| 09010202006001 | Synurella chamberlaini       |         | 2                          | 2           | 3           |
| 10010202026    | Physa                        |         | 30                         | 11          | 17          |
| 10010203030058 | Helisoma anceps              |         | 3                          | 1           | 0           |
| 09020102       | Isotomidae                   |         | 0                          | 1           | 0           |
| 09020401007011 | Acerpenna pygmaea            |         | 3                          | 0           | 0           |
| 09020401       | Baetidae                     |         | 1                          | 0           | 0           |
| 09020402014045 | Stenacron interpunctatum     |         | 0                          | 4           | 2           |
| 09020402011    | Leucrocuta                   |         | 1                          | 0           | 0           |
| 09020402015    | Stenonema                    |         | 3                          | 0           | 0           |
| 09020402       | Heptageniidae                |         | 3                          | 3           | 1           |
| 09020410036    | Eurylophella                 |         | 4                          | 1           | 0           |
| 09020410       | Ephemerellidae               |         | 11                         | 4           | 0           |
| 09020406       | Leptophlebiidae              |         | 1                          | 6           | 0           |
| 09020209042121 | Acroneuria abnormis          |         | 6                          | 0           | 0           |
| 09020301004012 | Boyeria vinosa               |         | 3                          | 1           | 0           |
| 09020510025    | Microvelia                   |         | 0                          | 0           | 1           |
| 09020701003003 | Nigronia serricornis         |         | 1                          | 0           | 0           |
| 09020701003    | Nigronia                     |         | 1                          | 0           | 0           |
| 09020607028    | Oxyethira                    |         | 1                          | 1           | 1           |
| 09020618078157 | Oecetis persimilis           |         | 5                          | 0           | 0           |
| 09020614068134 | Psilotreta frontalis         |         | 3                          | 1           | 0           |
| 09020604016    | Hydropsyche                  |         | 1                          | 0           | 0           |
| 09020603010    | Polycentropus                |         | 0                          | 13          | 0           |
| 09020611064    | Lepidostoma                  |         | 0                          | 8           | 0           |
| 09020603009013 | Nyctiophylax moestus         |         | 0                          | 2           | 1           |
| 09021105043    | Cymbiodyta                   |         | 1                          | 0           | 0           |
| 09021113069052 | Promoresia tardella          |         | 0                          | 1           | 0           |
| 09021113070    | Stenelmis                    |         | 2                          | 0           | 0           |
| 09021113       | Elmidae                      |         | 0                          | 1           | 0           |
| 09021108058028 | Psephenus herricki           |         | 7                          | 0           | 0           |

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

**Station Information**

|                                                                                                                                 |                                                                                                                                                                                              |
|---------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Station Number:</b> S322<br><b>Waterbody:</b> Duck Brook<br><b>Town:</b> Bar Harbor<br><b>Directions:</b> New Eagle Lake Rd. | <b>DEP Drainage:</b> Maine Coastal<br><b>HUC Code:</b> 01050002<br><b>HUC Name:</b> Maine Coastal<br><b>Latitude:</b> Deg Min Sec<br><b>Longitude:</b> Deg Min Sec<br><b>Stream Order:</b> 1 |
|---------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**Sample Information**

|                             |                                    |                                  |
|-----------------------------|------------------------------------|----------------------------------|
| <b>Log Number:</b> 1194     | <b>Type of Sample:</b> Riffle Bags | <b>Date Deployed:</b> 02-AUG-02  |
| <b>Subsample Factor:</b> X1 | <b>Replicates:</b> 3               | <b>Date Retrieved:</b> 05-SEP-02 |

**Classification Attainment**

|                                      |                                  |
|--------------------------------------|----------------------------------|
| <b>Statutory Class:</b> AA           | <b>Final Determination:</b>      |
| <b>Model Result with P &gt; .6</b> B | <b>Reason for Determination:</b> |
| <b>Date Last Calculated:</b>         |                                  |

**Model Probabilities**

| <u>First Stage Model</u>        | <u>C or Better Model</u>            |
|---------------------------------|-------------------------------------|
| Class A 0.15      Class C 0.27  | Class A, B, or C 1.00               |
| Class B 0.58      Class NA 0.00 | Non-Attainment 0.00                 |
| <u>B or Better Model</u>        | <u>A Model</u>                      |
| Class A or B 0.82               | Class A 0.34                        |
| Class C or Non-Attainment 0.18  | Class B or C or Non-Attainment 0.66 |

**Model Variables**

|                                                       |        |                                                                |       |
|-------------------------------------------------------|--------|----------------------------------------------------------------|-------|
| 01 Total Abundance of Individuals                     | 169.67 | 18 Relative Abundance - Ephemeroptera                          | 0.09  |
| 02 Generic Richness                                   | 41.00  | 19 EPT Generic Richness                                        | 16.00 |
| 03 Plecoptera Abundance                               | 2.00   | 21 Sum of Abundances: <i>Dicrotendipes</i> ,                   | 0.00  |
| 04 Ephemeroptera Abundance                            | 16.00  | <i>Microsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i> |       |
| 05 Shannon - Wiener Diversity                         | 3.48   | 23 Relative Generic Richness- Plecoptera                       | 0.02  |
| 06 Hilsenhoff Biotic Index                            | 5.97   | 25 Sum of Abundances: <i>Cheumatopsyche</i> ,                  | 55.22 |
| 07 Relative Abundance - Chironomidae                  | 0.62   | <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>     |       |
| 08 Relative Generic Richness - Diptera                | 0.22   | 26 Sum of Abundances: <i>Acroneuria</i> , <i>Stenonema</i>     | 3.70  |
| 09 <i>Hydropsyche</i> Abundance                       | 0.33   | 28 EP Generic Richness/14                                      | 0.64  |
| 11 <i>Cheumatopsyche</i> Abundance                    | 0.00   | 30 Presence of Class A Indicator Taxa/7                        | 0.43  |
| 12 EPT Generic Richness/ Diptera<br>Generic Richness  | 1.78   |                                                                |       |
| 13 Relative Abundance - Oligochaeta                   | 0.00   |                                                                |       |
| 15 Perlidae Abundance (Family<br>Functional Group)    | 2.00   |                                                                |       |
| 16 Tanypodinae Abundance (Family<br>Functional Group) | 3.41   |                                                                |       |
| 17 Chironomini Abundance (Family<br>Functional Group) | 43.97  |                                                                |       |

**Five Most Dominant Taxa**

| Taxa Rank | Taxa Name      | Percent |
|-----------|----------------|---------|
| 1         | Cricotopus     | 30.54   |
| 2         | Microtendipes  | 25.92   |
| 3         | Physa          | 11.39   |
| 4         | Ephemerellidae | 2.95    |
| 5         | Polycentropus  | 2.55    |

|                |                             |                    |   |    |    |
|----------------|-----------------------------|--------------------|---|----|----|
| 09021011102185 | Polypedilum illinoense-grp. |                    | 2 | 0  | 0  |
| 09021011057106 | Rheocricotopus tuberculatus |                    | 2 | 14 | 0  |
| 09021011057111 | Rheocricotopus pauciseta    |                    | 8 | 0  | 12 |
| 09021011057    | Rheocricotopus              |                    | 4 | 2  | 0  |
| 09021011072    | Rheotanytarsus              |                    | 2 | 2  | 12 |
| 09021011076    | Tanytarsus                  | sp. 06             | 2 | 0  | 0  |
| 09021011       | Chironomidae                | unid. tanytarsini  | 0 | 2  | 0  |
| 09021011062113 | Thienemanniella boltoni     |                    | 8 | 0  | 5  |
| 09021011062110 | Thienemanniella xena        |                    | 2 | 2  | 1  |
| 09021011062    | Thienemanniella             |                    | 2 | 0  | 4  |
| 09021011065111 | Tvetenia bavarica grp.      |                    | 2 | 2  | 12 |
| 09021011022    | Zavreliomyia                |                    | 2 | 0  | 9  |
| 09021011       | Chironomidae                | unid. chironomini  | 2 | 0  | 0  |
| 09021011       | Chironomidae                | unid. tanypodinae  | 6 | 4  | 0  |
| 09021011       | Chironomidae                | unid. orthocladini | 2 | 16 | 0  |

|                      |            |            |            |
|----------------------|------------|------------|------------|
| <b>Total Benthos</b> | <b>238</b> | <b>209</b> | <b>220</b> |
| <b>Total OTUs</b>    | <b>40</b>  | <b>27</b>  | <b>24</b>  |
| <b>Total spp.</b>    | <b>33</b>  | <b>21</b>  | <b>23</b>  |

**Tribes and Genus Groups included in Chironomidae 09021011 basket counts**

Maine Department of Environmental Protection  
Logsheet for Benthic Macroinvertebrates Identified

Michael Winnell -- Freshwater Benthic Services, Inc.

|                     |                                     |
|---------------------|-------------------------------------|
| Sample Log No.:     | 1193                                |
| Station No.:        | 362                                 |
| Waterbody Name:     | Lurvey Spring Brook                 |
| Town Name:          | Southwest Harbor - Acadia Natl. Pk. |
| Date of Collection: | 05 Sep 02                           |
| Subsample Factor:   | 1.00                                |
| Sampler Type:       | ? (not stated)                      |

| Chironomidae Subsample (SS) Effort |     |     |     |
|------------------------------------|-----|-----|-----|
| Level of SS Effort                 | 1/2 | 1/2 | 1/4 |
| No. Chir SSed                      | 192 | 131 | 198 |
| No. Chir in SS                     | 95  | 65  | 51  |
| Misc. Chir not SSed                | 0   | 0   | 4   |
| TChir                              | 192 | 131 | 202 |

| Maine Code     | Taxon                            |                     | No. identified from sample |             |             |
|----------------|----------------------------------|---------------------|----------------------------|-------------|-------------|
|                | Taxon Name                       | Comment             | Replicate 1                | Replicate 2 | Replicate 3 |
| 08020202009003 | Nais behningi                    |                     | 2                          | 3           | 0           |
| 09010101001002 | Caecidotea racovitzai racovitzai |                     | 1                          | 1           | 0           |
| 09010101001    | Caecidotea                       |                     | 1                          | 1           | 1           |
| 09030102001    | Hygrobates                       |                     | 3                          | 0           | 0           |
| 09020401007    | Acerpenna                        |                     | 0                          | 0           | 1           |
| 09020401       | Baetidae                         |                     | 1                          | 3           | 0           |
| 09020406       | Leptophlebiidae                  |                     | 2                          | 12          | 1           |
| 09020410037124 | Serratella serratoides           |                     | 5                          | 0           | 3           |
| 09020410036    | Eurylophella                     |                     | 0                          | 4           | 1           |
| 09020410       | Ephemerellidae                   |                     | 0                          | 3           | 0           |
| 09020203       | Capniidae                        | prob. Paracapnia    | 1                          | 1           | 0           |
| 09020207       | Perlodidae                       |                     | 1                          | 0           | 0           |
| 09020208040    | Sweltsa                          |                     | 0                          | 1           | 1           |
| 09020604       | Hydropsychidae                   |                     | 2                          | 0           | 0           |
| 09020607028    | Oxyethira                        |                     | 12                         | 31          | 1           |
| 09020607       | Hydroptilidae                    |                     | 1                          | 0           | 1           |
| 09020608039    | Oligostomis                      |                     | 0                          | 0           | 2           |
| 09020610       | Limnephilidae                    |                     | 1                          | 0           | 0           |
| 09020614068134 | Psilotreta frontalis             |                     | 1                          | 1           | 0           |
| 09020605019    | Rhyacophila                      | cf. invaria         | 0                          | 1           | 0           |
| 09021103033    | Neoporus                         |                     | 0                          | 1           | 0           |
| 09021113068049 | Oulimnius latiusculus            |                     | 1                          | 0           | 0           |
| 09021113069052 | Promoresia tardella              |                     | 10                         | 14          | 4           |
| 09021012047    | Simulium                         | tuberosum complex   | 0                          | 0           | 1           |
| 09021012       | Simuliidae                       |                     | 1                          | 0           | 0           |
| 09021001008    | Hexatoma                         |                     | 0                          | 0           | 1           |
| 09021011036    | Corynoneura                      |                     | 6                          | 2           | 12          |
| 09021011       | Chironomidae                     | Cricotopus/Orthocla | 2                          | 0           | 0           |
| 09021011041    | Eukiefferiella                   | brevicalcar-grp.    | 28                         | 2           | 42          |
| 09021011041    | Eukiefferiella                   |                     | 4                          | 0           | 0           |
| 09021011070    | Micropsectra                     |                     | 70                         | 10          | 23          |
| 09021011094166 | Microtendipes pedellus-grp.      |                     | 2                          | 34          | 12          |
| 09021011050092 | Orthocladus annectens            |                     | 30                         | 40          | 58          |
| 09021011053    | Parametriocnemus                 |                     | 2                          | 0           | 0           |
| 09021011025001 | Pagastia orthogonia              |                     | 2                          | 0           | 0           |

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

**Station Information**

|                                |                             |
|--------------------------------|-----------------------------|
| Station Number: S362           | DEP Drainage: Maine Coastal |
| Waterbody: Lurvey Spring Brook | HUC Code: 01050002          |
| Town: Southwest Harbor         | HUC Name: Maine Coastal     |
| Directions: Inlet to Echo Lake | Latitude: Deg Min Sec       |
|                                | Longitude: Deg Min Sec      |
|                                | Stream Order: 1             |

**Sample Information**

|                      |                             |                           |
|----------------------|-----------------------------|---------------------------|
| Log Number: 1193     | Type of Sample: Riffle Bags | Date Deployed: 01-AUG-02  |
| Subsample Factor: X1 | Replicates: 3               | Date Retrieved: 05-SEP-02 |

**Classification Attainment**

|                            |                           |  |
|----------------------------|---------------------------|--|
| Statutory Class: AA        | Final Determination:      |  |
| Model Result with P > .6 C | Reason for Determination: |  |
| Date Last Calculated:      |                           |  |

**Model Probabilities**

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |               |              |              |               |              |      |                           |      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                  |      |                |      |         |      |                                |      |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|--------------|--------------|---------------|--------------|------|---------------------------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|------|----------------|------|---------|------|--------------------------------|------|
| <p style="text-align: center;"><u>First Stage Model</u></p> <table border="0" style="width: 100%;"> <tr> <td style="width: 33%;">Class A 0.06</td> <td style="width: 33%;">Class C 0.52</td> </tr> <tr> <td>Class B 0.42</td> <td>Class NA 0.00</td> </tr> </table> <p style="text-align: center;"><u>B or Better Model</u></p> <table border="0" style="width: 100%;"> <tr> <td style="width: 33%;">Class A or B</td> <td style="width: 33%;">0.05</td> </tr> <tr> <td>Class C or Non-Attainment</td> <td>0.95</td> </tr> </table> | Class A 0.06  | Class C 0.52 | Class B 0.42 | Class NA 0.00 | Class A or B | 0.05 | Class C or Non-Attainment | 0.95 | <p style="text-align: center;"><u>C or Better Model</u></p> <table border="0" style="width: 100%;"> <tr> <td style="width: 33%;">Class A, B, or C</td> <td style="width: 33%;">1.00</td> </tr> <tr> <td>Non-Attainment</td> <td>0.00</td> </tr> </table> <p style="text-align: center;"><u>A Model</u></p> <table border="0" style="width: 100%;"> <tr> <td style="width: 33%;">Class A</td> <td style="width: 33%;">0.49</td> </tr> <tr> <td>Class B or C or Non-Attainment</td> <td>0.51</td> </tr> </table> | Class A, B, or C | 1.00 | Non-Attainment | 0.00 | Class A | 0.49 | Class B or C or Non-Attainment | 0.51 |
| Class A 0.06                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Class C 0.52  |              |              |               |              |      |                           |      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                  |      |                |      |         |      |                                |      |
| Class B 0.42                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Class NA 0.00 |              |              |               |              |      |                           |      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                  |      |                |      |         |      |                                |      |
| Class A or B                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 0.05          |              |              |               |              |      |                           |      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                  |      |                |      |         |      |                                |      |
| Class C or Non-Attainment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 0.95          |              |              |               |              |      |                           |      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                  |      |                |      |         |      |                                |      |
| Class A, B, or C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 1.00          |              |              |               |              |      |                           |      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                  |      |                |      |         |      |                                |      |
| Non-Attainment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 0.00          |              |              |               |              |      |                           |      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                  |      |                |      |         |      |                                |      |
| Class A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 0.49          |              |              |               |              |      |                           |      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                  |      |                |      |         |      |                                |      |
| Class B or C or Non-Attainment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 0.51          |              |              |               |              |      |                           |      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                  |      |                |      |         |      |                                |      |

**Model Variables**

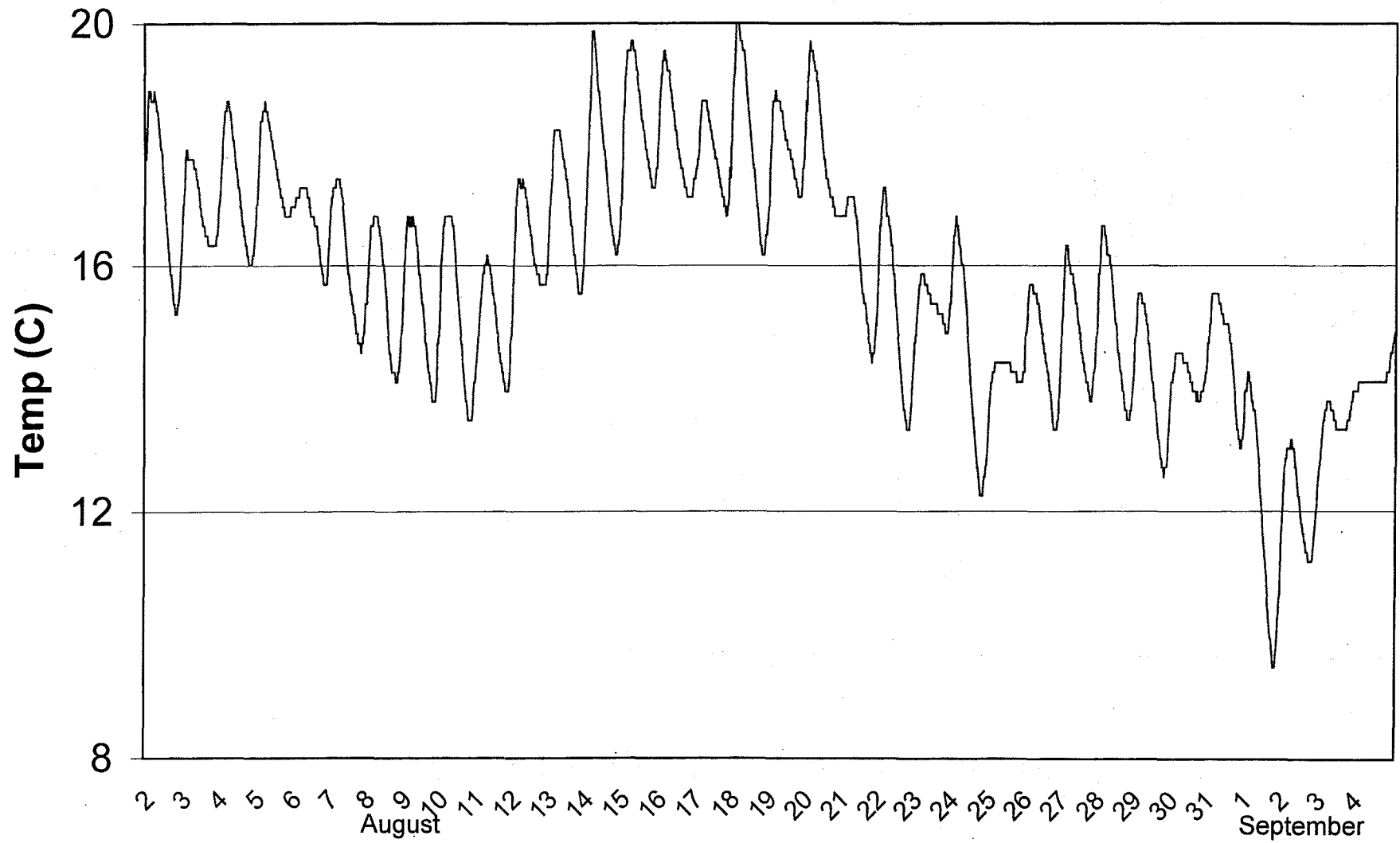
|                                        |        |                                                                 |       |
|----------------------------------------|--------|-----------------------------------------------------------------|-------|
| 01 Total Abundance of Individuals      | 222.33 | 18 Relative Abundance - Ephemeroptera                           | 0.05  |
| 02 Generic Richness                    | 38.00  | 19 EPT Generic Richness                                         | 15.00 |
| 03 Plecoptera Abundance                | 1.67   | 21 Sum of Abundances: <i>Dicrotendipes</i> ,                    | 36.71 |
| 04 Ephemeroptera Abundance             | 12.00  | <i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i> |       |
| 05 Shannon - Wiener Diversity          | 3.82   | 23 Relative Generic Richness- Plecoptera                        | 0.08  |
| 06 Hilsenhoff Biotic Index             | 6.13   | 25 Sum of Abundances: <i>Cheumatopsyche</i> ,                   | 0.71  |
| 07 Relative Abundance - Chironomidae   | 0.79   | <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>      |       |
| 08 Relative Generic Richness - Diptera | 0.45   | 26 Sum of Abundances: <i>Acroneuria</i> , <i>Stenonema</i>      | 0.00  |
| 09 <i>Hydropsyche</i> Abundance        | 0.00   | 28 EP Generic Richness/14                                       | 0.57  |
| 11 <i>Cheumatopsyche</i> Abundance     | 0.00   | 30 Presence of Class A Indicator Taxa/7                         | 0.43  |
| 12 EPT Generic Richness/ Diptera       | 0.88   |                                                                 |       |
| Genric Richness                        |        |                                                                 |       |
| 13 Relative Abundance - Oligochaeta    | 0.01   |                                                                 |       |
| 15 Perlidae Abundance (Family          | 0.00   |                                                                 |       |
| Functional Group)                      |        |                                                                 |       |
| 16 Tanypodinae Abundance (Family       | 3.92   |                                                                 |       |
| Functional Group)                      |        |                                                                 |       |
| 17 Chironomini Abundance (Family       | 17.82  |                                                                 |       |
| Functional Group)                      |        |                                                                 |       |

**Five Most Dominant Taxa**

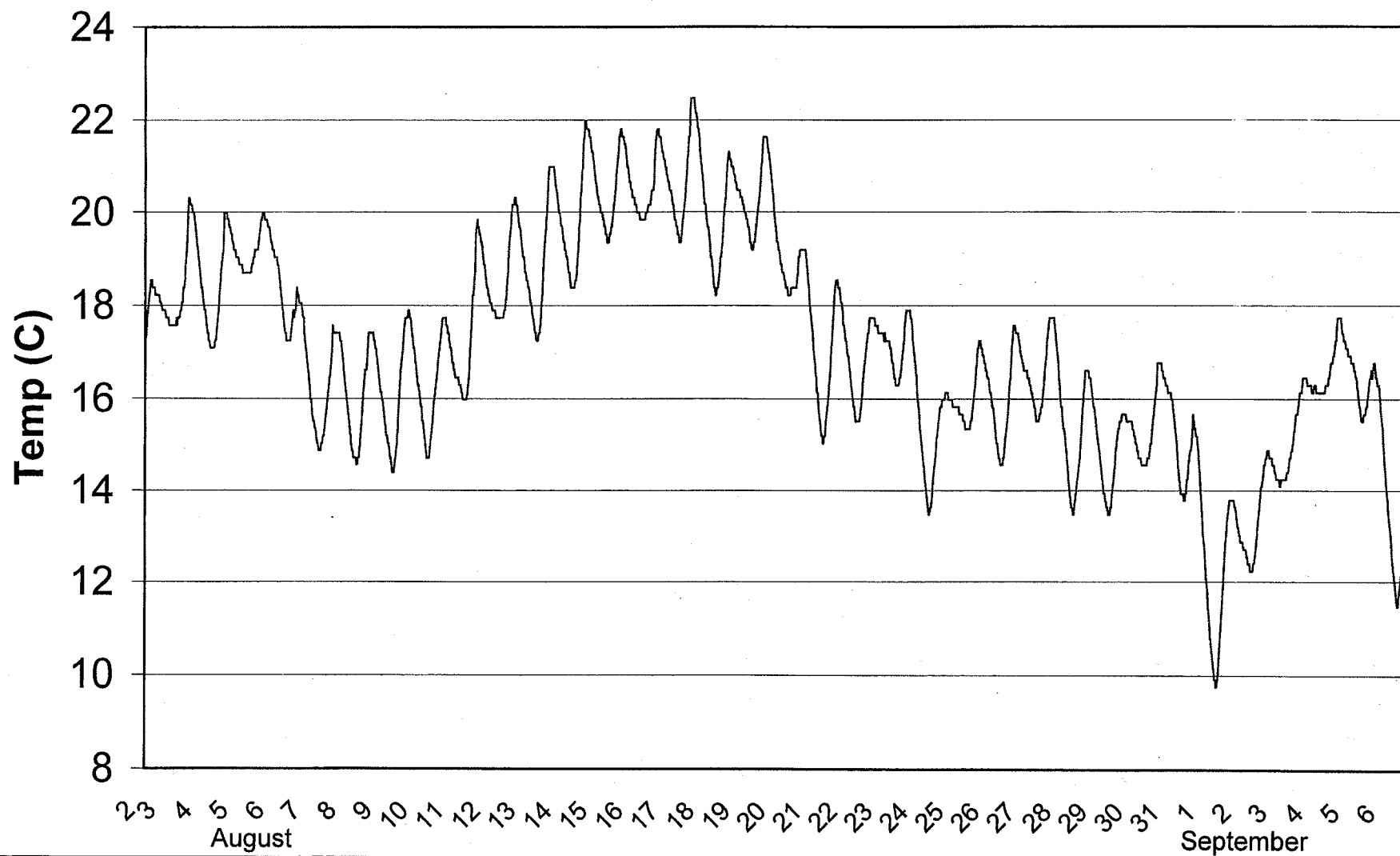
| Taxa Rank | Taxa Name      | Percent |
|-----------|----------------|---------|
| 1         | Orthocladius   | 20.52   |
| 2         | Micropsectra   | 16.51   |
| 3         | Eukiefferiella | 12.18   |
| 4         | Microtendipes  | 7.70    |
| 5         | Rheocricotopus | 6.73    |

**Appendix D**  
**2001-2002**  
**Temperature Data**

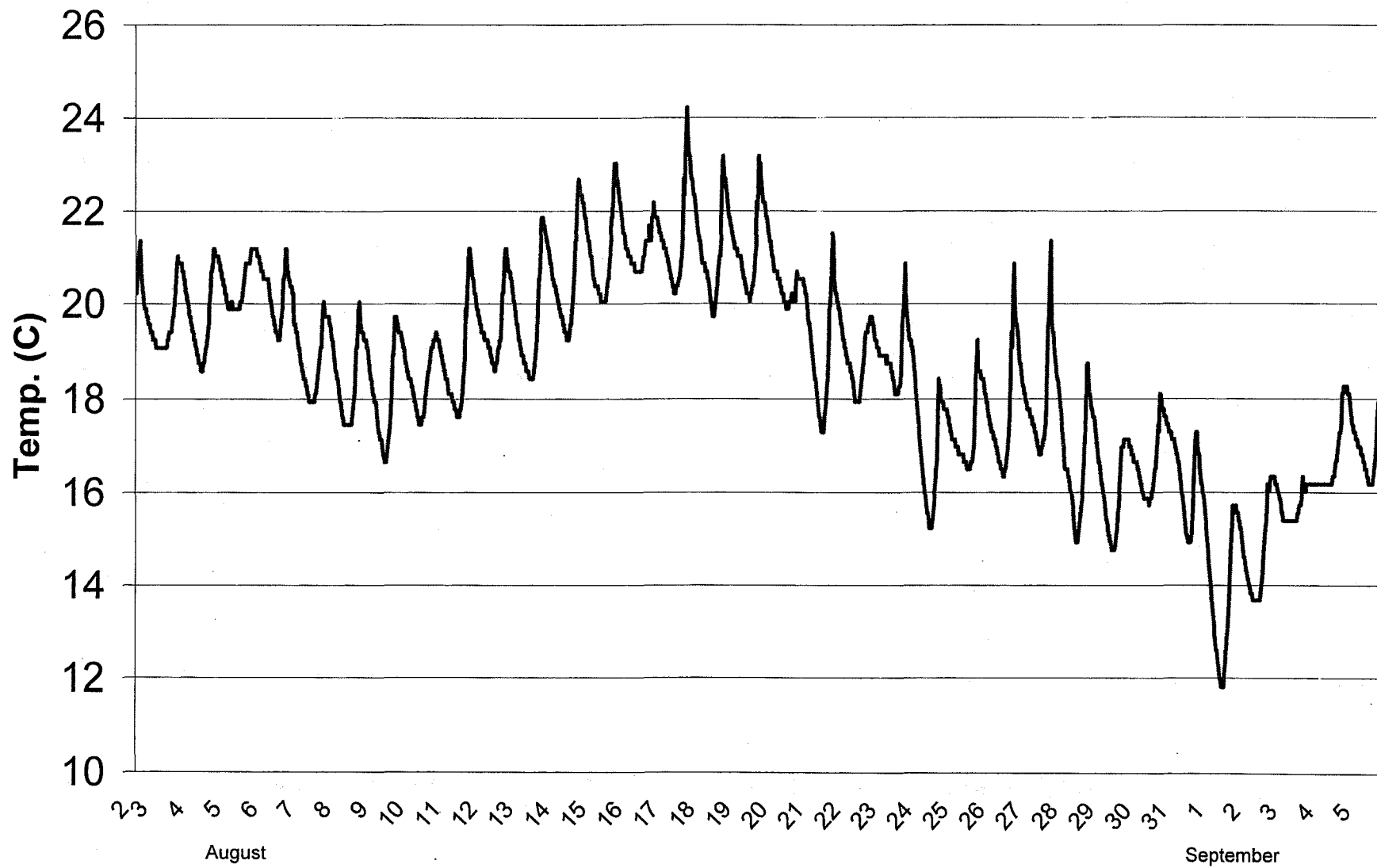
## Marshall Brook Water Temperature 2002



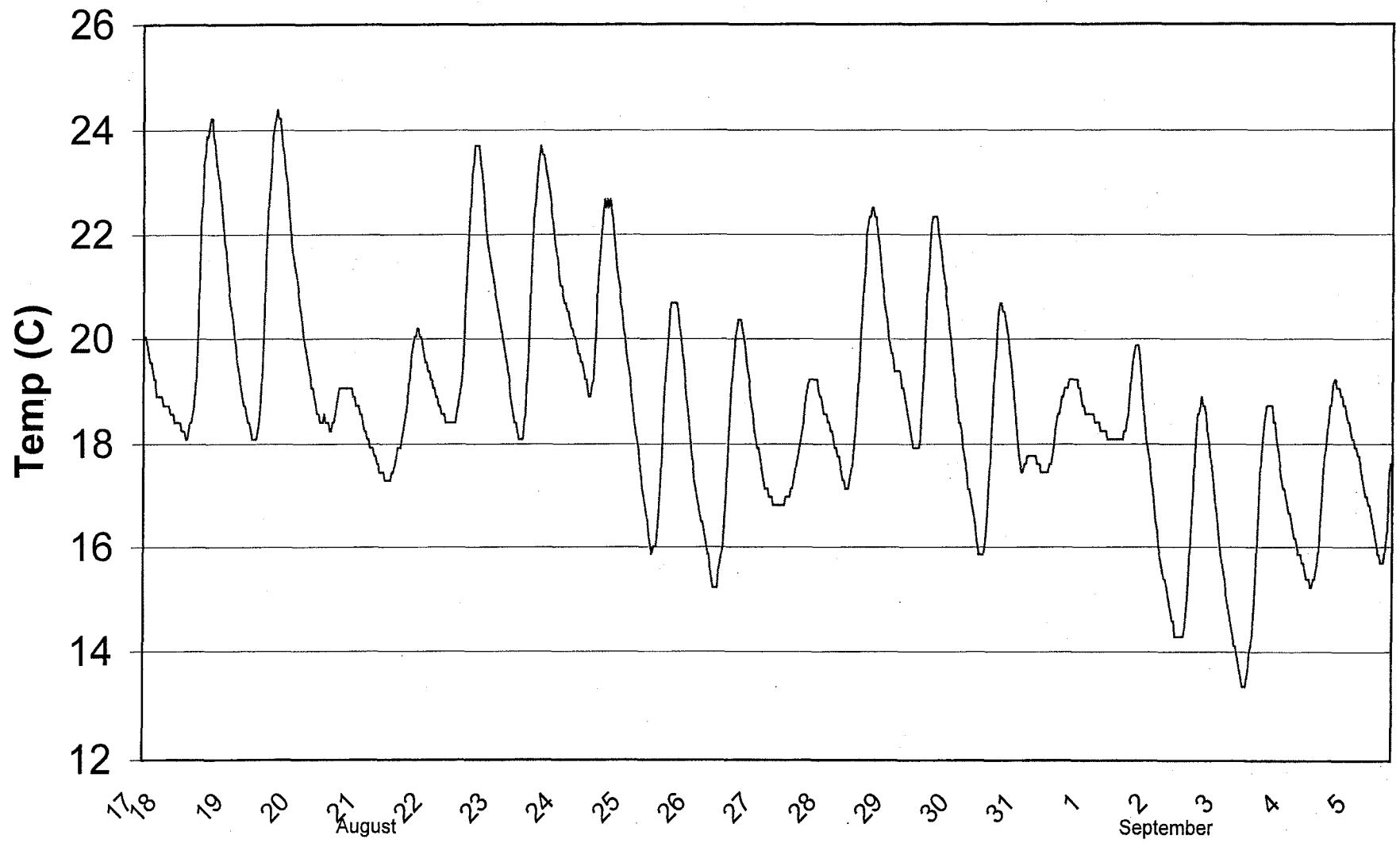
## Richardson Water Temperatures 2002



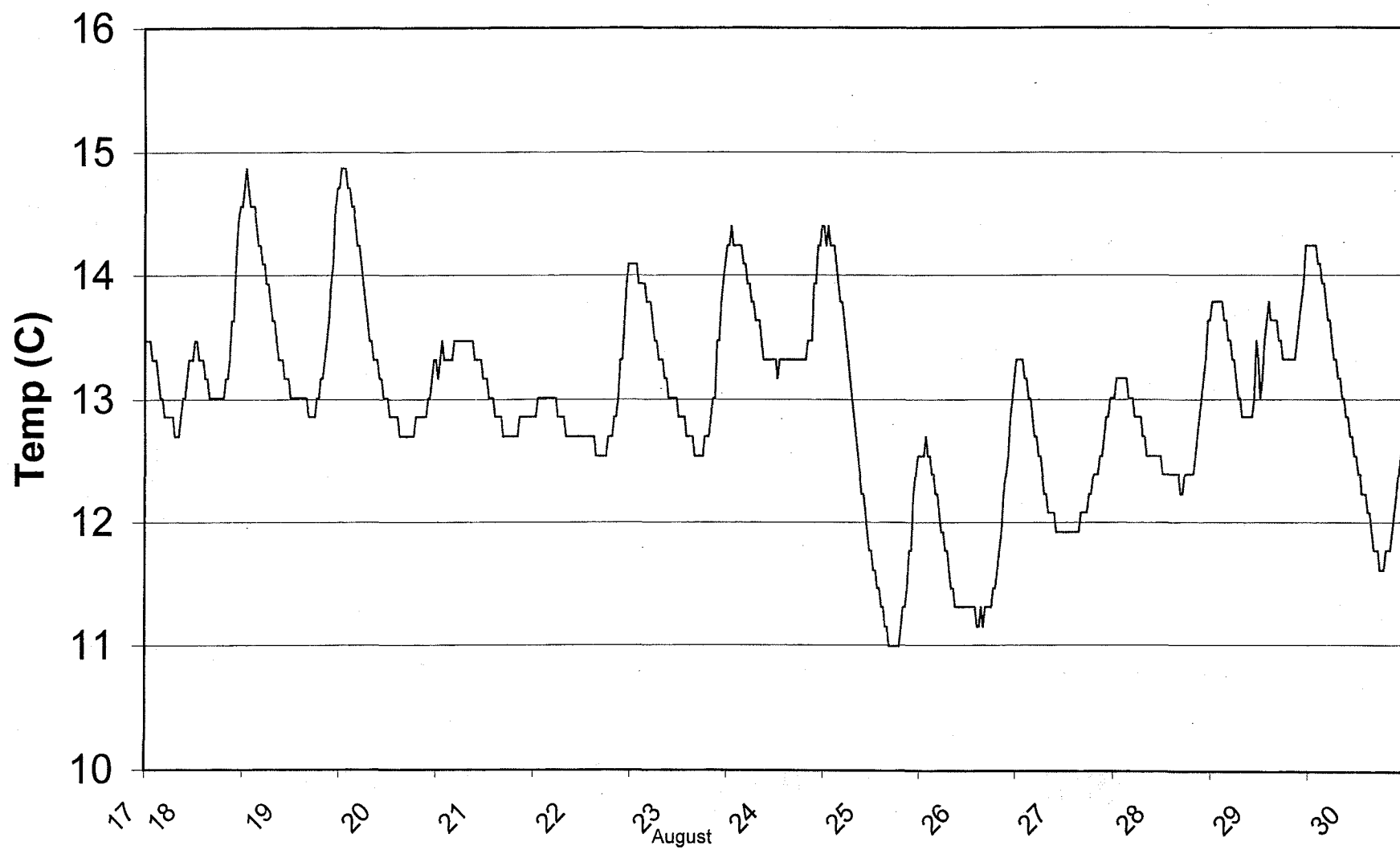
## Duck Brook Water Temperatures 2002



## Heath Brook Water Temperatures 2001



## Lurvey Spring Water Temperatures 2001



## Duck Brook Water Temperatures 2001

